IOSA Standards Manual

Effective 1 September 2014

8th Edition

NOTICE

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IOSA Standards Manual
ISBN No.: 978-92-9252-351-0

Montreal–Geneva

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Change/Revision History

This eighth Edition of the IOSA Standards Manual has been introduced following a variety of requests for changes from a number of sources.

The changes have been subject to the IOSA Program Office (IPO) 'Change/Revision' process and the subsequent approvals procedure.

Step	Name	Date
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Record of Revisions

Edition Number	Revision Number	Issue Date	Effective Date
2nd Edition	Revision No. 0	August 2006	March 2007
2nd Edition	Revision No. 1	May 2007	January 2008
2nd Edition	Revision No. 2	February 2009	July 2009
3rd Edition	Revision No. 0	June 2010	October 2010
4th Edition	N/A	July 2011	December 2011
5th Edition	N/A	November 2011	April 2012
6th Edition	N/A	April 2012	September 2012
7th Edition	N/A	April 2013	September 2013
8th Edition	N/A	April 2014	September 2014

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ISM Eighth Edition

The following tables describe changes contained in the Edition 8 of the IOSA Standards Manual (Edition 8).

The first table, called *Revision Highlights*, describes only the significant changes in Edition 8.

Subsequent tables describe the changes in each of the sections in relation to the current ISM Edition 7. Additionally, standards and recommended practices that have either been added, eliminated or replaced are identified in a Summary table and at the beginning of the table for each section.

Revision Highlights
Description of Significant Changes
• General: TR 2013-1 incorporated (ORG and DSP sections)
• Introduction: Editorial changes (wording, terminology, word capitalization) in various numbered sections to address E-IOSA, account for the expansion of auditing from only AOs to both AOs and airlines.
• ORG section: Four SMS recommended practices upgraded to standards in accordance with the IATA SMS Strategy (ORG 1.1.12, 1.2.3, 1.5.2, 2.1.5).
• ORG section (repeated in other sections): Use of A/B suffix to identify future upgrades of SMS and QA recommended practices is standardized, simplified.
• ORG section (repeated in other sections): QA provision that specifies an auditing planning process and sufficient resources for internal audits (ORG 3.4.10) is repeated in MNT, CAB, GRH and CGO sections (in addition to existing repeats in FLT and DSP sections).
• ORG section: Multiple QA provisions (sub-section 3.4) revised to address E-IOSA.
• FLT section: FRMS provision (FLT 3.4.3A) revised based on input from IATA FRMS working group.
• FLT section: Two recommended practices (FLT 3.11.69, 3.12.7) upgraded to standards based on safety risk assessment.
• DSP section: Most of the more complex provisions revised in order to further simplify specifications and improve understanding.
• MNT section: Multiple provisions revised to address EDTO.
• CAB section: FRMS provision (CAB 3.1.4A) revised based on input from IATA FRMS working group.
• GRH section: Two provisions added (new GRH 3.7.2, 3.7.3); both relocated from the SEC section.
• SEC section: Two provisions eliminated (former SEC 3.2.1, 3.2.4); both relocated to GRH section.

Summary–ISARPs Added/Eliminated (All Sections)	
Standards Eliminated	• Total: Eleven (11) • Includes two SEC standards (relocated to GRH)
Standards Added	• Total: Fourteen (14) • Includes two new standards (MNT, GRH) • Includes four ORG SMS standards (upgraded from recommended practices) • Includes two FLT standards (upgraded from recommended practices) • Includes four repeats of ORG QA standard in MNT, CAB, GRH, CGO • Includes two GRH standards (relocated from SEC)
Recommended Practices Eliminated	• Total: Six (6) • Includes four ORG SMS recommended practices (upgraded to standards) • Includes two FLT recommended practices (upgraded to standards)
Recommended Practices Added	• Total: None

Introduction	
Area Changed	Description of Change
General	• Editorial changes: word capitalization revised for certain IOSA terms to be more generic, account for E-IOSA and audits being conducted by both AOs and airlines
1 Purpose	• Editorial changes: wording, word capitalization revised
4 Applicability of ISARPs	• Editorial changes: unnecessary wording deleted; wording revised to address commercial and non-commercial operations
5 Explanation of ISARPs	• Editorial changes: wording, word capitalization revised to be more generic, to address AOs and airlines
7 Operational Audit	• Editorial changes: wording revised to be more generic
8 Safety Management Systems (SMS)	• Editorial changes: wording revised to be more generic, to address changes to use of the A/B convention to indicate SMS upgrades
9 IOSA Documentation System	• Technical change: *Procedures and Guidance for Airlines Manual* added
10 English language	• Editorial changes: capitalization revised
11 Manual Revisions	• Editorial changes: wording revised to be more generic; revised bullet sentence capitalization
Section 1 (ORG)	
Area Changed	Description of Change
General	• Technical changes: TR 2013-1 incorporated • Technical change: numerous references to *Procedures and Guidance for Airlines Manual* added to guidance • Editorial change: convention to show future upgrades of recommended practices (A/B) changed: (1) to be consistent with use of the A/B convention throughout the ISM and (2) to improve the presentation and understanding of the upgrade
Standards Eliminated	• None eliminated
Standards Added	• Four (4) added: ORG 1.1.12, 1.2.3, 1.5.2, 2.1.5 (all SMS upgrades)
Recommended Practices Eliminated	• Four (4) eliminated: ORG 1.1.12A, 1.2.3A, 1.5.2A, 2.1.5A (all upgraded to SMS standards)
Recommended Practices Added	• None added
Applicability Box	• Wording added to address applicability of repeated ORG provisions • Wording added to address applicability of certain ORG QA provisions
ORG 1.1.10A	• Editorial change: note revised/updated
ORG 1.1.10A Guidance	• Technical change: IRM reference added • Editorial change: minor revisions to wording
ORG 1.1.10B	• Editorial changes: phrase added to define future applicability; one note revised/updated, one note deleted;
ORG 1.1.10B Guidance	• Editorial change: reference to guidance ORG 1.1.10A guidance added
ORG 1.1.12	• Technical change: replaces ORG 1.1.12A (“A” suffix and note deleted) • Technical change: SMS recommended practice upgraded to standard in accordance with IATA SMS strategy
ORG 1.1.12B	• Eliminated
ORG 1.2.3	• Technical change: replaces ORG 1.2.3A (“A” suffix and note deleted) • Technical change: SMS recommended practice upgraded to standard in accordance with IATA SMS strategy

ORG 1.2.3 Guidance	• Editorial change: wording added for better presentation
ORG 1.2.3B	• Eliminated
ORG 1.3.1	• Technical change: note added to state that conformance requires conformity with repetitions in other ISM sections
ORG 1.5.2	• Technical change: replaces ORG 1.5.2A (“A” suffix and note deleted) • Technical change: SMS recommended practice upgraded to standard in accordance with IATA SMS strategy
ORG 1.5.2 Guidance	• Technical change: wording added to address partial SMS implementation
ORG 1.5.2B	• Eliminated
ORG 1.6.5A	• Technical change: note added to state that conformance requires conformity with repetitions in other ISM sections • Editorial change: note updated
ORG 1.6.5B	• Editorial change: phrase added to define future applicability date; note deleted; GM symbol added
ORG 1.6.5B Guidance	• New guidance
ORG 2.1.5	• Technical change: replaces ORG 2.1.5A (“A” suffix and note deleted) • Technical change: SMS recommended practice upgraded to standard in accordance with IATA SMS strategy
ORG 2.1.5 Guidance	• Technical change: wording added to address partial SMS implementation
ORG 2.1.5B	• Eliminated
ORG 3.1.1A	• Technical change: note added to state that conformance requires conformity with repetitions in other ISM sections • Editorial change: note updated
ORG 3.1.1B	• Technical change: phrase added to define future applicability date; note deleted; GM symbol added
ORG 3.1.1B Guidance	• New guidance
ORG 3.1.2A	• Technical change: note added to state that conformance requires conformity with repetitions in other ISM sections • Editorial change: note updated
ORG 3.1.2B	• Technical change: phrase added to define future applicability date; note deleted; GM symbol added
ORG 3.1.2B Guidance	• New guidance
ORG 3.1.3	• Technical change: note added to state that conformance requires conformity with repetitions in other ISM sections
ORG 3.2.1A	• Technical change: note added to state that conformance requires conformity with repetitions in other ISM sections • Editorial change: note updated
ORG 3.2.1B	• Technical change: phrase added to define future applicability date; note deleted
ORG 3.2.1B Guidance	• New guidance
ORG 3.2.2A	• Technical change: wording revised to reflect change to ICAO Framework for SMS • Editorial change: note updated
ORG 3.2.2B	• Technical change: phrase added to define future applicability date; note deleted; GM symbol added
ORG 3.2.2B Guidance	• New guidance

ORG 3.3.13	• Technical change: note revised; PCO expiry extended
3.3.13 Guidance	• Technical change: wording added to suggest coordination with applicable labor groups in investigating significant safety events
ORG 3.4.1	• Technical change: sub-spec i) wording deleted; note added to state that conformance requires conformity with repetitions in other ISM sections
ORG 3.4.1 Guidance	• Technical changes: wording revised, added to provide expanded information
ORG 3.4.2	• Technical changes: TR 2013-1 incorporated • Editorial change: wording revised; more appropriate word used
ORG 3.4.3	• All changes that were included in TR 2013-1 • Editorial change: GM symbol added • Technical change: note added to state that conformance requires conformity with repetitions in other ISM sections
ORG 3.4.3 Guidance	• New Guidance • Technical changes: TR 2013-1 incorporated
ORG 3.4.4	• Technical change: note added to state that conformance requires conformity with repetitions in other ISM sections
ORG 3.4.6A	• Technical changes: TR 2013-1 incorporated • Technical changes: wording revised to address only the requirement for auditing of the ISARPs by the operator under E-IOSA; requirement for production of the Conformance Report deleted and relocated to ORG 3.4.7A; specifications added for use of the current version of the ISM and Auditor Actions; future conformance note deleted; note added to explain use of a new edition of the ISM and define the effect of changes in a new edition on the internal audit plan • Editorial change: existing notes combined and updated
ORG 3.4.6A Guidance	• Technical changes: TR 2013-1 incorporated • Technical changes: wording deleted; IRM references added; wording added to explain use of the ISM version for auditing the ISARPs; reference to the *IOSA Procedures and Guidance for Airlines Manual* added • Editorial change: conditional phrase added to define applicability
ORG 3.4.6B	• Technical changes: TR 2013-1 incorporated • Technical changes: wording revised to address only the requirement for auditing of the ISARPs by the operator under E-IOSA; requirement for production of the Conformance Report deleted and relocated to ORG 3.4.7A; specifications added for use of the current version of the ISM and Auditor Actions; conformance reference note deleted; note added to explain use of a new edition of the ISM • Technical change: conditional phrase added to define applicability; GM symbol added
ORG 3.4.6B Guidance	• New guidance
ORG 3.4.7A	• Technical changes: TR 2013-1 incorporated • Technical changes: wording revised to address the requirement for the production and general content of the CR; note added to specify CR submission; note revised to delete conformance reference • Technical change: conditional phrase added to define applicability; notes updated

ORG 3.4.7A Guidance	• Technical changes: TR 2013-1 incorporated • Technical changes: wording completely revised and expanded to address specifications in the standard; reference to the *IOSA Procedures and Guidance for Airlines Manual* added
ORG 3.4.7B	• Technical changes: TR 2013-1 incorporated • Technical changes: wording revised to address the requirement for the production and general content of the CR; conformance reference note deleted; note added to specify CR submission • Technical change: conditional phrase added to define applicability
ORG 3.4.7B Guidance	• New guidance
ORG 3.4.8A	• New recommended practice • TR 2013-1 incorporated • Wording addresses specific technical content of the CR; notes provide supporting information • Conditional phrase defines applicability;
ORG 3.4.8A Guidance	• New guidance • TR 2013-1 incorporated • Wording addresses specifications in the standard; includes reference to the *IOSA Procedures and Guidance for Airlines Manual*
ORG 3.4.8B	• New standard • TR 2013-1 incorporated • Wording addresses specific technical content of the CR; notes provide supporting information • Conditional phrase defines applicability;
ORG 3.4.8B Guidance	• New guidance • TR 2013-1 incorporated
ORG 3.4.10 Guidance	• TR 2013-1 incorporated • Technical change: reference to the *IOSA Procedures and Guidance for Airlines Manual* added
ORG 3.4.11 Guidance	• TR 2013-1 incorporated • Technical change: reference to the *IOSA Procedures and Guidance for Airlines Manual* added
ORG 3.4.12 Guidance	• TR 2013-1 incorporated • Technical change: reference to the *IOSA Procedures and Guidance for Airlines Manual* added; wording added to address auditor functional independence • Editorial change: reference to ISO 19011 added (relocated from ORG 3.4.13A guidance)
ORG 3.4.13A	• TR 2013-1 incorporated • Technical changes: wording revised to link provision to the quality assurance program as specified in ORG 3.4.1; wording added to specify training for auditors that conduct audits against applicable regulations and standards, to include the ISARPs • Editorial change: first note deleted, second note updated
ORG 3.4.13A Guidance	• TR 2013-1 incorporated • Technical changes: wording deleted (relocated to ORG 3.4.12 guidance); *reference to the IOSA Procedures and Guidance for Airlines Manual* added

ORG 3.4.13B	• Editorial change: conditional phrase added to define applicability; notes deleted; GM symbol added • Technical changes: wording revised to link provision to the quality assurance program as specified in ORG 3.4.1 and to specify training for auditors that conduct audits against applicable regulations and standards, to include the ISARPs
ORG 3.4.13B Guidance	• New guidance
ORG 3.4.14A	• Technical changes: TR 2013-1 incorporated • Technical changes: wording added to specify required content of a database (reference to specifications in ORG 3.4.8A) • Technical change: conditional phrase added to define applicability; note updated
ORG 3.4.14A Guidance	• Technical changes: TR 2013-1 incorporated • Technical change: reference to the *IOSA Procedures and Guidance for Airlines Manual* added
ORG 3.4.14B	• Technical changes: TR 2013-1 incorporated • Technical changes: wording added to specify required content of a database (reference to specifications in ORG 3.4.8A); one notes deleted • Technical change: conditional phrase added to define applicability; GM symbol added
ORG 3.4.14B Guidance	• New guidance • Technical changes: TR 2013-1 incorporated
ORG 4.1.4A	• Technical changes: wording revised to be consistent with ICAO Annex 19 • Editorial change: note updated
ORG 4.1.4B	• Technical changes: wording revised to be consistent with ICAO Annex 19 • Editorial change: conditional phrase added to define applicability; note deleted; GM symbol added
ORG 4.1.4B Guidance	• New guidance
Section 2 (FLT)	
Area Changed	Description of Change
General	• Editorial changes: numerous cases of revised wording; some structural changes to ISARPs and guidance (specifications/information presented in bullet form) • Editorial changes: many embedded references to other ISARPs deleted • Editorial changes: embedded wording that states applicability to aircraft in excess of 5,700 kg is deleted in all ISARPs; blanket applicability limit is stated in the Applicability Box • Editorial change: convention to show future upgrades of recommended practices (A/B) changed to be consistent with ORG upgrades • Technical changes: numerous cases of revised wording to simplify and improve understanding
Standards Eliminated	• Two (2) eliminated: FLT 1.2.3, FLT 3.6.1
Standards Added	• Two (2) added: FLT 3.11.69, FLT 3.12.7 (both upgraded from recommended practices)

Recommended Practices Eliminated	• Two (2) eliminated: FLT 3.11.69, FLT 3.12.7 (both upgraded to standards)
Recommended Practices Added	• None added
Applicability Box	• Technical change; wording added that states the blanket applicability of ISARPs to aircraft with a certificated takeoff mass in excess of 5700 kg; same applicability limitation is deleted from all ISARPs in the FLT section
General Guidance	• No changes
FLT 1.2.1	• Technical change: ETOPS deleted
FLT 1.2.1 Guidance	• Technical change: ETOPS deleted
FLT 1.2.2	• Eliminated: placeholder no longer necessary
FLT 1.2.3 and Guidance	• Eliminated; specs relocated to FLT 1.6.4
FLT 1.3.1	• Technical change: [SMS] symbol added; erroneous omission in Edition 7
FLT 1.6.4	• Technical change: wording added (relocated from FLT 1.2.3)
FLT 1.6.4 Guidance	• Technical change: IRM references added (relocated from FLT 1.2.3)
FLT 1.7.1	• Technical change: reference to FLT 1.6.4 deleted
FLT 1.10.1	• Technical change: sub-spec i), wording deleted for consistency with ORG
FLT 1.10.4	• Editorial change: GM symbol added to reflect new ORG guidance
FLT 1.10.4 Guidance	• New guidance; reference to new ORG guidance added
FLT 1.12.1A	• Editorial change: wording in note revised
FLT 1.12.1B	• Editorial change: phrase added to define future applicability date; note deleted; GM symbol added
FLT 1.12.1B Guidance	• New guidance
FLT 1.12.2A	• Editorial change: wording in note revised
FLT 1.12.2A Guidance	• Technical change: ETOPS deleted
FLT 1.12.2B	• Editorial change: phrase added to define future applicability date; note deleted
FLT 1.12.2B Guidance	• New guidance
FLT 1.12.5A	• Editorial change: wording in note revised
FLT 1.12.5B	• Editorial change: phrase added to define future applicability date; note deleted
FLT 1.12.5B Guidance	• New guidance
FLT 2.1.10	• Technical changes: wording revised to harmonize with FLT 1.6.1 and 1.6.4
FLT 2.2.8	• Technical change: word deleted to improve accuracy
FLT 2.2.8 Guidance	• Technical change: wording added to improve explanation of intent
FLT 2.2.9 Guidance	• Technical changes: wording added to address independent training
FLT 2.2.18	• Editorial change: wording added to indicate training in RVSM and/or RNP (as applicable to the operator)
FLT 2.2.42 Guidance	• Editorial change: punctuation corrected
FLT 2.5.1A	• Editorial change: wording in note revised
FLT 2.5.1B	• Editorial change: phrase added to define future applicability date; GM symbol added; note deleted
FLT 2.5.1B Guidance	• New guidance

FLT 3.3.5	• Editorial change: wording reorganized for better flow
FLT 3.4.3A	• Editorial changes: wording and structure revised to improve clarity and understanding
FLT 3.4.3A Guidance	• Technical changes: wording deleted regarding variations (variations are implicit in FRMS); wording revised to emphasize FRMS may be used alone or in combination with prescriptive rules
FLT 3.4.3B Guidance	• Technical changes: wording revised to harmonize with FLT 3.4.3A and guidance • Technical changes: guidance table simplified
FLT 3.6.1 and Guidance	• Eliminated: specifications relocated to FLT 3.11.4
FLT 3.6.5 Guidance	• Editorial changes: wording and structural changes to correct typo and improve understanding
FLT 3.7.2	• Technical change: wording added to reflect new requirement in Annex 6, Amendment 38 • Editorial change: specifications shown in bullets
FLT 3.7.2 Guidance	• Technical changes: wording revised, added to reflect new requirement in Annex 6, Amendment 38
FLT 3.7.7	• Editorial change: GM symbol added
FLT 3.7.7 Guidance	• New guidance: wording identifies OFP equivalent and differing requirements in a shared system of operational control
FLT 3.7.9	• Technical change: Active Implementation (AI) termination date extended • Editorial change: wording deleted; unnecessary reference
FLT 3.7.9 Guidance	• Editorial changes: wording revised to improve understanding
FLT 3.8.5	• Editorial change: word added to improve clarity
FLT 3.9.6	• Technical changes: conditional phrase revised to align with GRH 4.2.1; reference to GRH 4.2.1 deleted
FLT 3.9.6 Guidance	• Editorial changes: wording revised to be more accurate and improve understanding
FLT 3.9.7	• Technical changes: conditional phrase revised to align with GRH 4.2.1 (in negative sense); reference to FLT 3.9.6 deleted
FLT 3.9.7 Guidance	• Editorial change: wording revised to be more accurate
FLT 3.11.3 Guidance	• Editorial change: word added to be more accurate
FLT 3.11.4	• Technical change: wording revised; specs relocated from (eliminated) FLT 3.6.1
FLT 3.11.7	• Editorial change: reference to DSP 4.3.12 deleted
FLT 3.11.9 Guidance	• Editorial change: wording revised to improve clarity
FLT 3.11.10 Guidance	• Technical change: specific technical references added (relevant to specifications in the standard); same references are used in DSP guidance
FLT 3.11.21 Guidance	• Editorial change: word deleted to correct typo
FLT 3.11.66	• Technical change: intent statement added with more detailed information to improve understanding
FLT 3.11.69	• Technical change: upgraded to a standard based on feedback and a safety risk analysis
FLT 3.12.7	• Technical change: upgraded to a standard based on feedback and a safety risk analysis
FLT 3.12.7 Guidance	• Editorial change: grammar correction

FLT 3.13.10 <AC>	• Technical change: reference in note to 'special permit' deleted (not an ICAO TI or DGR term)
FLT 3.13.10 <AC> Guidance	• Technical change: wording in IRM reference deleted
FLT 3.14.16	• Technical change: AI termination date extended
FLT 3.14.17	• Technical change: AI termination date extended
FLT 4.2.1	• Technical change: wording revised to more correct terminology
FLT 4.2.1 Guidance	• Technical change: wording revised to more correct terminology
FLT 4.3.9	• Technical change: wording added to address certification issue associated with equipment installation • Editorial change: GM symbol added
FLT 4.3.9	• New guidance: intent statement
FLT 4.3.10	• Editorial change: word deleted; term no longer used in Annex 6
FLT 4.3.19	• Editorial change: capitalization corrected
FLT 4.3.20A	• Editorial change: wording deleted; aircraft takeoff gross weight of 5,700 kg is stated as a blanket applicability limit in the Applicability Box
FLT 4.3.20B	• Editorial change: wording deleted; aircraft takeoff gross weight of 5,700 kg is stated as a blanket applicability limit in the Applicability Box
FLT 4.3.24	• Editorial change: wording deleted; aircraft takeoff gross weight of 5,700 kg is stated as a blanket applicability limit in the Applicability Box
FLT 4.3.25	• Editorial change: wording deleted; aircraft takeoff gross weight of 5,700 kg is stated as a blanket applicability limit in the Applicability Box
FLT 4.3.26	• Editorial change: wording deleted; aircraft takeoff gross weight of 5,700 kg is stated as a blanket applicability limit in the Applicability Box
FLT 4.3.27	• Editorial change: wording deleted; aircraft takeoff gross weight of 5,700 kg is stated as a blanket applicability limit in the Applicability Box
FLT 4.3.28	• Editorial change: wording deleted; aircraft takeoff gross weight of 5,700 kg is stated as a blanket applicability limit in the Applicability Box
FLT 4.3.29	• Editorial change: wording deleted; aircraft takeoff gross weight of 5,700 kg is stated as a blanket applicability limit in the Applicability Box
FLT 4.3.30	• Editorial change: wording deleted; aircraft takeoff gross weight of 5,700 kg is stated as a blanket applicability limit in the Applicability Box
FLT 4.3.31	• Technical change: sub-spec ii), wording added to reflect Annex 6 requirement • Editorial change: wording deleted; aircraft takeoff gross weight of 5,700 kg is stated as a blanket applicability limit in the Applicability Box; wording in bullets restructured
FLT 4.4.2	• Editorial change: wording deleted; aircraft takeoff gross weight of 5,700 kg is stated as a blanket applicability limit in the Applicability Box
Table 2.2	• Editorial changes: line item references limited to specific DSP ISARPs only; DSP references revised; FLT references deleted; word "None" inserted where no DSP reference • Technical change: item vi), j); wording revised (reference to flight following changed to flight monitoring)

Section 3 (DSP)	
Area Changed	Description of Change
General	• Technical changes: TR 2013-1 incorporated • Editorial changes: wording and structure revised to improve clarity and understanding • Technical changes: wording revised to improve clarity and understanding • Convention to show future upgrades of recommended practices (A/B) changed to be consistent with ORG upgrades
Standards Eliminated	• Five (5) eliminated: DSP 1.2.1, DSP 1.7.3, DSP 3.1.1, DSP 3.7.4, DSP 4.3.3
Standards Added	• None added.
Recommended Practices Eliminated	• None eliminated
Recommended Practices Added	• None added.
Applicability Box	• No changes
General Guidance	• Technical change: term “continuing qualification” introduced for consistency with terminology in FLT • Technical change: concept introduced that training and qualification as specified in GRH section is applicable to load control personnel that might be classified as FOAs • Editorial changes: wording revised for clarity, consistency; references to Tables 3.1, 3.5 deleted (duplication of wording in Applicability box) • Non-numbered header *Additional Notes* added
Header 1.2	• Title deleted; identified as intentionally open
DSP 1.2.1 and Guidance	• Eliminated; redundant with FLT 1.6.4
DSP 1.3.1	• Technical change: [SMS] symbol added; erroneous omission in Edition 7
DSP 1.3.1 Guidance	• Editorial changes: wording revised to improve clarity
DSP 1.3.4 Guidance	• Technical change: IRM reference added; exception added to note at bottom of guidance table
DSP 1.3.5 Guidance	• Technical change: wording in table notes revised for accuracy, clarity regarding FOOs in shared/non-shared systems, FOAs in pure non-shared system
DSP 1.3.6	• Technical changes: wording revised to improve accuracy and understanding of applicability; note added to improve understanding of applicability (wording relocated from guidance, revised)
DSP 1.3.6 Guidance	• Technical change: wording deleted; relocated to a note as part of the standard
DSP 1.4.2 Guidance	• Technical change: wording added; relocated from guidance associated with (eliminated) DSP 3.1.1
DSP 1.6.1 Guidance	• Editorial change: duplicative wording deleted, wording revised to improve clarity
DSP 1.6.4	• Technical change: wording added; relocated from (eliminated) DSP 1.7.3
DSP 1.6.4 Guidance	• Technical change: IRM references added

DSP 1.7.1	• Technical changes: wording revised to improve understanding; wording added (relocated from DSP 1.7.3); reference to DSP 1.6.4 deleted • Editorial change: format revised; multiple specs arranged in bullet format
DSP 1.7.1 Guidance	• Technical change: intent statement added
DSP 1.7.3	• Eliminated; specs relocated to DSP 1.7.1
DSP 1.8.2	• Technical change: wording added for harmonization with DSP 3.2.5
DSP 1.8.6 Guidance	• Editorial change: reference to recurrent training deleted
DSP 1.10.1	• Technical change: sub-spec i), wording deleted for consistency with ORG
DSP 1.10.4	• Editorial change: GM symbol added
DSP 1.10.4 Guidance	• New guidance
DSP 1.12.1A	• Editorial change: wording in note revised
DSP 1.12.1B	• Editorial change: phrase added to define future applicability date; note deleted; GM symbol added
DSP 1.12.1B Guidance	• New guidance
DSP 1.12.2A	• Editorial change: wording in note revised
DSP 1.12.2A Guidance	• Technical change: ETOPS deleted
DSP 1.12.2B	• Editorial change: phrase added to define future applicability date; note deleted; GM symbol added
DSP 1.12.2B Guidance	• New guidance
DSP 1.12.5A	• Editorial change: wording in note revised
DSP 1.12.5A Guidance	• Editorial change: punctuation revised
DSP 1.12.5B	• Editorial change: phrase added to define future applicability date; note deleted; GM symbol added
DSP 1.12.5B Guidance	• New guidance
DSP 2.1.1 Guidance	• Technical change: wording revised for accuracy
DSP 2.2.4	• Technical changes: wording revised to include evaluation, initial, recurrent training • Editorial change: conditional phrase added
DSP 2.2.4 Guidance	• Technical changes: wording revised to include evaluation, initial, recurrent dangerous goods training
DSP 2.3.2 Guidance	• Technical changes: wording added to define dangerous goods training requirement; recommended subjects for dangerous goods training added; wording added to address recurrent training cycle
DSP 2.3.4 Guidance	• Technical change: ETOPS replaced with EDTO
DSP 2.4.1 Guidance	• Technical change: wording added to include partial-shared system
DSP 2.5.1A	• Editorial change: wording in note revised
DSP 2.5.1B	• Editorial change: phrase added to define future applicability date; note deleted; GM symbol added
DSP 2.5.1B Guidance	• New guidance
DSP 3.3.1	• Eliminated: specifications relocated to DSP 1.4.2
DSP 3.2.5 Guidance	• Technical change: wording added for harmonization with DSP 3.2.5
DSP 3.2.6 Guidance	• Technical change: Guidance header added; wording added to address partial shared system

DSP 3.2.9B Guidance	• Editorial change: IRM reference revised • Editorial change: unnecessary wording deleted
DSP 3.2.10 Guidance	• Technical change: Reference to MNT 3.1.1 changed to MNT 2.1.1
DSP 3.3.3 Guidance	• Technical change: wording added to recognize load controllers that function in operational control may be trained in accordance with GRH (Load Control) provisions
DSP 3.4.3	• Editorial change: conditional phrase added consistent with GRH 4.2.1; reference to GRH 4.2.1 deleted
DSP 3.6.2	• Technical change: GM symbol added
DSP 3.6.2 Guidance	• New guidance
DSP 3.6.1 Guidance	• Technical change: wording added to address equipment available to FOO/FOA personnel in partial shared system
DSP 3.6.4	• Editorial change: GM symbol added
DSP 3.6.4 Guidance	• New guidance
DSP 3.6.5B Guidance	• Editorial changes: wording revised to improve accuracy
DSP 3.7.3	• Technical changes: specifications added; relocated from (eliminated) DSP 3.7.4 • Editorial changes: wording revised for better understanding; specifications presented in bullet form; All note deleted
DSP 3.7.3 Guidance	• Technical changes: wording added; relocated from (eliminated) DSP 3.7.4 guidance
DSP 3.7.4 and Guidance	• Eliminated
Subsection 4–General Guidance	• Technical change: TR 2013-1 incorporated; new guidance; relocated from (deleted and replaced) DSP 4.6.1
DSP 4.1.2	• TR 2013-1 incorporated • Editorial changes: wording revised to simplify specifications; spelling correction
DSP 4.1.2 Guidance	• Editorial changes: references to other provisions deleted; spelling correction
DSP 4.1.4	• TR 2013-1 incorporated • Technical changes: wording revised, deleted and relocated to simplify, harmonize with other provisions and improve clarity; unnecessary references to other provisions deleted; PCO expiry extended
DSP 4.1.4 Guidance	• TR 2013-1 incorporated • Editorial changes: wording revised, deleted to improve information clarity
DSP 4.1.5	• TR 2013-1 incorporated • Technical changes: wording revised, deleted and relocated to simplify, harmonize with other provisions and improve clarity; unnecessary references to other provisions deleted; PCO expiry extended
DSP 4.1.5 Guidance	• TR 2013-1 incorporated; PCO expiry extended • Editorial changes: wording revised, added, deleted to improve information clarity
DSP 4.1.7 Guidance	• Technical change: Intent statement expanded for improved clarity
DSP 4.2.3	• Technical change: PCO expiry extended
DSP 4.3.1 Guidance	• Technical changes: wording added, revised to expand information regarding fuel policy; information relocated from (eliminated) DSP 4.3.3
DSP 4.3.2	• Editorial change: word revised for consistency

DSP 4.3.2 Guidance	• Technical change: wording added to clarify intent of sub-spec i)
DSP 4.3.3 and Guidance	• Eliminated: specifications relocated as information in guidance for DSP 4.3.1
DSP 4.3.5	• Technical changes: wording revised to improve clarity • Editorial change: references to other provisions deleted
DSP 4.3.6	• Technical changes: wording revised to improve clarity; PCO expiry extended • Editorial change: references to other provisions deleted; spelling correction
DSP 4.3.7	• Technical changes: wording revised to improve clarity; PCO expiry extended • Editorial change: references to other provisions deleted
DSP 4.3.7 Guidance	• Technical change: wording added to clarify sub-spec ii)
DSP 4.3.8	• Technical changes: wording revised to improve clarity • Editorial change: references to other provisions deleted
DSP 4.3.9	• Technical changes: wording revised to improve clarity • Editorial change: references to other provisions deleted
DSP 4.3.10	• Technical changes: wording revised to improve clarity • Editorial change: references to other provisions deleted
DSP 4.3.11	• Technical changes: wording revised, added to improve clarity; specification for reciprocating engine aircraft restored • Editorial change: references to other provisions deleted
DSP 4.3.11 Guidance	• Technical changes: references to other provisions revised
DSP 4.3.12	• Technical changes: wording revised, added to improve clarity; specification for reciprocating engine aircraft restored; PCO expiry extended • Editorial change: references to other provisions deleted
DSP 4.3.13	• Technical changes: wording revised to improve clarity; Active Implementation (AI) termination date extended • Editorial change: references to other provisions deleted
DSP 4.3.14	• Editorial change: references to other provisions deleted
DSP 4.3.16 Guidance	• Editorial changes: wording revised to improve clarity
DSP 4.5.1 Guidance	• Technical change: effective date of reference added • Editorial change: punctuation corrected
DSP 4.5.3	• Editorial change: EDTO deleted in ii) (repetitive)
DSP 4.6.1	• Eliminated and replaced with DSP 4.6.1A, 4.6.1B, 4.6.1C; guidance relocated to beginning of subsection as General Guidance
DSP 4.6.1A and Guidance	• TR 2013-1 incorporated • New standard and guidance; replaces previous DSP 4.6.1
DSP 4.6.1B and Guidance	• TR 2013-1 incorporated • New standard and guidance; replaces previous DSP 4.6.1
DSP 4.6.1C and Guidance	• TR 2013-1 incorporated • New standard and guidance; replaces previous DSP 4.6.1
DSP 4.6.2 and Guidance	• TR 2013-1 incorporated • New standard and guidance; replaces previous DSP 4.6.2
DSP 4.6.3 and Guidance	• TR 2013-1 incorporated • New standard and guidance; replaces previous DSP 4.6.3

Table 3.1	• Technical change: terminology changed for consistency with FLT; wording revised to address load agents; superscript designator for note 5 deleted
Table 3.2	• Editorial changes: line item references limited to specific FLT ISARPs only; FLT references revised; DSP references deleted; word “None” inserted where no FLT reference • Technical change: item vi), d); wording revised (reference to flight following changed to flight monitoring)
Table 3.3	• Editorial change: wording, punctuation revised
Table 3.5	• Technical change: column added; shows examples of appropriate FOA functions relevant to the stated competencies; Legend examples revised; load planner deleted, ATM added
Section 4 (MNT)	
Area Changed	Description of Change
General	• Editorial changes: wording revised, punctuation corrected • Technical changes: wording revised to improve clarity, understanding • Technical changes: wording revised to address EDTO
Standards Eliminated	• None eliminated
Standards Added	• Two (2) added: MNT 1.10.5 (QA repeated from ORG), MNT 2.8.1
Recommended Practices Eliminated	• None eliminated
Recommended Practices Added	• None added
Applicability Box	• No changes
MNT 1.1.2 Guidance	• Technical changes: IRM reference added; wording revised to update terminology and improve clarity
MNT 1.2.1	• Technical change: wording revised for consistency with ORG; SMS symbol added
MNT 1.3.1	• Editorial change: wording revised to improve stated specifications
MNT 1.7.1 Guidance	• Technical changes: wording revised to include EDTO and equivalent terms
MNT 1.10.1	• Technical change: sub-spec i), wording deleted for consistency with ORG
MNT 1.10.2	• Editorial change: GM symbol added
MNT 1.10.2 Guidance	• New guidance
MNT 1.10.5 and Guidance	• Relocated as new MNT 4.4.2
MNT 1.10.5 and Guidance	• New standard and guidance (QA provision repeated from ORG; replaces relocated standard)
MNT 1.12.1A	• Editorial change: wording in note revised
MNT 1.12.1B	• Editorial change: phrase added to define future applicability date; GM symbol added
MNT 1.12.1B Guidance	• New Guidance
MNT 1.12.2A	• Editorial change: wording in note revised
MNT 1.12.2B	• Editorial change: phrase added to define future applicability date; note deleted; GM symbol added
MNT 1.12.5B Guidance	• New Guidance
MNT 1.12.5A	• Editorial change: wording in note revised

MNT 1.12.5B	• Editorial change: phrase added to define future applicability date; note deleted; GM symbol added
MNT 1.12.5B Guidance	• New Guidance
MNT 1.12.6A	• Editorial change: wording in note revised
MNT 1.12.6B	• Editorial change: phrase added to define future applicability date; note deleted; GM symbol added
MNT 1.12.6B Guidance	• New Guidance
MNT 2.3.1	• Editorial change: wording revised to clarify applicability of sub-specs
Subsection 2.5 Header	• Editorial change: word “Information” added, more accurate description
MNT 2.8.1	• New standard: addresses EDTO
MNT 2.8.2	• Technical changes: wording replaced to address EDTO in lieu of ETOPS
MNT 4.3.1	• Editorial change: wording deleted (unnecessary)
MNT 4.4.2 and Guidance	• Relocated from MNT 1.10.5
MNT 4.9.1 Guidance	• Technical changes: wording revised to include EDTO and equivalent terms
Table 4.5	• Technical changes: wording revised to account for and address EDTO; EDTO equivalent terms identified
Table 4.7	• Technical changes: wording revised, deleted to improve accuracy
Section 5 (CAB)	
Area Changed	Description of Change
General	• Editorial and technical changes: wording revised to improve clarity, understanding • Technical changes: wording in guidance material revised, expanded to improve understanding
Standards Eliminated	• None eliminated
Standards Added	• One (1) added: CAB 1.9.4 (QA repeated from ORG)
Recommended Practices Eliminated	• None eliminated
Recommended Practices Added	• None added
Applicability Box	• Editorial change: reference to Section 8 deleted
CAB 1.2.1	• Editorial change: SMS symbol added
CAB 1.3.2 Guidance	• Technical change: communication medium example added
CAB 1.6.4 Guidance	• Editorial changes: wording revised to improve clarity
CAB 1.6.7	• Technical change: wording added to expand the specification
CAB 1.9.1	• Technical change: sub-spec i), wording deleted for consistency with ORG
CAB 1.9.3	• Editorial change: GM symbol added
CAB 1.9.3 Guidance	• New guidance
CAB 1.9.4 and Guidance	• New standard and guidance (QA provision repeated from ORG)
CAB 1.11.1A	• Editorial change: wording in note revised
CAB 1.11.1B	• Editorial change: phrase added to define future applicability date; note deleted; GM symbol added
CAB 1.11.1B Guidance	• New Guidance
CAB 1.11.2A	• Editorial change: wording in note revised

CAB 1.11.2B	• Editorial change: phrase added to define future applicability date; note deleted; GM symbol added
CAB 1.11.2B Guidance	• New Guidance
CAB 1.11.5A	• Editorial change: wording in note revised
CAB 1.11.5A Guidance	• Technical change: performance measure example added
CAB 1.11.5B	• Editorial change: phrase added to define future applicability date; note deleted; GM symbol added
CAB 1.11.5B Guidance	• New Guidance
CAB 2.2.10 Guidance	• Technical changes: wording added to address independent training
CAB 2.2.11 Guidance	• Technical changes: wording added (standards and regulations)
CAB 2.3.1	• Technical change: wording revised to meet less restrictive of FAA/EASA regulations
CAB 2.4.1A	• Editorial change: conditional phrase added; wording in note revised
CAB 2.4.1B	• Editorial change: phrase added to define future applicability date; note deleted; GM symbol added
CAB 2.4.1B Guidance	• New Guidance
CAB 3.1.4A	• Editorial changes: wording and structure revised to improve clarity and understanding
CAB 3.1.4A Guidance	• Technical changes: wording deleted regarding variations (variations are implicit in FRMS); wording revised to emphasize FRMS may be used alone or in combination with prescriptive rules
CAB 3.1.4B Guidance	• Technical changes: wording revised to harmonize with FLT 3.4.3A and guidance • Technical changes: guidance table simplified
CAB 3.4.1 Guidance	• Editorial change: wording revised to improve flow
CAB 3.4.15	• Technical change: wording revised, added to improve accuracy • Editorial change: conditional phrase added
CAB 4.2.5	• Technical change: wording deleted (no longer accurate)
CAB 4.2.5 Guidance	• Technical change: list of examples revised
CAB 4.2.23	• Technical change: wording deleted (no longer applicable)
Table 5.1	• Technical changes: items added • Editorial changes: items added, revised, rearranged, consolidated
Section 6 (GRH)	
Area Changed	Description of Change
General	• Editorial and technical changes: wording revised to improve understanding • Technical changes: wording revised to improve clarity, understanding
Standards Eliminated	• One (1) eliminated: GRH 3.5.4
Standards Added	• Four (4) added: GRH 1.9.4 (QA repeated from ORG), GRH 3.7.2, 3.7.3 (both relocated from SEC), GRH 3.1.5,
Recommended Practices Eliminated	• None eliminated
Recommended Practices Added	• None added
Relocated Standards (within GRH)	• One relocated: GRH 3.2.6 now GRH 3.7.1
Applicability Box	• Editorial change: reference to Section 8 deleted

General Guidance	• No changes
GRH 1.1.2	• Technical change: reference to security deleted • Editorial change: GM, repeat symbols added
GRH 1.1.2 Guidance	• New guidance
GRH 1.2.1	• Technical change: SMS symbol added
GRH 1.4.1	• Technical change: reference to security deleted
GRH 1.5.1 Guidance	• Editorial change: inaccurate wording deleted
GRH 1.5.2	• Editorial change: intentionally open; parentheses added
GRH 1.5.3 Guidance	• Technical change: IRM referenced added
GRH 1.6.3	• Technical change: wording deleted for accuracy
GRH 1.6.4 Guidance	• Technical change: DGR reference added
GRH 1.6.5 Guidance	• Technical change: wording added to expand explanatory information
GRH 1.6.6 Guidance	• Editorial change: wording deleted; relocated to guidance for GRH 1.6.8
GRH 1.6.8 Guidance	• Editorial change: wording added; relocated from GRH 1.6.6
GRH 1.9.1	• Technical change: sub-spec i), wording deleted for consistency with ORG
GRH 1.9.2	• Editorial change: GM symbol added
GRH 1.9.2 Guidance	• New guidance
GRH 1.9.4 and Guidance	• New standard and guidance (QA provision repeated from ORG)
GRH 1.10.1 Guidance	• Technical change: wording added to expand examples
GRH 1.10.2 Guidance	• Technical changes: examples of service provider monitoring programs added
GRH 1.11.1A	• Editorial change: wording in note revised
GRH 1.11.1B	• Editorial change: phrase added to define future applicability date; note deleted
GRH 1.11.1B Guidance	• New Guidance
GRH 1.11.2A	• Editorial change: wording in note revised
GRH 1.11.2B	• Editorial change: phrase added to define future applicability date; note deleted
GRH 1.11.2B Guidance	• New Guidance
GRH 1.11.5A	• Editorial change: note relocated; wording in note revised; note relocated to proper position
GRH 1.11.5B	• Editorial change: phrase added to define future applicability date; note deleted; GM symbol added
GRH 1.11.5B Guidance	• New Guidance
GRH 1.11.6 Guidance	• Technical changes: wording revised and information updated to improve clarity and accuracy
GRH 2.3.1A	• Editorial changes: wording in note revised
GRH 2.3.1B	• Editorial change: phrase added to define future applicability date; note deleted; GM symbol added
GRH 2.3.1B Guidance	• New guidance
GRH 3.1.1 Guidance	• Technical change: DGR reference revised
GRH 3.1.5 and Guidance	• New standard and guidance: complements CAB 3.4.1
GRH 3.2.1	• Editorial change: wording revised to improve clarity
GRH 3.2.2	• Editorial change: wording revised to improve clarity
GRH 3.2.3	• Editorial change: wording revised to improve clarity

GRH 3.2.6	• Relocated: as GRH 3.7.1 in new sub-section 3.7 (Security) • Technical change: wording added to reference assessed risk
GRH 3.3.4 Guidance	• Technical change: IRM reference added
GRH 3.3.8	• Technical change: Active Implementation (AI) note deleted
GRH 3.4.1	• Editorial change: wording revised to improve specification presentation
GRH 3.4.1 Guidance	• Technical change: DGR reference deleted
GRH 3.4.4 Guidance	• Technical change: DGR reference added
GRH 3.5.3	• Editorial changes: structure revised to include sub-specs; wording added as sub-spec ii), relocated from (eliminated) GRH 3.5.4
GRH 3.5.4	• Eliminated: specifications relocated to GRH 3.5.3
Header 3.7	• New header (Security); new sub-section for location of security provisions; consistent with security sub-section in CGO
GRH 3.7.1	• Relocated: security standard; previously GRH 3.2.6 • Technical change: wording added to reference assessed risk
GRH 3.7.2 and Guidance	• New standard and guidance: relocated from (eliminated) SEC 3.2.1
GRH 3.7.3 and Guidance	• New standard and guidance: relocated from (eliminated) SEC 3.2.4
GRH 4.1.1 Guidance	• Technical change: reference to ICAO Doc 9977 added
GRH 4.2.1	• Technical changes: wording in conditional phrased revised to complement FLT 3.9.6; note added; note added to identify applicability to commercial and non-commercial flight operations
GRH 4.2.1 Guidance	• Technical change: wording added; describes flexibility in scope and details of de-/anti-icing program, type of operations, recommended content in a service level agreement; referenced to DAQCP added
Section 7 (CGO)	
Area Changed	Description of Change
General	• Editorial and technical changes: wording revised to improve understanding • Technical changes: wording “and/or mail” (in conjunction with references to cargo in multiple provisions) deleted for consistency with other CGO provisions. Explanation included in definition of the term “Cargo” in IRM
Standards Eliminated	• None eliminated
Standards Added	• One (1) added: CGO 1.9.4 (QA repeated from ORG)
Recommended Practices Eliminated	• None eliminated
Recommended Practices Added	• None added
Applicability Box	• Editorial change: wording revised for consistency; reference to Section 8 deleted
CGO 1.2.1	• Technical change: SMS symbol added
CGO 1.9.1	• Technical change: sub-spec i), wording deleted for consistency with ORG
CGO 1.9.2	• Editorial change: GM symbol added
CGO 1.9.2 Guidance	• New guidance
CGO 1.9.4 and Guidance	• New standard and guidance (QA provision repeated from ORG)
CGO 1.11.1A	• Editorial changes: wording in note revised
CGO 1.11.1B	• Editorial changes: phrase added to define future applicability date; GM symbol added; note deleted

CGO 1.11.1B Guidance	• New Guidance
CGO 1.11.2A	• Editorial changes: wording in note revised
CGO 1.11.2B	• Editorial changes: phrase added to define future applicability date; GM symbol added; note deleted
CGO 1.11.2B Guidance	• New Guidance
CGO 1.11.5A	• Editorial changes: wording in note revised
CGO 1.11.5B	• Editorial changes: phrase added to define future applicability date; GM symbol added; note deleted
CGO 1.11.5B Guidance	• New Guidance
CGO 2.3.1A	• Technical change: conditional phrase added; wording in note revised
CGO 2.3.1B	• Editorial changes: phrase added to define future applicability date; GM symbol added; note deleted
CGO 2.3.1B Guidance	• New Guidance
CGO 3.2.1 Guidance	• Technical change: reference to lithium batteries deleted
CGO 3.2.18	• Editorial changes: upper case letters added; conditional phrase added to sub-specs ii) and iii)
CGO 3.7.1 Guidance	• Technical change: IRM reference added
CGO 3.7.3 Guidance	• Technical change: IRM references added; wording added to explain intent
CGO 3.7.4	• Technical changes: wording revised to improve clarity, accuracy; example added
CGO 3.7.4 Guidance	• Technical changes: IRM reference added; wording revised to improve clarity, accuracy
Table 7.1	• Technical change: reference to “high risk” cargo added
Section 8 (SEC)	
Area Changed	Description of Change
General	• Editorial and technical changes: wording revised to improve understanding
Standards Eliminated	• Three (3) eliminated: SEC 3.2.1, SEC 3.2.4 (both relocated to GRH), SEC 2.1.3
Standards Added	• None added
Recommended Practices Eliminated	• None eliminated
Recommended Practices Added	• None added
Applicability Box	• No changes
SEC 1.2.1 Guidance	• Technical change: IRM reference added
SEC 1.5.3	• Technical change: sub-spec added (specifications expanded)
SEC 1.7.1 Guidance	• Technical change: bulleted items added (security manual subject areas expanded)
SEC 1.10.2	• Editorial change: GM symbol added
SEC 1.10.2 Guidance	• New guidance
SEC 1.10.3A	• Editorial change: “A” suffix added to provision identifier
SEC 1.10.3B and Guidance	• New standard and guidance (QA provision repeated from ORG); wording tailored to include reference to security risk; “B” suffix used to insert in appropriate location
SEC 1.11.4	• Technical change: wording added to improve accuracy • Editorial change: GM symbol added

SEC 1.11.4 Guidance	• New guidance
SEC 2.1.1	• Technical change: wording added, spec relocated from (eliminated) SEC 2.1.3
SEC 2.1.3	• Eliminated (intentionally open; spec relocated to SEC 2.1.1
SEC 3.1.3 Guidance	• Technical change: wording revised to improve accuracy
Header 3.2	• Intentionally open; former title Aircraft Security deleted
SEC 3.2.1 and Guidance	• Eliminated: relocated to GRH (new GRH 3.7.2)
SEC 3.2.4 and Guidance	• Eliminated: relocated to GRH (new GRH 3.7.3)
SEC 3.3.1	• Editorial change: wording revised (and/or)
Header 3.7	• Title changed to Cargo Shipments
SEC 3.7.1	• Editorial change: wording revised for consistency
SEC 4.3.1 Guidance	• Technical change: word revised to improve accuracy

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 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.

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

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 has been assigned an associated 3-letter identifier (in parentheses above). The reference number for every standard or recommended practice within a section will include 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 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, not only at the home station, but *at all stations and other locations throughout the operator's entire system*.

Aircraft Applicability

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;
- 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 utilized 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 utilized 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).

5 Explanation of ISARPs

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

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 conformance 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 conformity 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 the same 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 conformity. 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 be recorded as N/A.

Parallel Conformity Option

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 or logistical factors, has been determined to be generally not achievable by the industry.

Where a PCO is included in an IOSA provision, it will be clearly identified and, if applicable, include an expiration date. The provision will always state the basic operational specification first, followed by the PCO as an "**or**" alternative.

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 and Symbols

An italicized note (*Note:...*) immediately following a provision contains information relevant to the specification(s) in the provision, and is to be considered as part of the provision.

A **<PA>** symbol in the reference number of an IOSA provision indicates that the provision is applicable *only* to an operator that conducts passenger flights and uses a cabin crew in the passenger cabin.

An **<AC>** symbol in the reference number of an IOSA provision indicates that the provision is applicable *only* to an operator that conducts cargo flights utilizing all-cargo aircraft.

A provision with neither **<PA>** nor **<AC>** in the reference number is applicable to the operations associated with *both* passenger and cargo aircraft.

An **[SMS]** symbol in bold text immediately 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 **(GM)** symbol in bold text at the end of a provision indicates the existence of associated guidance material. (Guidance Material is addressed in subsection 6 below.)

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.)

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 provides 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 is co-located with the relevant ISARPs, and is preceded by the bold sub-heading **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, for continued effectiveness.

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.

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 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 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

Certain IOSA Standards may be designated as eligible for the application of Active Implementation (see ***Notes and Symbols*** above), 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).

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;
- All 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 Active Implementation 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 Active Implementation, 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 conformity based on Active Implementation.

8 Safety Management Systems (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). Not all states will mandate SMS immediately, and some states could take several years before making SMS mandatory for its operators. Additionally, some elements of SMS are quite complex, thus full implementation of an SMS by an operator will typically take several years. Therefore, given these factors, most SMS provisions are initially presented in the ISARPs as recommended practices (i.e. “should”). 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 IOSA standards (applicable to that operator), plus all IOSA 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.

SMS Upgrades

In accordance with the IATA SMS Strategy, all IOSA SMS recommended practices are being incrementally upgraded to standards such that, with the ISM revision that will be effective on 1 September 2016, all IOSA SMS provisions will have been upgraded to standards (i.e. “shall”).

The planned upgrades are set forth using an A/B convention whereby both the existing SMS recommended practice (with an “A” in the identifier) and the future SMS standard (with a “B” in the

identifier) are shown together. For example, ORG 1.1.10A is the current SMS recommended practice. It is followed immediately by ORG 1.1.10B, which is the future standard, and which contains the date the new standard will become effective (1 September 2016). The A/B convention is used to provide all program users with advanced notification of SMS upgrades.

Once an SMS recommended practice has been replaced by the new SMS standard, the A/B identifier and associated note will disappear, and only the remaining SMS standard will appear in the new ISM edition.

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);
- IOSA Procedures and Guidance for Airlines Manual (PGM).

The IPM, ISM, IRM, IAH and PGM 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.

* 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.

Usable Edition

For an initial IOSA registration or IOSA registration renewal audit, the operator, in conjunction with the audit organization (AO), normally determines the edition of the ISM that will be used for an audit. The Operator has the option to select either:

- The edition that is effective on the day before the on-site phase of the Audit is scheduled to begin, or
- An edition that has been published prior to the day the on-site phase of the Audit is scheduled to begin, but has not yet become effective.

12 Conflicting Information

Manuals within the IOSA documentation system are not revised concurrently, thus creating the possibility of conflicting information in different manuals.

In the case of conflicting information in different IOSA manuals, the information contained in the manual with the most recent revision date can be assumed to be valid.

13 Definitions

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.

14 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).

15 Authority

The IOSA Program operates under the authority of the IATA Operations Committee (OPC) with reference to the IATA Board of Governors (BoG).

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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 provisions or sub-specifications within a provision that:

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

Many IOSA standards and recommended practices in this Section 1 (ORG ISARPs) are repeated in one or more other sections of the ISM (as indicated by the ► symbol). Refer to the IOSA Procedures and Guidance for Airlines Manual for information relevant to the proper auditing of repeated ORG ISARPs.

ORG 3.4.6A, 3.4.7A, 3.4.8A and 3.4.14A in this section are 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 Organization and Accountability

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**) ►

Guidance

Refer to the IRM for the definitions of Operations, Operator, 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 (Intentionally open)

ORG 1.1.3 The Operator shall identify one senior management official as the Accountable Executive who is accountable for performance of the management system as specified in ORG 1.1.1 and:

(i) Irrespective of other functions, has ultimate responsibility and accountability 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 allocation of resources necessary to manage safety and security risks to aircraft operations;

(iii) Has overall responsibility and is accountable 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**)

Guidance

Refer to the IRM for the definitions of Accountability, Accountable Executive, Authority, Aircraft Operations, Responsibility, Safety Risk Management and Senior Management.

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

The designation of an Accountable Executive means the accountability for 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 Accountable Executive 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 Accountable Executive has the authority, which includes financial control, to make policy decisions, provide adequate resources, resolve operational quality, safety and security issues and, in general, ensure necessary system components are in place and functioning properly.

In an SMS, the Accountable Executive 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 Accountable Executive 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 Accountable Executive might designate a manager with the responsibility for monitoring compliance. The role of such manager would be to ensure that the 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 relevant head of functional area.

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

ORG 1.1.4 If required by the State of the Operator (hereinafter, the State), the Operator shall have nominated officials within the management system that are acceptable to the Authority and have the responsibility, and thus are accountable, for ensuring, in their respective defined operational areas:

(i) The management of safety risks and security threats to aircraft operations;

(ii) 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. (**GM**) ►

Guidance

Refer to the IRM for the definition of Post Holder.

In certain regulatory jurisdictions such nominated officials may be called post holders or directors.

ORG 1.1.5–1.1.9 (Intentionally open)

Safety Management System

ORG 1.1.10A The Operator *should* have an SMS that is implemented and integrated throughout the organization to ensure management of the safety risks associated with aircraft operations. [**SMS**] (**GM**)

Note: *Conformity with this ORG recommended practice is possible only when the Operator is in conformity with all standards and recommended practices that are identified by the **[SMS]** symbol.*

Note: *Effective 1 September 2016, this recommended practice will be upgraded to a standard (see ORG 1.1.10B).*

Guidance

Refer to the IRM for the definitions of IOSA Operator, Safety Management System (SMS) and State Safety Program (SSP).

IOSA specifications for an operator's SMS are derived from the SMS Framework, which is published in Annex 19 to the Convention on International Civil Aviation (ICAO Annex 19). The SMS Framework specifies the four major components and 12 elements that make up the basic structure of an SMS.

Where applicable, an SMS is designed and implemented in accordance with the State Safety Program (SSP). The manner in which the elements of SMS are implemented typically reflects the size and complexity of the operator's organization.

In general, an SMS is designed and implemented to:

- Identify safety hazards in operations;
- Ensure remedial action is implemented to control safety risks;
- Provide for ongoing monitoring and assessment of safety performance;
- Make continual improvement to the level of safety in operations.

The specific requirements for each operator's SMS will normally be found in the regulations associated with the SSP. In addition, states would typically publish guidance designed to assist operators in the implementation of SMS.

A description of an operator's SMS is contained in the documentation that is specified in ORG 2.1.5.

Expanded guidance may be found in the ICAO Safety Management Manual (ICAO SMM), Document 9859.

ORG 1.1.10B Effective 1 September 2016, the Operator shall have an SMS that is implemented and integrated throughout the organization to ensure management of the safety risks associated with aircraft operations. [**SMS**] (**GM**)

Note: *Conformity with this ORG standard is possible only when the Operator is in conformity with all standards and recommended practices that are identified by the **[SMS]** symbol.*

Guidance

Refer to the guidance associated with ORG 1.1.10A.

Effective 1 September 2016, an IOSA Operator will be required to demonstrate full implementation of an organizational SMS.

ORG 1.1.11 (Intentionally open)

ORG 1.1.12 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 Accountable Executive and senior management. [**SMS**] (**GM**)

Guidance

The requirement for a manager that focuses on the administration and oversight of the SMS on behalf of the accountable executive 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 accountable executive. Also, depending on the size, structure and scope of an operator's organization, such individual may be assigned functions in addition to those associated with the SMS manager position.

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 accountable executive. Likewise, nominated officials (refer to ORG 1.1.4) or operational managers always retain the responsibility (and thus are accountable) for ensuring safety in their respective areas of operations.

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

1.2 Management Commitment

ORG 1.2.1 The Operator shall have a corporate safety policy that:

(i) Reflects the organizational commitment regarding safety;

(ii) Includes a statement about the provision of the necessary resources for the implementation of the safety policy;

(iii) Is communicated throughout the organization. [**SMS**] (**GM**)

Guidance

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

- Compliance with applicable regulations and standards of the Operator;
- Ensuring the management of safety risks to aircraft operations;
- The promotion of safety awareness;
- Continual improvement of operational performance.

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

Such policy might be documented in the operations manual or other controlled document, and, to enhance effectiveness, is communicated and made visible throughout the organization through dissemination of communiqués, posters, banners and other forms of information in a form and language which can be easily understood. To ensure continuing relevance, the corporate policy is normally 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 either or both of the policies specified in ORG 1.2.2 and ORG 1.2.3.

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

ORG 1.2.2 The Operator shall have a corporate policy that states the commitment of the organization to continual improvement of the management system. (**GM**)

Guidance

The policy of an operator reflects the commitment of senior management to ensure measuring and evaluating on a continuing basis, and making 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 safety and security performance.

Such policy typically commits the organization to:

- Regular review of performance-based indicators by senior management;
- Regular analysis of malfunctions or undesirable operational results;
- Follow-up of corrective actions and their effectiveness in improving operational performance.

The continual improvement policy is typically reviewed periodically to ensure continuing relevance to the organization.

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

A continual improvement policy is normally documented in operations manuals or other controlled documents and, to enhance effectiveness, communicated and made visible throughout the organization by disseminating communiqués, posters, banners and other forms of informational media.

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

ORG 1.2.3 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**)

Guidance

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 and risk management.

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.

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

Refer to ORG 3.1.3, 3.1.4 and 3.1.5, each of which specifies types of safety reporting.

1.3 Accountabilities, Authorities and Responsibilities

ORG 1.3.1 The Operator shall ensure the management system defines the safety accountabilities, 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 that affect 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) Accountabilities of members of management, irrespective of other functions, as well as of non-management personnel, with respect to the safety performance of the organization. [**SMS**] (**GM**) ►

Note: *Conformity with this ORG standard is possible only when the Operator is in conformity with all repeats of this ORG standard in other ISM sections. Refer to the IOSA Procedures and Guidance for Airlines Manual for information that identifies such repeats.*

Guidance

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 an SMS, accountability means being responsible for taking corrective actions, either to address hazards and/or errors identified through reporting or from other sources, or in response to events, such as accidents and incidents.

An effective management system has lines of authority and responsibility that flow from corporate senior management into all operational areas of the organization.

Delegation of authority and assignment of responsibility is described and communicated such that it is understood throughout the organization. As a minimum, organization charts, or organograms, are acceptable means for documenting the structure of a 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.

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

ORG 1.3.2 The Operator shall have a process for the delegation of duties within the management system that ensures managerial continuity is maintained when operational managers, including nominated post holders, if applicable, are absent from the workplace. (**GM**) ►

Guidance

A documented process 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 away from normal duties meets the intent of this requirement. An operator may have nominated deputies in place or a process for ensuring the appointment of a temporary replacement.

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

ORG 1.3.3 The Operator shall ensure a delegation of authority and assignment of responsibility within the management system for liaison with regulatory authorities, original equipment manufacturers and other operationally relevant external entities. (**GM**) ►

Guidance

To ensure the communication and coordination with external entities is consistent and appropriate, liaison with operationally relevant external entities is normally controlled through the delegation of authority and assignment of responsibility to specifically named management personnel. Such authorities and responsibilities would normally be included in the job descriptions of the applicable managers.

ORG 1.3.4 (Intentionally open)

ORG 1.3.5 The Operator shall have a policy that informs operational personnel throughout the organization of their responsibility to comply with the applicable laws, regulations and procedures in all locations where operations are conducted.

1.4 Communication

ORG 1.4.1 The Operator shall have a communication system that enables an exchange of information relevant to the conduct of operations throughout the management system and in all areas where operations are conducted. (**GM**) ►

Guidance

An effective communication system ensures the exchange of operational 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.

Methods of 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.

ORG 1.4.2 The Operator shall have processes for the communication of safety information throughout the organization to ensure personnel maintain an awareness of the SMS and current operational safety issues. [**SMS**] (**GM**)

Guidance

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

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, and explains why particular safety actions are taken and why safety procedures are introduced or changed.

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

1.5 Management Review

ORG 1.5.1 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. A review shall include assessing opportunities for improvement and the need for changes to the system, including, but not limited to, organizational structure, reporting lines, authorities, responsibilities, policies, processes and procedures, as well as allocation of resources and identification of training needs. (**GM**)

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.

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 and security outcomes.

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.

ORG 1.5.2 The Operator shall have processes to review and ensure continual improvement of the SMS throughout the organization, to include:

(i) Identification of the cause(s) of substandard performance of the SMS;

(ii) Determination of the implications of substandard performance of the SMS in operations;

(iii) Elimination or mitigation of such cause(s) of substandard performance. [**SMS**] (**GM**)

Guidance

Refer to the IRM for the definitions of Safety Assurance, Safety Action Group (SAG), Safety Review Board (SRB) and Substandard Performance.

Continual improvement of the SMS is an element of the Safety Assurance component of the SMS framework.

Continual improvement would normally be overseen by a strategic committee of senior management officials that are familiar with the workings and objectives of the SMS. Such committee is typically referred to as a Safety Review Board (SRB), which is a very high level, strategic committee chaired by the accountable executive 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 front line input as part of the SMS review process, an operator would form multiple units of specially selected operational personnel (e.g. managers, supervisors, front line 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 front line operations to satisfy the strategic directives of the SRB.

In a situation where an operator has SMS only partially implemented, the operator would demonstrate that the processes specified in this provision are being applied to ensure continual improvement of those SMS elements that have been implemented and, as feasible, elements that are in the process of being implemented.

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

1.6 Provision of Resources

ORG 1.6.1 The Operator shall ensure existence of the facilities, workspace, equipment and supporting services, as well as work environment, necessary to satisfy operational safety and security requirements. (**GM**) ►

Guidance

The management system would identify, typically through policy, risk assessment, management review or other means, the infrastructure and resource requirements that would be necessary to deliver safe and secure operations, to include operations and maintenance support facilities, services and equipment appropriate for the area, such as:

- Buildings, workspaces and associated utilities;
- Facilities for people in the organization;
- Support equipment, including tools, hardware and software;
- Support services, including transportation and communication.

A suitable work environment satisfies human and physical factors and considers:

- Safety rules and guidance, including the use of protective equipment;
- Workplace location(s);
- Workplace temperature, humidity, light, air flow;
- Cleanliness, noise or pollution.

ORG 1.6.2 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**) ►

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 1.6.3 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**)

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.

ORG 1.6.4 The Operator *should* have a policy that requires personnel who perform operationally critical functions to be physically and medically fit for duty.

ORG 1.6.5A The Operator *should* have a program that ensures personnel throughout the organization are trained and competent to perform SMS duties. The scope of such training *should* be appropriate to each individual's involvement in the SMS. [**SMS**] (**GM**) ►

Note: *Conformity with this ORG recommended practice is possible only when the Operator is in conformity with all repeats of this ORG recommended practice in other ISM sections. Refer to the IOSA Procedures and Guidance for Airlines Manual for information that identifies such repeats.*

Note: *Effective 1 September 2015, this recommended practice will be upgraded to a standard (see ORG 1.6.5B).*

Guidance

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

Within an SMS both management personnel (including the accountable executive) and non-management personnel are expected to complete SMS training. The content of such training is appropriate to the individual's responsibilities and involvement in the SMS.

A training curriculum typically includes modules that provide an overview of the elements of SMS, such as:

- Event investigation and analysis techniques;
- Hazard identification;
- Risk assessment and mitigation;
- Audit principles and methodology;
- Communication techniques;
- Safety reporting;
- SMS implementation, analysis and continual improvement;
- Emergency response preparedness.

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

ORG 1.6.5B Effective 1 September 2015, the Operator shall have a program that ensures personnel throughout the organization are trained and competent to perform SMS duties. The scope of such training shall be appropriate to each individual's involvement in the SMS. [**SMS**] (**GM**)

Guidance

Refer to the Guidance associated with ORG 1.6.5A.

1.7 (Intentionally Open)

1.8 Operational Planning

ORG 1.8.1 The Operator shall ensure the management system includes planning processes for operations which:

(i) Define desired operational safety and security outcomes;

(ii) Address operational resource allocation requirements;

(iii) Take into account requirements originating from applicable external sources, including regulatory authorities and original equipment manufacturers. (**GM**)

Guidance

Management system planning processes are necessary to ensure sufficient resources are in place to meet internal operational safety and security requirements, as well as to meet requirements from external sources, such as regulatory authorities and equipment manufacturers. Resource requirements would typically be determined through risk assessment, management review or other management processes.

Planning processes typically result in the generation of goals, objectives or other types of performance measures that would represent the operational outcomes an operator plans for and desires to achieve.

Planning processes may be part of, or associated with, the budgetary process, which typically take place prior to the start of a calendar or fiscal year, and involve decisions that result in a plan for capital and operating expenditures to support operations.

2 Documentation and Records

2.1 Documentation System

ORG 2.1.1 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 in Table 1.1. (**GM**) ►

Guidance

Refer to the IRM for the definition of Documentation and Electronic Documentation.

The primary purpose of document control is to ensure necessary, accurate and up-to-date documents are available to those personnel required to use them, to include, in the case of outsourced operational functions, employees of external service providers.

Examples of documents that are controlled include, but are not limited to, operations manuals, checklists, quality manuals, training manuals, process standards, policy manuals, and standard operating procedures.

Documentation received from external sources would include manuals and other types of relevant documents that contain material that is pertinent to the safety of operations conducted by the operator (e.g. regulations, operating standards, technical information and data).

An electronic system of document management and control is an acceptable means of conformance. Within such a system, document files are typically created, maintained, identified, revised, distributed, accessed, presented, retained and/or deleted using computer systems (e.g. a web-based system). Some systems specify immediate obsolescence for any information or data that is downloaded or otherwise extracted (e.g. printed on paper) from the electronic files.

Document control might include:

- Retention of a master copy;
- Examination and approval prior to issue;
- Review and update, to include an approval process;
- Version control (electronic documents);
- Identification of revision status;
- Identification and retention of revisions as history;
- Identification and retention of background or source references as history;
- Distribution to ensure appropriate availability at points of use;
- Checking of documents to verify they remain legible and readily identifiable;
- As required, identification, update, distribution and retention of documents of external origin;
- As applicable, identification and retention of obsolete documents;
- As applicable, disposal of documents.

Additionally, control of operational manuals might include:

- Assignment of an individual with responsibility for approval for contents;
- A title page that generally identifies the operational applicability and functionality;
- A table of contents that identifies parts and sub-parts;
- A preface or introduction outlining the general contents of the manual;
- Reference numbers for the content of the manual;
- A defined distribution method and identification of recipients;
- Identification of responsibility for authorizing the manual;
- A record of revisions, both temporary and permanent;

- A list of effective pages within the manual;
- Identification of revised content.

Each “loose” documented procedure that is not held within a manual typically includes:

- A title page that identifies the operational applicability and functionality;
- Identification of the date(s) of issue and date of effectiveness;
- Reference numbers for the content;
- A distribution list;
- Identification of responsibility for authorizing the document.

ORG 2.1.2 (Intentionally open)

ORG 2.1.3 The Operator shall have processes to ensure documentation used in the conduct or support of operations:

(i) Contains legible and accurate information;

(ii) Is presented in a format appropriate for use in operations;

(iii) If applicable, is accepted or approved by the Authority. ►

ORG 2.1.4 The Operator *should* have a documentation system that ensures operations, maintenance and security manuals are centrally managed or coordinated under a corporate scheme of document hierarchy. (**GM**)

Guidance

A centrally controlled or coordinated system ensures a standardized documentation product throughout the organization. Ideally, all documents conform to a corporate standard, thus ensuring an organization-wide consistency in documentation philosophy, format and presentation of content.

ORG 2.1.5 The Operator shall have SMS documentation that includes a description of:

(i) The safety policy and objectives, SMS requirements, SMS processes and procedures, the accountabilities, authorities and responsibilities for processes and procedures, and the SMS outputs;

(ii) Its approach to the management of safety, which is contained in a manual as a means of communication throughout the organization. [**SMS**] (**GM**)

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 accountabilities, authorities, and responsibilities within the SMS.

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 accountabilities;
- 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.

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 will vary with each operator.

SMS documentation supports the management of operations and would be subject to management and control as specified in ORG 2.1.1.

For an operator that is in the process of working toward full SMS implementation, documentation would typically include an SMS implementation plan that details the way the operator will structure its organization, resources and processes to effectively manage safety in operations. It contains a realistic strategy for implementation of SMS with a realistic timeline of activities. In addition, documentation would describe those SMS elements that have been implemented and, as feasible, elements that are in the process of being implemented.

The SMS implementation plan may be a stand-alone document or it can be a distinct SMS section or chapter within an existing organizational document that is approved by the Authority. Where details of the organization's SMS processes are already addressed in existing documents, appropriate cross referencing to such documents is sufficient.

The SMS implementation plan is kept up to date by the operator. When significant amendments are made, acceptance by the Authority might be required.

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

2.2 Records System

ORG 2.2.1 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 and security;
(vi) Disposal, deletion (electronic records) and archiving. (**GM**) ►

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).

ORG 2.2.2 If the Operator utilizes an electronic system for the management and control of records, the Operator shall ensure the system provides for a scheduled generation of backup record files. (**GM**) ►

Guidance

Maintaining records in electronic files is a reliable and efficient means of short and long-term storage. The integrity of this type of record-keeping system is ensured through secure, safe storage and backup systems.

In an electronic records system, record files are managed and controlled (i.e. created, maintained, identified, updated, accessed, retained and deleted) using computer systems, programs and displays (e.g. a web-based system).

To preclude the loss of records due to hardware or software failures, an electronic system is programmed to create backup files on a schedule that ensures records are never lost. Typically, an electronic system provides for file backup on a daily basis.

Where necessary, the look and feel of electronic records is similar to that of a paper record.

The retention period for records is defined by the operator and, if applicable, will always be in accordance with requirements of the Authority.

Hardware and software, when updated or replaced, is retained to enable retrieval of old records.

3 Safety Management

3.1 Safety Risk Management

ORG 3.1.1A The Operator *should* have a hazard identification program that is implemented and integrated throughout the organization, to include:

(i) A combination of reactive and proactive methods for safety data collection;

(ii) Processes for safety data analysis that identify existing hazards and predict future hazards to aircraft operations. [**SMS**] (**GM**) ►

Note: *Conformity with this ORG recommended practice is possible only when the Operator is in conformity with all repeats of this ORG recommended practice in other ISM sections. Refer to the IOSA Procedures and Guidance for Airlines Manual for information that identifies such repeats.*

Note: *Effective 1 September 2015, this recommended practice will be upgraded to a standard (see ORG 3.1.1B).*

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.

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

ORG 3.1.1B Effective 1 September 2015, the Operator shall have a hazard identification program that is implemented and integrated throughout the organization, to include:

(i) A combination of reactive and proactive methods for safety data collection;

(ii) Processes for safety data analysis that identify existing hazards and predict future hazards to aircraft operations. [**SMS**] (**GM**) ►

Guidance

Refer to the Guidance associated with ORG 3.1.1A.

ORG 3.1.2A The Operator *should* 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**] (**GM**) ►

Note: *Conformity with this ORG recommended practice is possible only when the Operator is in conformity with all repeats of this ORG recommended practice in other ISM sections. Refer to the IOSA Procedures and Guidance for Airlines Manual for information that identifies such repeats.*

Note: *Effective 1 September 2015, this recommended practice will be upgraded to a standard (see ORG 3.1.2B).*

Guidance

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 utilized 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.

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

ORG 3.1.2B Effective 1 September 2015, 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**] (**GM**) ►

Guidance

Refer to the Guidance associated with ORG 3.1.2A.

Operational Reporting

ORG 3.1.3 The Operator shall have an operational safety reporting system that is implemented throughout the organization in a manner that:

(i) Encourages and facilitates 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 management action as necessary to address safety issues identified through the reporting system. [**SMS**] (**GM**) ►

Note: *Conformity with this ORG standard is possible only when the Operator is in conformity with all repeats of this ORG standard in other ISM sections. Refer to the IOSA Procedures and Guidance for Airlines Manual for information that identifies such repeats.*

Guidance

Operational reporting is considered a *proactive* hazard identification activity in an SMS.

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.

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

ORG 3.1.4 The Operator *should* have a confidential safety reporting system that is implemented throughout the organization in a manner that encourages and facilitates the reporting of events, hazards and/or concerns resulting from or associated with human performance in operations. (**GM**) ►

Guidance

The specified confidential safety reporting system is sometimes referred to as a Confidential Human Factors (or Incident) Reporting System.

The success of a confidential safety reporting system depends on two fundamentals:

- The ability of the organization to assure absolute protection of a report submitted by any individual;
- The level to which individuals within the organization exercise their freedom to report actual or potential unsafe conditions or occurrences.

In certain states, information submitted under a pledge of confidentiality could be subject to laws protecting such information. Therefore, an operator would typically have procedures in place to protect report confidentiality (e.g. de-identification).

There is a difference between confidential reporting and anonymous reporting. Confidential reporting is the preferred system because it permits feedback to the reporter in response to the report. Not only is the reporter entitled to an explanation, but also such feedback provides excellent incentive for the submission of future reports.

The effectiveness of a confidential safety reporting system is determined by a basic requirement for safeguarding safety and risk information. Typically, individuals will continue to provide information only when there is confidence that such information will be used only for safety purposes and will never be compromised or used against them.

An effective confidential safety reporting system might typically include:

- A process that provides absolute protection of confidentiality;
- An articulated policy that encourages reporting of hazards and human errors in operations;

- A shared responsibility between the individual flight and cabin crew members (or, if applicable, respective professional associations) and the organization to promote a confidential safety reporting system;
- A process for secure de-identification of confidential reports;
- A tracking process of action taken in response to reports;
- A process to provide feedback to the reporter;
- A communication process for ensuring flight and cabin crew members, as well as other relevant personnel, are informed of potential operating hazards through dissemination of de-identified report information.

ORG 3.1.5 The Operator *should* have a non-punitive safety reporting system that is implemented throughout the organization in all areas where operations are conducted. (**GM**)

Guidance

A non-punitive reporting system might also be referred to as an open reporting system. Such system might be considered an attribute of a reporting culture.

Front line operational personnel are often in the best position to observe and identify operational hazards and conditions, including the actions or behavior of other personnel that could lead to accidents or incidents. Experience has shown that personnel will not provide information if there is apprehension or fear that such reporting will result in disciplinary action.

To be effective, a non-punitive safety reporting system assures employees that the reporting of unintentional errors does not result in disciplinary or punitive action being taken against the reporter or other individuals involved unless such errors result from illegal activity, willful misconduct or other egregious actions, as defined by the operator. Also, in such a system employees are assured that the identity or information leading to the identity, of any employee who reports an error under this policy is never disclosed unless agreed to by the employee or required by law.

A non-punitive safety reporting system is typically documented in operations manuals or other controlled documents.

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

3.2 Safety Assurance

ORG 3.2.1A The Operator *should* have processes for setting performance measures as a means to monitor the operational safety performance of the organization and to validate the effectiveness of safety risk controls. [**SMS**] (**GM**) ►

Note: *Conformity with this ORG recommended practice is possible only when the Operator is in conformity with all repeats of this ORG recommended practice in other ISM sections. Refer to the IOSA Procedures and Guidance for Airlines Manual for information that identifies such repeats.*

Note: *Effective 1 September 2016, this recommended practice will be upgraded to a standard (see ORG 3.2.1B).*

Guidance

Refer to the IRM for the definition of Performance Measures.

Setting measurable safety objectives is an element of the Safety Assurance component of the SMS framework.

By setting performance measures, an operator is able to track and compare its operational performance against a target (i.e. the performance objective, typically expressed as a rate or number reduction) over a period of time (e.g. one year). Achievement of the target (or objective) would represent an improvement in the operational performance. The use of performance measures is an effective method to determine if desired safety outcomes are being achieved, and to focus attention on the performance of the organization in managing operational risks and maintaining compliance with relevant regulatory requirements.

In addressing operational performance, meaningful measures typically focus on lower level (i.e. lower consequence) occurrences or conditions that are considered by the operator to be precursors

to serious events. Performance measures may be specific to a certain area of operations or may be broad and apply to the entire system.

In addressing compliance, meaningful measures, as a minimum, would focus on compliance with significant regulatory requirements (as determined by the operator) in all operational areas.

Ideally, performance measures are designed to be challenging, which, in turn, enhances the effectiveness of the risk management system.

Performance measures may be set in almost any operations or maintenance area. Some possible examples include:

- Flight operations (e.g., landing tail strikes, unsatisfactory line or training evaluations);
- Operational control (e.g., fuel diversions due to fuel);
- Engineering and maintenance (in-flight engine shutdowns, aircraft component/equipment failures);
- Cabin operations (inadvertent slide deployments);
- Ground handling (aircraft damages due to vehicles or equipment);
- Cargo operations (dangerous goods spills);
- Operational security (unauthorized interference or access events).

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

ORG 3.2.1B Effective 1 September 2016, the Operator shall have processes for setting performance measures as a means to monitor the operational safety performance of the organization and to validate the effectiveness of safety risk controls. [**SMS**] (**GM**) ►

Guidance

Refer to the Guidance associated with ORG 3.2.1A.

ORG 3.2.2A The Operator *should* 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. [**SMS**] (**GM**)

Note: *Effective 1 September 2016, this recommended practice will be upgraded to a standard (see ORG 3.2.2B).*

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.

Change management is considered a proactive hazard identification activity in an SMS.

Change may affect the appropriateness or effectiveness of existing safety risk mitigation strategies. In addition, new hazards and related safety risks may be inadvertently introduced into an operation whenever change occurs.

A change management process is designed to ensure risk management is applied to any internal or external changes that have the potential to affect established operational processes, procedures, products and services.

Internal changes typically include organizational expansion, contraction or consolidation, new initiatives, business decisions, as well as the introduction of new or the modification of existing systems, equipment, programs, products or services.

External changes could include new regulatory requirements or changes to the operating environment (e.g. new security regulations, amendments to the dangerous goods regulations, changes to the air traffic control system).

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

ORG 3.2.2B Effective 1 September 2016, the Operator shall have a process to identify changes within or external to the organization that have the potential to affect the safety of aircraft operations, and:

(i) For internal changes, ensure safety risk is considered before such changes are implemented;

(ii) For external changes, evaluate the adequacy of existing risk controls when such changes will affect the operational environment. [**SMS**] (**GM**)

Guidance

Refer to the Guidance associated with ORG 3.2.2A.

3.3 Flight Safety Analysis Program

ORG 3.3.1 The Operator shall have a flight safety analysis program that provides for the identification of hazards and the analysis of information and data associated with aircraft operations, to include:

(i) Implementation of systematic processes for identifying and analyzing hazards and potentially hazardous conditions;

(ii) Production of relevant analytical information and data for use by operational managers in the prevention of accidents and incidents. [**SMS**] (**GM**)

Guidance

Refer to the IRM for the definition of Flight Safety Analysis Program.

A primary function of a flight safety analysis program is hazard identification, which is an element of the Safety Risk Management component of the SMS framework.

In many organizations the flight safety analysis program is typically known as the flight safety program.

The flight safety analysis program primarily provides operational hazard identification and data analysis services for use by operational managers.

In some operators the flight safety analysis program is part of an independent corporate safety structure, which typically has a direct line of reporting to senior management. This type of structure allows an effective and fully integrated system of prevention and safety across all relevant operational disciplines of the organization.

Other operators choose to have a flight safety analysis program reside within an operational unit (e.g., flight operations). In this type of system, to ensure objectivity in addressing safety matters and independence from frontline operational managers, the program manager would not only have a direct reporting line to the head of that operational unit, but also an indirect reporting line to senior management.

Documentation of the program typically includes a description of the structure, individual responsibilities, available resources and core processes associated with the program.

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

ORG 3.3.2 The Operator shall have a designated manager with appropriate qualifications, authority and independence (from operational management), that is responsible for the performance of the flight safety analysis program, and for ensuring communication and coordination with appropriate operational managers. (**GM**)

Guidance

The exact title of the manager responsible for the flight safety analysis program may vary depending on the organization.

The manager oversees the implementation of all activities and processes associated with the program. An effective working environment results in full cooperation between the program manager and those operational managers that have direct responsibility for the safety of operations. It is not the role of the program manager to dictate safety action, but rather to provide services that assist operational managers in their role of ensuring safe and secure operations.

To be effective, the manager of the flight safety analysis program would typically have qualifications appropriate for the position, which might include:

- Requisite licensing, as applicable;
- Relevant operational and safety experience;
- Formal training in risk management.

ORG 3.3.3 The Operator shall have a process to ensure significant issues arising from the flight safety analysis program are subject to management review in accordance with ORG 1.5.1 and, as applicable, ORG 1.5.2. [**SMS**] (**GM**)

Guidance

Management review of flight safety issues supports the continual improvement of safety performance, which is an element of the Safety Assurance component of the SMS framework.

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

ORG 3.3.4 The Operator shall have a means for disseminating information and data from the flight safety analysis program to appropriate operations personnel. [**SMS**] (**GM**)

Guidance

Promulgation of safety information is an element of the Safety Promotion component of the SMS framework.

As a means of safety promotion, an effective flight safety analysis program includes a means for the promulgation and dissemination of safety information and data for the continuing education and interest of operational and other associated personnel. Such dissemination of information might include an up-to-date status of operational performance against stated performance measures.

The process ensures a method of safety information dissemination commensurate with the size of the operation. Typical means of dissemination include a magazine, newsletter or bulletin issued periodically. Electronic media in various forms are also effective in the timely dissemination of information.

ORG 3.3.5 The Operator *should* have an electronic database to ensure effective management of data derived from the flight safety analysis program. (**GM**)

Guidance

The intent of this provision is for an operator to have an electronic database that permits an operator to manage information and data associated with aircraft operations in a manner that results in the identification of hazards and the provision of information to operational managers as specified in ORG 3.3.1.

The type and complexity of such database will vary according to the size and scope of the organization.

ORG 3.3.6–3.3.9 (Intentionally open)

Program Elements

ORG 3.3.10 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**)

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 3.3.11 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**)

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.

ORG 3.3.12 (Intentionally open)

ORG 3.3.13 The Operator shall have a flight data analysis (FDA) program that is non-punitive and contains adequate safeguards to protect data sources. The program shall include *either*:

(i) For aircraft of a maximum certified takeoff mass in excess of 27,000 kg (59,525 lb), a systematic download and analysis of electronically recorded aircraft flight data, *or*

(ii) for all aircraft, a systematic acquisition, correlation and analysis of flight information derived from a combination of some or all of the following sources:

(a) Aircraft flight data recorder (FDR) readouts;

(b) Confidential flight and cabin crew operational safety reports;

(c) Flight and cabin crew interviews;

(d) Quality assurance findings;

(e) Flight and cabin crew evaluation reports;

(f) Aircraft engineering and maintenance reports. [**SMS**] (**GM**)

Note: *Item ii) is a Parallel Conformity Option in effect until 31 December 2017.*

Guidance

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

Flight data analysis is considered a *reactive* and *proactive* hazard identification activity in an SMS.

A primary purpose of an FDA program is hazard identification, which is an element of the Safety Risk Management component of the SMS framework.

The systematic download and analysis of recorded flight data has been used by international airlines for many years to identify hazards, evaluate the operational environment, validate operating criteria and establish training effectiveness.

As a minimum, an acceptable program for the analysis of recorded aircraft flight data includes the following elements:

- A manager and staff of flight operations experts, commensurate with the size of the operation, to provide verification and analysis of the data collected from the aircraft fleet under the operator's program;
- Aircraft designated within the operator's fleet that provide downloadable flight data from onboard recording systems, such as the flight data recorder (FDR) or quick access recorder (QAR);
- A system for downloading and transferring recorded data from the aircraft to a data analysis system;
- A data analysis system that transforms raw digital data into a usable form of information that can then be verified, processed, categorized and analyzed by flight operations experts for flight safety purposes;
- A process for applying the output from flight data analysis to the management of risk and assessment of flight operations performance;
- A process for management of the data, to include security and retention.

All or certain of the elements could be outsourced to an external party; however, the operator would retain overall responsibility for the maintenance of the program.

The most comprehensive approach to flight data analysis would be a program that includes not only systematic download and analysis of electronically recorded aircraft flight data (as described above), but also acquisition, correlation and analysis of flight information derived from other sources (as described below).

Where appropriate, there might be a formal agreement with applicable labor organizations to ensure a mutually acceptable and structured approach to the investigation of significant safety events identified through the FDA program.

Further guidance may be found in the ICAO Safety Management Manual (Doc 9859).

Parallel Conformity Option

If an operator does not have a process for the regular download and analysis of recorded flight data, then as an alternative the operator may have a systematic process for acquiring and correlating flight information from other sources that can be analyzed to identify hazards or potential hazards to flight.

Useful information can be derived from external sources to supplement flight data derived internally. Other such sources include:

- Regulatory authorities;
- Investigative bodies;
- Safety organizations;
- Manufacturers;
- Other operators.

Flight information is analyzed collectively to identify hazards, system weaknesses, process breakdowns, regulatory violations and other trends or conditions that could potentially lead to accidents or serious incidents. The process includes a method of risk analysis and prioritization to enable the development and implementation of effective corrective or preventive action.

ORG 3.3.14 The Operator *should* have a program for the systematic acquisition and analysis of data from observations of flight crew performance during normal line operations. (**GM**)

Guidance

If implemented, line monitoring would be considered a *proactive* hazard identification activity in an SMS.

A line operations monitoring program is a completely different activity from line evaluation (or line checking) of the flight crew. Line operations monitoring cannot be accomplished in conjunction with any type of operational evaluation of the flight crew.

Under this program, flight crew performance in a normal line environment is observed from the flight deck jump seat by individuals who have been specially selected and trained. Observers, with the cooperation of the flight crew, systematically gather operational data that can be analyzed and used to make real improvements to certain areas of the operation. Observers are particularly aware of, and record, threats and errors that occur in the operating environment.

The Line Operations Safety Audit (LOSA) is a well-known and successful example of a normal line operations monitoring program.

An acceptable program would have the following characteristics:

- A planned and organized series of observations of flight crew performance during normal line flights is typically conducted a minimum of once during every four year period.
- Observations are conducted on regular and routine line flights, and the flight crew is advised and clearly understands that normal line monitoring is not an evaluating, training or checking activity. The flight crew would be expected to operate as if the observer were not there.
- There is mutual support and cooperation from both the management of the operator and flight crew members (through their professional association, if applicable).
- Participation from the flight crew is voluntary; observations are not conducted unless permission is received from the flight crew.
- Data collected from observations are confidential, de-identified and used for safety enhancement purposes only. Data from an observation are never permitted to be used for disciplinary action unless there is evidence of willful misconduct or illegal activity.
- Procedures are in place to ensure data from observations are retained in a way that ensures effective security.
- Objectives of observations are clearly defined, and collected data are always used to address specific issues that affect flight safety.
- Observers are specifically selected and trained (calibrated) to ensure a high level of consistency and standardization in the data being collected. Observers are objective, impartial and have a high level of integrity.

- There is a process in place to ensure data collected from observations are subjected to analysis from appropriately diverse subject matter experts to ensure consistency and accuracy.
- Data derived from observations are analyzed and presented in a manner that identifies potential weakness and permits the operator to develop appropriate action(s) that will enhance specific aspects of the operation.
- Results from the monitoring program, including the corrective action plan, are communicated to flight crew members.

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

3.4 Quality Assurance Program

ORG 3.4.1 The Operator shall have a quality assurance program that provides for the auditing and evaluation of the management system, and 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. **[SMS]** (**GM)** ►

Note: *Conformity with this ORG standard is possible only when the Operator is in conformity with all repeats of this ORG standard in other ISM sections. Refer to the IOSA Procedures and Guidance for Airlines Manual for information that identifies such repeats.*

Guidance

Refer to the IRM for the definition of Quality Assurance.

The quality assurance program serves 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.

Information gained from quality assurance audits can be used in the management of operational risk. Additionally, the quality assurance program could be structured to serve as a safety performance monitoring and measuring activity in an SMS.

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

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.

ORG 3.4.2 The Operator shall appoint a manager with appropriate qualifications, authority and independence that is responsible for:

(i) The performance of the quality assurance program;

(ii) Ensuring communication and coordination with operational managers in the management of operational risk. (**GM**)

Guidance

Refer to the IRM for the definition of Quality Assurance Manager.

The designated manager (or multiple managers if an operator does not have a centralized program) is appointed to oversee the implementation of the activities and processes associated with the quality assurance program.

The exact title of the manager(s) designated as responsible for the quality assurance program may vary depending on the organization.

Operational managers have direct responsibility for the safety and security of operations, and therefore always have the authority to develop and implement corrective action as necessary to address audit findings in their respective areas of operations.

The manager of the quality assurance program is “operationally independent” in a manner that ensures objectivity is not subject to bias due to conflicting responsibilities.

To be effective, an individual designated as manager of the quality assurance program has appropriate qualifications for the position, which may include:

- Formal training or certification as a quality auditor;
- Relevant operational and auditing experience;
- Formal training in risk management.

Quality assurance audit activities may be centrally controlled or controlled within each relevant operational function as long as independence is maintained.

Typically, the manager of the quality assurance program has direct lines of communication to senior management to ensure the efficient reporting of safety and security issues, and to ensure such issues are appropriately addressed.

ORG 3.4.3 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**) ►

Note: *Conformity with this ORG standard is possible only when the Operator is in conformity with all repeats of this ORG standard in other ISM sections. Refer to the IOSA Procedures and Guidance for Airlines Manual for information that identifies such repeats.*

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 IOSA Procedures and Guidance for Airlines Manual for information relevant to auditing under the quality assurance program.

ORG 3.4.4 The Operator shall have a process to ensure significant issues arising from the quality assurance program are subject to management review in accordance with ORG 1.5.1 and, as applicable, ORG 1.5.2. [**SMS**] (**GM**) ►

Note: *Conformity with this ORG standard is possible only when the Operator is in conformity with all repeats of this ORG standard in other ISM sections. Refer to the IOSA Procedures and Guidance for Airlines Manual for information that identifies such repeats.*

Guidance

Management review of significant quality assurance issues supports the continual improvement of safety performance, which is an element of the Safety Assurance component of the SMS framework.

Such review permits senior management to consider significant issues of non-compliance in areas of the organization that impact operational safety and security, and to:

- Continually monitor and assess operational safety and security outcomes;
- Ensure appropriate corrective or preventive actions that address the relevant compliance issues have been implemented and are being monitored for effectiveness;
- Ensure continual improvement of operational safety and security performance.

ORG 3.4.5 The Operator shall have a means for disseminating information from the quality assurance program to management and non-management operational personnel as appropriate to ensure an organizational awareness of compliance with applicable regulatory and other requirements. [**SMS**] (**GM**)

Guidance

Promulgation of safety information is an element of the Safety Promotion component of the SMS framework.

An effective quality assurance program includes a process for disseminating information for the purpose of maintaining an ongoing awareness of compliance issues that might impact operational safety or security. As an example, such information might include an up-to-date status of operational performance against stated performance measures, as described in ORG 3.2.1. The process ensures a method of dissemination commensurate with the size of the organization. Acceptable means include a magazine, newsletter or bulletin issued periodically. Electronic media in various forms are also effective in the timely dissemination of information.

ORG 3.4.6A If the Operator is currently on the IOSA Registry, the Operator *should* ensure the quality assurance program as specified in ORG 3.4.1 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 *should* have processes that ensure:

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

(ii) Auditor Actions are accomplished by auditors. (**GM**)

Note: *If a new edition of the ISM becomes effective during the first 19 months of the Operator's 24-month IOSA registration period, the Operator should take into account all changes that might require additional auditing (e.g. new or significantly revised ISARPs).*

Note: *Effective 1 September 2015, this recommended practice will be upgraded to a standard (see ORG 3.4.6B).*

Guidance

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

An operator must use the current effective edition of the ISM 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.

Refer to the IOSA Procedures and Guidance for Airlines Manual for information relevant to auditing of the ISARPs under the quality assurance program.

ORG 3.4.6B Effective 1 September 2015, if the Operator is currently on the IOSA Registry, the Operator shall ensure the quality assurance program as specified in ORG 3.4.1 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 utilized;

(ii) Auditor Actions are accomplished by auditors. (**GM**)

Note: *If a new edition of the ISM becomes effective during the first 19 months of the Operator's 24-month IOSA registration period, the Operator shall use the new edition for auditing of the ISARPs and take into account all changes that might require additional auditing (e.g. new, upgraded or significantly revised ISARPs).*

Guidance

Refer to the Guidance associated with ORG 3.4.6A.

ORG 3.4.7A If the Operator is currently on the IOSA Registry, the Operator *should* have a process for the production of a Conformance Report (CR) that is certified by the Accountable Executive (or designated senior management official) as containing accurate information related to the audit of all ISARPs as is specified in ORG 3.4.6A. The CR *should* include the following:

(i) Completed and signed Declaration of Internal Assessment Completion;

(ii) Record of Internal Auditors;

(iii) Operational Profile;

(iv) List of Document References. (**GM**)

Note: *The IOSA Operator should submit the completed CR and any accompanying documents to the Audit Organization (AO) no less than 14 days prior to the start date of the registration renewal audit. Changes to the CR that occur after submission to the AO do not require a re-submission of the CR.*

Note: *Effective 1 September 2015, this recommended practice will be upgraded to a standard (see ORG 3.4.7B).*

Guidance

Refer to the IRM for the definition of Conformance Report.

An IOSA Operator is an operator that is currently on the IOSA Registry.

The IATA CR template contains fields for all information required to be included in the CR, as well as instructions for completing each of the fields. Completion of the template will result in a Conformance Report that contains all information necessary to be in conformity with ORG 3.4.7A and ORG 3.4.8A.

A signed declaration, as specified in item i), may consist of an electronic signature.

The operational profile, as specified in item iii), is a compilation of information (types of operations conducted, fleet composition) that is relevant to the audit of the operator. The CR template contains fields that, once completed with the requested information, define the operational profile of an operator.

The Conformance Report may also be produced using the operator's current internal database software. In such case, it will be required that the CR:

- Is produced in an electronic format similar to that of the IATA Conformance Report template;
- Contains, as a minimum, all information specified in ORG 3.4.7 and ORG 3.4.8.

Refer to the IOSA Procedures and Guidance for Airlines Manual for detailed information relevant to production of the Conformance Report.

ORG 3.4.7B Effective 1 September 2015, if the Operator is currently on the IOSA Registry, the Operator shall have a process for the production of a Conformance Report (CR) that is certified by the Accountable Executive (or designated senior management official) as containing accurate information related to the audit of all ISARPs in accordance with ORG 3.4.6B. The CR shall include the following:

(i) Completed and signed Declaration of Internal Assessment Completion;

(ii) Record of Internal Auditors;

(iii) Operational Profile;

(iv) List of Document References. (**GM**)

Note: *The IOSA Operator shall submit the completed CR and any accompanying documents to the Audit Organization (AO) no less than 14 days prior to the start date of the IOSA registration renewal audit. Changes to the CR that occur after submission to the AO do not require a re-submission of the CR.*

Guidance

Refer to the Guidance associated with ORG 3.4.7A.

ORG 3.4.8A If the Operator is currently on the IOSA Registry, the Operator *should* ensure the Conformance Report produced in accordance with ORG 3.4.7A also contains information that is specific to the audit of *each individual IOSA standard and recommended practice*, to include:

(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) The list of Auditor Actions accomplished by the auditor(s) to assess 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: *At the option of the Operator, items iii), iv), v) and, as applicable, vi) may be replaced in the CR with accurate reference(s) to the location(s) where all such information may be found, either in the Operator's electronic database as specified in ORG 3.4.14A or in controlled procedural documents that are defined in audit processes as specified in ORG 3.4.6A.*

Note: *Effective 1 September 2015, this recommended practice will be upgraded to a standard (see ORG 3.4.8B).*

Guidance

An IOSA Operator is an operator that is currently on the IOSA Registry.

Completion of the IATA Conformance Report Template will result in a Conformance Report that contains all information necessary to be in conformity with ORG 3.4.7A and ORG 3.4.8A.

The listing of Auditor Actions in the CR is indicative of what was done by auditors to gather evidence that is subsequently subjected to analysis in order to determine whether or not a standard or recommended practice is documented and implemented by the operator.

If an operator elects to provide references in the CR to electronic database locations or controlled procedural documents, then all specified information must appear in those referenced locations.

An example of a controlled procedural document is an audit checklist that contains the procedure an auditor must follow, including the specific Auditor Action steps, when auditing the individual standard or recommended practice.

Regardless of location (i.e. CR, electronic database, procedural document), the record of Auditor Actions must show the Auditor Action steps that were accomplished (or, if applicable, not accomplished) when the individual IOSA standard or recommended practice was audited.

Refer to the IOSA Procedures and Guidance for Airlines Manual for information relevant to production of the Conformance Report.

ORG 3.4.8B Effective 1 September 2015, if the Operator is currently on the IOSA Registry, the Operator shall ensure the Conformance Report produced in accordance with ORG 3.4.7B also contains information that is specific to the audit of *each individual IOSA standard and recommended practice,* to include:

(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) The list of Auditor Actions accomplished by the auditor(s) to assess 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: *At the option of the Operator, items iii), iv), v) and, as applicable, vi) may be replaced in the CR with accurate reference(s) to the location(s) where all such information may be found, either in the Operator's electronic database as specified in ORG 3.4.14A or in controlled procedural documents (e.g. checklists) that are defined in audit processes as specified in ORG 3.4.6A.*

Guidance

Refer to the Guidance associated with ORG 3.4.8A.

ORG 3.4.9 (Intentionally open)

Program Elements

ORG 3.4.10 The Operator shall have an audit planning process and sufficient resources, including auditors as specified in ORG 3.4.12, to ensure audits are:

(i) Scheduled at intervals to meet regulatory and management system requirements;
(ii) Completed within a specified time period. (**GM**) ►

Guidance

The planning process produces a schedule of the audit modules to be conducted within the planning period (e.g. calendar year) and reflect the status of each audit module, to include the applicable audit interval (e.g. 12, 24, 36 months), the date of the previous audit and the scheduled due date for the next audit.

Refer to the IOSA Procedures and Guidance for Airlines Manual for information relevant to planning and resources associated with auditing of the ISARPs.

ORG 3.4.11 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**)

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 IOSA Procedures and Guidance for Airlines Manual for information relevant to planning associated with auditing of the ISARPs.

ORG 3.4.12 The Operator shall ensure the quality assurance program utilizes auditors that:

(i) Have been appropriately trained and qualified;

(ii) Are impartial and functionally independent from the operational activities to be audited. (**GM**)

Guidance

Internationally recognized standards published in ISO 19011 provide a reliable guide for the training and/or certification of auditors utilized in the quality assurance program.

A quality assurance program is independent in a manner that permits the scheduling and conduct of audits as deemed appropriate for the size and scope of operations. Functional independence ensures auditors are not put in a position where their objectivity may be subject to bias due to conflicting responsibilities.

To be effective, auditors receive an appropriate level of formal training that develops competency in quality auditing skills and techniques.

A code of conduct may be used to enhance the impartiality and independence of auditors. An effective auditor code of ethics would require auditors:

- To act in a strictly trustworthy and unbiased manner in relation to both the organization to which they are employed, contracted or otherwise formally engaged and any other organization involved in an audit performed by them or by personnel under their direct control;
- To disclose to their employer any relationship they may have with the organization to be audited before undertaking any audit function in respect of that organization;
- Not to accept any gift, commission, discount or any other profit from the organization audited, from their representatives, or from any other interested person nor knowingly allow personnel for whom they are responsible to do so;
- Not to disclose the findings, or any part of them, nor to disclose any other information gained in the course of the audit to any third party, unless authorized in writing by both the auditee and the audit organization, if applicable;
- Not to act in any way prejudicial to the reputation or interest of the audit organization; and
- In the event of any alleged breach of this code, to co-operate fully in any formal enquiry procedure.

An auditor may be considered functionally independent from the operational activities to be audited when he/she is not responsible for the activity being audited (at the time of the audit). For example, a flight crew member may audit line flight operations from the flight deck jump seat as an independent observer (supernumerary), but may not do so when functioning as part of the operating crew (or functioning as an augmenting crew member).

Refer to the IOSA Procedures and Guidance for Airlines Manual for information relevant to auditor qualification and independence.

ORG 3.4.13A The Operator *should* have a training and qualification program for auditors that conduct auditing and evaluation under the quality assurance program as specified in ORG 3.4.1. Such program *should* ensure auditors:

(i) Have the knowledge, skills and work experience needed to effectively assess areas of the management system and operations that will be audited;

(ii) Maintain an appropriate level of current audit experience;

(iii) Complete initial and continuing auditor training that provides the knowledge and understanding necessary to effectively conduct audits against:

(a) Applicable regulations and standards;

(b) If the Operator is currently on the IOSA Registry, the ISARPs.

(iv) Are evaluated on a periodic basis. (**GM**)

Note: *Effective 1 September 2015, this recommended practice will be upgraded to a standard (see ORG 3.4.13B).*

Guidance

Refer to the IOSA Procedures and Guidance for Airlines Manual for information relevant to the training and qualification of auditors that assess conformity with the ISARPs.

ORG 3.4.13B Effective 1 September 2015, the Operator shall have a training and qualification program for auditors that conduct auditing and evaluation under the quality assurance program as specified in ORG 3.4.1. Such program auditors shall ensure auditors:

(i) Have the knowledge, skills and work experience needed to effectively assess areas of the management system and operations that will be audited;

(ii) Maintain an appropriate level of current audit experience;

(iii) Complete initial and continuing auditor training that provides the knowledge and understanding necessary to effectively conduct audits against:

(a) Applicable regulations and standards;

(b) If the Operator is currently on the IOSA Registry, the ISARPs.

(iv) Are evaluated on a periodic basis. (**GM**)

Guidance

Refer to the Guidance associated with ORG 3.4.13A.

ORG 3.4.14A If the Operator is currently on the IOSA Registry, the Operator *should* have an electronic database to ensure effective management of data derived from the quality assurance program. Such electronic database should contain all information specified in ORG 3.4.8A. (**GM**)

Note: *A fully completed IATA Conformance Report Template may be considered as a database equivalent for the purpose of conforming to this recommended practice.*

Note: *Effective 1 September 2015, this recommended practice will be upgraded to a standard (see ORG 3.4.14B).*

Guidance

Refer to the IRM for the definition of Database.

Refer to the IOSA Procedures and Guidance for Airlines Manual for information relevant to a quality assurance database.

ORG 3.4.14B Effective 1 September 2015, if the Operator is currently on the IOSA Registry, the Operator shall have an electronic database to ensure effective management of data derived from the quality assurance program. Such electronic database shall contain all information specified in ORG 3.4.8B. (**GM**)

Note: *A fully completed IATA Conformance Report Template may be considered as a database equivalent for the purpose of conforming to this standard.*

Guidance

Refer to the Guidance associated with ORG 3.4.14A.

3.5 Outsourcing Quality Control

ORG 3.5.1 The Operator shall have processes to ensure a contract or agreement is executed with external service providers that conduct outsourced operations, maintenance or security functions for the Operator. Such contract or agreement shall identify measurable specifications that can be monitored by the Operator to ensure requirements that affect the safety and/or security of operations are being fulfilled by the service provider. (**GM**) ►

Guidance

Refer to the IRM for the definitions of Outsourcing and Service Level Agreement.

An operator would always retain full responsibility for ensuring an outsourced function is performed properly by an external provider, even if such provider is the parent organization or an affiliate of the operator.

A contract or agreement is necessary to ensure details of the outsourced functions to be performed by the external service provider are formally documented. Inclusion of measurable specifications, usually contained in a service level agreement, would provide the basis for a monitoring process as specified in ORG 3.5.2.

ORG 3.5.2 The Operator shall have processes to monitor external service providers that conduct outsourced operations, maintenance or security functions for the Operator to ensure requirements that affect the safety and/or security of operations are being fulfilled. (**GM**) ►

Guidance

An operator has a responsibility to ensure outsourced 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 for the operator, 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 operational functions for an operator. A 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.

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.

ORG 3.5.3 The Operator *should* include auditing as a process for the monitoring of external service providers in accordance with ORG 3.5.2. ►

ORG 3.5.4 If the Operator has satisfied aircraft operational needs for passenger flights through a *wet lease* agreement with one or more other operators at any time within the previous six months, the Operator shall have a process to monitor the performance of other operators that conduct passenger flights for the Operator under a wet lease agreement for the purpose of ensuring the operational safety and security needs of the Operator are being fulfilled. (**GM**)

Guidance

Refer to the IRM for the definition of Wet Lease (Aircraft).

Individual operators may use different names or terms in referring to the wet lease concept (e.g. capacity purchase agreement).

Wet lease operations may vary, but typically under a wet lease agreement, one operator (the lessee) leases an aircraft from another operator (the lessor), and the aircraft is operated and supported by

the lessor. Typical support functions include operational control of flights, maintenance of aircraft and/or implementation of security controls.

The process for monitoring the performance of a wet lease organization is designed and implemented to ensure the operations and security needs of the operator are met. Auditing is considered the most effective method of monitoring wet lease operators.

3.6 Product Quality Control

ORG 3.6.1 The Operator *should* have processes to ensure equipment or other operational products relevant to the safety or security of aircraft operations that are purchased or otherwise acquired from an external vendor or supplier meet the product technical requirements specified by the Operator prior to being used in the conduct of operations or aircraft maintenance. (**GM**) ►

Guidance

This provision applies only to *products* that are purchased or otherwise acquired from an external supplier or vendor. Whereas purchasing might be the most typical means of acquiring such products, other means might be also be used (e.g. lease, barter).

This provision does not apply to outsourced *operational functions* or *services* that are provided by an external organization or service provider (this is addressed in ORG 3.5.1 and 3.5.2).

This provision does not apply to electronic navigation data products utilized in flight (e.g., FMS database) or for operational control (e.g. flight planning database). The acquisition of such navigation data products require control procedures, as specified in Sections 2 (FLT) and 3 (DSP).

Following are some examples of products that could have a negative effect on operations if put into service with substandard quality (i.e. the operator's technical standards are not met):

- Training devices (e.g. simulators, door mock-ups);
- Cabin safety cards or videos;
- Cabin service carts or trolleys;
- Onboard safety equipment (e.g. PBE, life jackets);
- Ground support equipment;
- Operational software, databases (non-navigation);
- Security screening equipment;
- Unit load devices (ULDs).

Part of the process is a method for identifying products that have a direct effect on the safety or security of operations.

To ensure technical specifications are met, a process may focus on the supplier, the product or a combination of both.

The process may include an evaluation of suppliers, with the selection of suppliers based on their ability to supply products in accordance with the operator's requirements and technical specifications.

The use of formal industry supplier audit or evaluation programs is one means for assessing the abilities of suppliers to deliver quality products, such as the Coordinating Agency for Supplier Evaluation (CASE).

Implementation of a rigorous receiving inspection process (or equivalent activity) provides another means of verifying that operationally critical products meet specified technical requirements prior to such products being put into service.

4 Emergency Response

4.1 Emergency Response Plan

ORG 4.1.1 The Operator shall have a corporate emergency response plan (ERP) for the central management and coordination of all activities should it be 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 operations. [**SMS**] (**GM**)

Guidance

Refer to the IRM for the definition of Emergency Response Plan (ERP).

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.

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 (refer to ORG 4.1.4);
- Ensures proper coordination with external entities at all potential locations as specified in ORG 4.1.4;
- 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 (refer to ORG 4.1.4);
- Ensures regular practice exercises as a means to achieve continual improvement (refer to ORG 4.1.14 and ORG 4.1.15).

ORG 4.1.2 The Operator shall have a designated manager with appropriate qualifications and authority to manage and be responsible for the development, implementation and maintenance of the corporate ERP. **(GM)**

Guidance

The exact title of the manager designated as responsible for the corporate ERP may vary depending on the organization.

In order to manage a corporate ERP, an individual's qualifications would typically include training and background experience that ensures the requisite knowledge in emergency response principles. Such experience and knowledge is necessary, even though various ERP functions are typically delegated to designated personnel throughout the management system.

ORG 4.1.3 If the Operator has individual departmental or station emergency response plans within the organization, the Operator shall ensure such individual plans are coordinated with the overall corporate emergency response plan under the ERP manager. **(GM)**

Guidance

Certain operational departments might have individual ERPs, especially where departments are located remotely (e.g. maintenance or cargo). Likewise, station ERPs might be individually tailored to meet varying requirements at each station. Therefore, coordination is always required to ensure each individual ERP within an operator's organization contains or addresses the applicable common elements of the corporate ERP.

ORG 4.1.4A The Operator *should* ensure the ERP as specified in ORG 4.1.1 includes provisions for the appropriate coordination with the emergency response plans of other applicable organizations relevant to the particular event or crisis. [**SMS**] (**GM**)

Note: *Effective 1 September 2015, this recommended practice will be upgraded to a standard (see ORG 4.1.4B).*

Guidance

ERP transition and reporting is an element of the Safety Policy and Objectives component of the SMS framework.

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

ORG 4.1.4B Effective 1 September 2015, the Operator shall ensure the ERP as specified in ORG 4.1.1 includes provisions for the appropriate coordination with the emergency response plans of other applicable organizations relevant to the particular event or crisis. [**SMS**] (**GM**)

Guidance

Refer to the Guidance associated with ORG 4.1.4A.

ORG 4.1.5–4.1.9 (Intentionally open)

Plan Elements

ORG 4.1.10 The Operator shall have a process in the ERP to provide an accurate manifest to the appropriate authorities in the event of an aircraft accident. Such manifest shall list crew members, passengers and cargo, to include dangerous goods.

ORG 4.1.11 (Intentionally open)

ORG 4.1.12 The Operator shall have published procedures and assigned responsibilities to ensure a coordinated execution of the corporate ERP. **(GM)**

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.

ORG 4.1.13 The Operator *should* ensure all personnel with responsibilities under the ERP are appropriately trained and qualified to execute applicable procedures. **(GM)**

Guidance

Refer to the IRM for the definition of Family Assistance.

Training for personnel with responsibilities under the ERP could be conducted externally or in-house by an operator's own qualified staff, and would typically include drills, desktop exercises, and/or simulations. Attendees typically include both management and operational personnel from the headquarters and, as applicable to the operator's structure, station locations.

Ideally, specific and/or personalized training would also be conducted for key senior managers (e.g. CEO).

Training programs are generally tailored for personnel based on the role performed under the ERP. Typically, persons involved in family assistance and crisis communications, as well as members of the corporate emergency response group or committee (as applicable), would be required to complete ERP training.

The curriculum for ERP training normally includes general subjects associated with emergency response management, as well as role-specific subjects that address issues associated with:

- Family assistance/special assistance;
- Cultural sensitivity;
- Telephone enquiry;
- Team call-out and assembly;
- Crash site discipline;
- Effects retrieval.

ORG 4.1.14 The Operator shall ensure the corporate ERP is rehearsed periodically to:

(i) Familiarize personnel with responsibilities and procedures;

(ii) Ensure ready functionality of all equipment and facilities;

(iii) Expose deficiencies in the plan and its execution, and ensure such deficiencies are addressed. (**GM**)

Guidance

The ERP typically has provisions that ensure all aspects of the ERP are rehearsed or practiced at regular intervals, and practice exercises include the involvement of all personnel that would be called upon during an actual emergency or crisis situation. In some locations, the extent of ERP rehearsals might be limited by the relevant authority. In such cases, a modified rehearsal that ensures overall ERP readiness in accordance with the specifications stated in this provision is acceptable.

The results of rehearsals or practice exercises are normally recorded and analyzed, and then used as the basis for continual improvement of the plan (refer to ORG 4.1.15).

ORG 4.1.15 The Operator *should* have a process for a detailed debriefing and critique whenever the ERP is executed, either as a rehearsal or in response to an actual event. **(GM)**

Guidance

Such process ensures vital information is communicated to regulatory authorities, corporate management, operational personnel and the local community whenever the ERP is activated, whether for an actual event or for a rehearsal.

If recommendations for corrective action or other changes result from activation of the plan, there should be a process for providing a de-briefing to relevant internal and external entities to ensure awareness and consideration of such recommendations.

ORG 4.1.16 The Operator *should* have the ready availability of a facility for use as an emergency command center with sufficient space, furnishings and equipment to successfully manage the execution of the corporate ERP.

ORG 4.1.17 The Operator *should* have procedures under the corporate ERP that ensure a central coordination and control of all communications with external entities. **(GM)**

Guidance

A vital aspect of an effective ERP is ensuring a controlled and consistent message to external entities, especially the news media. The ERP should designate an individual or group as the central point of control for all external communication. Additionally, authorization and responsibilities should be assigned to certain personnel within the organization to act as the point(s) of contact for communication with specified external entities.

ORG 4.1.18 The Operator *should* have resources immediately available under the corporate ERP that provide for, in the event of an emergency:

(i) The establishment of local emergency command centers at line stations or remote locations;

(ii) A telephone enquiry center capable of handling the potential volume of calls expected with emergency events;

(iii) Dedicated equipment and material necessary for successful execution of the corporate ERP;

(iv) The dispatch on short notice of humanitarian teams to appropriate location(s) to attend to individuals in need of assistance.

Table 1.1–Documentation System Specifications				
ORG 2.1.1 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 definition of Documentation and Electronic 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 back up 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 2.1.1.				

Section 2 — Flight Operations (FLT)

Applicability

Section 2 addresses safety and security requirements for flight operations, and is applicable to an operator that utilizes 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.

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 utilized 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 provisions or sub-specifications within a provision that:

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

Individual provisions:

- Identified by a **<PA>** in the reference number are applicable only to an operator that operates passenger aircraft (including combi aircraft) *and* uses a cabin crew in the passenger cabin.
- Identified by an **<AC>** in the reference number are applicable only to an operator that operates cargo aircraft.
- Containing none of the above identifiers in the reference number are applicable to all operators except when applicability is limited by a conditional phrase.

Where an operator outsources flight operations functions to external service providers, an operator retains responsibility for the conduct of such functions 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

FLT 1.1.1 The Operator shall have a management system for the flight operations organization that ensures control of flight operations and the management of safety and security outcomes. **(GM)** ◄

Guidance

Refer to the IRM for the definitions of Operations and Operator.

The specifications of this provision ensure the management system for the flight operations organization addresses the elements of operational safety and security specifically related to flight operations. Safety and security management at this operational level typically occurs within the greater context of the operator's overall or corporate safety and/or security management plan. For example, the overall requirements for security of the flight deck would typically be specified in an operator's security plan, but the actual operational management of flight deck security would occur under the supervision of flight operations and flight operations personnel (e.g., development of procedures, training of personnel, following procedures).

Refer to Guidance associated with ORG 1.1.1 located in ISM Section 1.

FLT 1.1.2 The Operator shall have designated managers in the flight operations organization that, if required, are nominated officials acceptable to the Authority, and have the responsibility, and thus are accountable, for ensuring:

(i) The management and supervision of all flight operations activities;

(ii) The management of safety and security in flight operations;

(iii) Flight 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. **(GM)** ◄

Guidance

Refer to the IRM for the definitions of Accountability, Authority, Post Holder and Responsibility.

The term “manager” is generic; the actual title associated with such positions will vary with each operator.

In some states the individual that fills certain key managerial positions within the flight operations organization must be nominated and then either accepted or approved by the Authority as specified in ORG 1.1.4. Managers in such positions might be referred to as post holders, directors or another title as specified by each State. The specification in item ii) ensures the manager for the flight operations organization is accountable to senior management for the elements of operational safety and security specifically related to the conduct or supervision of flight operations. Safety and security management at this operational level typically occurs within the greater context of the operator's overall or corporate safety and/or security management plan. For example, the overall requirements for security of the flight deck would typically be specified in an operator's security plan, but the actual operational management of flight deck security would occur under the supervision of flight operations and flight operations personnel (i.e. development of procedures, training of personnel, following procedures). In this example, in order to conform to the specifications of item ii), the manager of the flight operations organization would be accountable to senior management for ensuring the day to day security of the flight deck.

Refer to ORG 1.1.4 located in ISM Section 1.

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, to include, as applicable:

- (a) Low visibility takeoff (LVTO);
- (b) CAT II and/or III approaches;
- (c) Head-up displays (HUD) and enhanced vision systems (EVS) operations (if such systems are used to gain operational benefit);
- (d) GPS approaches;

(e) EDTO;
(f) RVSM operations;
(g) MNPS operations;
(h) RNAV/RNP operations, to include approved applications and, when applicable, the associated approved RNP levels required to operate within a defined airspace;
(i) Transport of dangerous goods (if AOC authorization is required for the transport of dangerous goods);
(j) Electronic Flight Bag (EFB) operations (if approval for such operations is required by the Authority). **(GM)**

Guidance

Refer to the IRM for the definition of Electronic Flight Bag (EFB), EDTO (Extended Diversion Time Operations), Enhanced Visual System (EVS), Head-up Display (HUD), Minimum Navigation Performance Specifications (MNPS), Area Navigation (RNAV), Required Navigation Performance (RNP), Reduced Vertical Separation Minima (RVSM) 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 that is 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.

Threshold times for EDTO are calculated in ISA and still air conditions at the one-engine inoperative cruise speed for aircraft with two turbine engines and at the all-engine operating cruise speed for aircraft with more than two turbine engines.

The approvals in item vii) e) also typically address the most limiting EDTO significant system time limitation, if any, and any applicable EDTO certification requirements.

The specification in item vii) h) refers to approvals for a wide range of RNAV and RNP operations that allow access to RNAV routes and terminal procedures designed with specific RNAV/RNP capabilities in mind. RNP adds on-board navigation monitoring and alerting to RNAV, and is a statement of the navigation performance that would be required to operate within a defined airspace. It is important to note that there are numerous standard RNP levels and associated applications. Equally important is the prerequisite that any approvals associated with RNAV, which require the maintenance of a particular RNP, typically associate the RNP level required with the approved application (e.g. RNP 0.1 to 1.0 for RNP AR Approach segments and RNP 10 for oceanic/remote areas where 50 NM lateral separation is applied).

1.3 Authorities and Responsibilities

FLT 1.3.1 The Operator shall ensure the flight operations management system defines the authorities and responsibilities of management and non-management personnel that perform

functions relevant to the safety or security of aircraft operations in areas of the flight operations organization specified in FLT 1.3.2. The management system shall also specify:

(i) The levels of management with the authority to make decisions that affect the safety and/or security of operations;

(ii) Responsibilities for ensuring operations are conducted in accordance with applicable regulations and standards of the Operator. **[SMS] (GM)** ◄

Guidance

The intent of this provision is to ensure operational personnel required to perform functions relevant to the safety of aircraft operations are identified, their authorities and responsibilities defined by the operator and those authorities and responsibilities communicated throughout the flight operations organization. Additionally, the provision addresses, as a minimum, the authorities and responsibilities of the relevant management and non-management flight operations personnel specified in FLT 1.3.2.

Refer to Guidance associated with ORG 1.3.1 located in ISM Section 1.

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)**

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.

FLT 1.3.3 The Operator shall have a procedure for the delegation of duties within the flight operations management system that ensures managerial continuity is maintained when operational managers are absent from the workplace. **(GM)** ◄

Guidance

The operational managers subject to the specifications of this provision include, as a minimum, managerial personnel, as defined by the operator or Authority, required to ensure control and supervision of flight operations.

FLT 1.3.4 The Operator shall ensure a delegation of authority and assignment of responsibility within the flight operations management system for liaison with regulatory authorities, original equipment manufacturers and other external entities relevant to flight operations. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 1.3.3 located in ISM Section 1 regarding the need to coordinate and communicate with external entities.

The specifications of this provision are intended to ensure ongoing compliance with regulations, organizational standards and other applicable rules and requirements.

FLT 1.3.5 (Intentionally open)

FLT 1.3.6 The Operator shall assign responsibility to the pilot-in-command (PIC) for:

(i) The safety of all crew members, passengers and/or cargo on board the aircraft when the doors are closed;

(ii) The operation and safety of the aircraft from the moment the aircraft is ready to move for the purpose of taking off until the moment it finally comes to rest at the end of the flight and the engine(s) are shut down;

(iii) Ensuring checklists are complied with. **(GM)**

Guidance

The intent of this provision is to ensure that the specified responsibilities are assigned to the PIC and such assignment is evident in Operator policies or procedures.

Specifications in item i) and ii) may be satisfied by policies documented in, or referenced in, the OM that assign responsibilities to the PIC in a manner consistent with regulations of the State and the intent of the provision. Slight variations in the wording of policies are permissible if the periods of responsibility as specified in each item are addressed by the operator's policies.

For example, an operator could assign responsibility to the PIC for the safety of passengers from the time they board the aircraft until they deplane. Such policy would satisfy this provision because it exceeds the period of PIC responsibility as specified in this provision.

The specification in item iii) may be satisfied by any policy or combination of policies that assign the responsibility for compliance with standard operating procedures to the PIC.

FLT 1.3.7 The Operator shall ensure, for the duration of each flight, one pilot is designated to act as PIC. **(GM)**

Guidance

The specification of this provision is satisfied if one pilot is designated to act as PIC, regardless of crew configuration or en route crew changes.

The operator may choose to address the specification of this provision as part of a plan for succession of command in accordance with FLT 1.3.8.

FLT 1.3.8 The Operator shall ensure the duties and responsibilities of flight crew members, to include a plan for succession of command, are defined and described in the OM. **(GM)**

Guidance

Refer to the IRM for the definition of Flight Crew Member.

FLT 1.3.9 The Operator shall have a policy to address willful and deliberate violation of flight operations organizational policies and/or procedures by flight operations personnel. **(GM)**

Guidance

Refer to the IRM for the definition of Controlled Document.

Appropriate policy regarding procedure violations typically includes NAA intervention, committee for case review (operator, trade union or mixed) and/or equivalent types of action.

The specification of this provision is applicable to flight operations personnel and is not restricted only to flight crew.

The policy may be documented or referenced in the OM or reside in another controlled document that is available to the flight crew.

FLT 1.3.10 If the Operator utilizes supernumeraries in the passenger cabin or supernumerary compartment of an aircraft that are required for the safety of operations in accordance with FLT 2.2.44, the Operator *should* have policies and procedures that:

(i) Define and describe duties or responsibilities assigned to such personnel that are related to safety;

(ii) Ensure such supernumeraries do not impede flight crew members in the performance of their duties;

(iii) If a cabin crew is used, ensure supernumeraries do not impede cabin crew members in the performance of their duties. **(GM)**

Guidance

Refer to the IRM for the definitions of Cabin Crew, Cabin Crew Member, Supernumerary and Supernumerary Compartment.

The intent of this provision is to ensure:

- Supernumeraries required for the safety of operations on board an aircraft during commercial or non-commercial operations are aware of (through training, briefing or other means) safety roles, responsibilities and duties;
- Specific duties and responsibilities assigned to supernumeraries that are related to safety are appropriately defined;
- Supernumeraries are prepared to assist, but will not interfere with, qualified crew members in the performance their duties.

Refer to FLT 2.2.44 for specifications related to supernumeraries required for the safety of operations.

Supernumeraries that are not required for the safety of operations would typically be made aware of safety-related roles or responsibilities via a briefing, announcement or other applicable means as specified in sub-sections 3.8, 3.13 and 3.14.

1.4 Communication and Coordination

FLT 1.4.1 The Operator shall have a communication system that enables and ensures an effective exchange of information relevant to the conduct of flight operations throughout the flight operations management system and among operational personnel. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 1.4.1 located in ISM Section 1.

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)**

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, NOTAMs and 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)**

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 1.5.1 The Operator shall have the necessary facilities, workspace, equipment and supporting services, as well as work environment, to satisfy flight operations safety and security requirements. **(GM)** ◄

Guidance

Conformity with FLT 1.5.1 does not require specifications to be *documented* by an operator.

The specifications of this provision refer to the infrastructure and resource requirements that would be necessary to deliver safe and secure flight operations, to include flight operations and support facilities, services and equipment.

Refer to Guidance associated with ORG 1.6.1 located in ISM Section 1.

The specifications of this provision do not apply to the aircraft interior.

FLT 1.5.2 The Operator shall ensure management and non-management positions within the flight operations organization that require the performance of functions relevant to the safety and security of aircraft operations are filled by personnel on the basis of knowledge, skills, training and experience appropriate for the position. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 1.6.2 located in ISM Section 1.

The operational positions subject to the specifications of this provision typically include:

- Management personnel required to ensure control and supervision of flight operations in accordance with FLT 1.1.1 as defined by the operator or Authority;
- Management personnel assigned the responsibility for the management and supervision of specific areas of the organization relevant to flight operations in accordance with FLT 1.3.2.

Flight crew member knowledge, skill and experience requirements are in accordance with FLT 1.5.3, 1.5.4, and 1.5.5.

Flight crew member training requirements are in accordance with the applicable provisions contained in Subsection 2, Training and Qualification.

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 competencies and skills;
(ii) Aviation experience;
(iii) Credentials and licenses;
(iv) Interpersonal skills;
(v) Medical fitness;
(vi) Security background;
(vii) Common language(s) fluency. **(GM)**

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) 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 required unless such check is performed or prohibited by the State.
- Item vii) includes 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 1.5.4 The Operator shall have a process for screening candidates for the position of PIC, to include, if applicable, ensuring a prerequisite minimum level of line experience that is acceptable to the Authority. **(GM)**

Guidance

The specifications of this provision refer to a screening process for direct hire or upgrade to PIC. Such screening occurs prior to a pilot being assigned duties as PIC and typically includes:

- Training records review;
- Management recommendations and/or review board;
- Training department recommendations and/or review board;
- Verification of minimum experience acceptable to the Authority;
- Any other screening requirements in accordance with the needs of the operator or requirements of the Authority.

FLT 1.5.5 The Operator shall have published criteria 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.

FLT 1.5.6 The Operator shall have a selection process for instructors, evaluators and line check airmen. **(GM)**

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 a selection process would typically include a training records review and recommendations from Flight Operations Management and/or the Training Department.

FLT 1.5.7 The Operator *should* have a procedure for screening or testing prospective flight crew members for psychoactive substances, unless such screening or testing is performed or prohibited by the State.

FLT 1.5.8 The Operator shall have a policy that addresses the use of psychoactive substances by flight crew crewmembers, which, as a minimum:

(i) Prohibits the exercise of duties while under the influence of psychoactive substances;

(ii) Prohibits the problematic use of psychoactive substances;

(iii) Requires that all personnel who are identified as engaging in any kind of problematic use of psychoactive substances are removed from safety-critical functions;

(iv) Conforms to the requirements of the Authority. **(GM)**

Guidance

Refer to the IRM for the definitions of Biochemical Testing, Psychoactive Substance and Problematic Use of Substances.

Operators subject to laws or regulations of the State that preclude the publication of a psychoactive substance prohibition policy as specified in this provision may demonstrate an equivalent method of ensuring that personnel engaging in any kind of problematic use of psychoactive substance abuse do not exercise their duties and are removed from safety-critical functions.

Re-instatement to safety-critical duties could be possible after cessation of the problematic use and upon determination that continued performance is unlikely to jeopardize safety.

Some of the specifications of this provision may be addressed through implementation of a scheduling policy in accordance with FLT 3.4.2.

Examples of other subjects that might be addressed in a comprehensive and proactive policy include:

- Education regarding the use of psychoactive substances;
- Identification, treatment and rehabilitation;
- Employment consequences of problematic use of psychoactive substances;
- Biochemical testing;
- Requirements of ICAO and the Authority. **(GM)**

Additional guidance may be found in the *ICAO Manual on Prevention of Problematic use of Substances in the Aviation Workplace* (Doc 9654-AN/945).

1.6 Documentation System

FLT 1.6.1 The Operator shall have a system for the management and control of flight operations documentation and/or data used directly in the conduct or support of operations. Such system shall include the elements as specified in ORG 2.1.1. **(GM)** ◄

Guidance

Refer to the IRM for the definitions of Documentation, Electronic Documentation, Master Minimum Equipment List (MMEL) and Minimum Equipment List (MEL).

Refer to ORG 2.1.1 and associated Guidance, and Table 1.1, located in ISM Section 1.

Internal operational documents are subject to management and control.

External documents that are customized and redistributed for use by an operator are subject to management and control. One such example is the MMEL produced by an aircraft manufacturer and subsequently customized by the operator and distributed to operational personnel as the MEL.

Documents received from external sources:

- Are managed by the operator and controlled by the issuing entity;
- Include applicable regulations and associated documents, original manufacturer's manuals and documents and/or data produced externally for the operator;
- Typically include dangerous goods documents, route and airports charts, FMS databases, GPWS terrain and obstacle databases, airport analysis data, weight/mass and balance data and performance data.

Refer to FLT 1.6.2 and FLT 1.6.3 for descriptions of the documents subject to management and/or control.

This provision refers to any organized system for documentation retention that contains current manuals, regulatory publications and other essential documents associated with flight operations.

FLT 1.6.2 The Operator shall ensure the system for the management and control of flight operations documentation as specified in FLT 1.6.1 addresses, as a minimum:

(i) The OM;

(ii) Other documents referenced in the OM that contain information and/or guidance relevant to the flight crew;

(iii) The onboard library. **(GM)**

Guidance

Refer to the IRM for the definition of Onboard Library.

Internal documents are subject to management and control.

Required onboard manuals and documents may be carried on board by the flight crew. Also, the maintenance of the manuals and documents carried on board by the flight crew may be delegated to the flight crew.

Required onboard manuals and documents may be contained in an EFB device or system used in accordance with FLT 3.5.3.

FLT 1.6.3 The Operator shall ensure the system for the management and control of flight operations documentation as specified in ORG 2.1.1 and Table 1.1 addresses documents from external sources, to include, as a minimum:

(i) As applicable, regulations of the State and of the other states or authorities relevant to operations;

(ii) As applicable, ICAO International Standards and Recommended Practices;

(iii) Airworthiness Directives;

(iv) As applicable, Aeronautical Information Publications (AIP) and NOTAMS;

(v) Manufacturer's Approved Flight Manual (AFM), including performance data, weight/mass and balance data/manual, checklists and MMEL/CDL;

(vi) As applicable, other manufacturer's operational communications. **(GM)**

Guidance

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

External documents are managed by the operator in accordance with specifications vi) and vii) of FLT 1.6.1 and controlled by the issuing entity.

The specification in items i) and ii) refer to applicable regulations imposed on the operator by other states or authorities (e.g., FAR 129). 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 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. In such case, the MMEL may also be replaced by an MEL.

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.

FLT 1.6.4 The Operator shall ensure documentation used in the conduct or support of flight operations, including the Operations Manual (OM) and associated revisions:

(i) Contains legible and accurate information;

(ii) Is written in language(s) understood by flight operations personnel;

(iii) Is presented in a format that meets the needs of flight operations personnel;

(iv) If required, is accepted or approved by the Authority. **(GM)** ◄

Guidance

Refer to the IRM for the definitions of Operations Manual, State Acceptance and State Approval.

The intent of this provision is for an operator to provide operational documentation in a form that is acceptable to the Authority and useable by all relevant personnel.

Documentation used in the support of flight operations may:

- Exist in electronic form;
- Be issued in more than one language.

FLT 1.6.5 (Intentionally open)

FLT 1.6.6 The Operator shall ensure documents that comprise the onboard library, as specified in Table 2.1, are carried on board the aircraft for each flight and located in a manner that provides for access by the flight crew. **(GM)**

Guidance

Access to performance calculations via telecom systems (e.g., ACARS) is acceptable in lieu of onboard documentation, if completed with appropriate back-up procedures.

FLT 1.6.7 (Intentionally open)

FLT 1.6.8 <AC> If applicable, the Operator *should* ensure the parts of the Operations Manual that address ground handling are on board the aircraft. **(GM)**

Guidance

The intent of this provision is for an operator to have the specified portions of the OM on board the aircraft if such documentation would be required for flight crew members or other personnel (flight or ground) to accomplish their assigned duties. As such, the applicability of the specification is determined by requirements of the operator or the State.

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)**

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.

FLT 1.7.2 The Operator shall ensure information in the OM pertaining to flight crew duties and responsibilities is published in the designated common language(s), as specified in FLT 3.1.1. **(GM)**

Guidance

The intent of this provision is that the OM is published in a common language designated by the operator, which ensures all flight crew members are able to understand information that pertains to their duties and responsibilities. Additionally, if the OM is published in more than one designated language, to ensure there is harmonization between language versions of the OM pertaining to flight crew duties and responsibilities, which eliminate the possibility of differences in understanding or interpretation.

FLT 1.7.3 (Intentionally open)

FLT 1.7.4 The Operator shall have a process to develop and establish procedures and checklists for use by the flight crew. Such process shall ensure:

(i) Human factors principles are observed in the design of the OM, checklists and associated procedures;

(ii) The specific parts of the OM relevant to flight crew are clearly identified and defined;

(iii) Any differences from procedures and checklists provided by the manufacturer(s) are based on operational considerations. **(GM)**

Guidance

Refer to the IRM for the definition of Human Factors Principles.

The intent of this provision is to ensure procedures and checklists are developed in a manner that ensures they are useable, identifiable and consistent with manufacturer specifications. Any deviations from manufacturer procedures or checklists are typically based on operational concerns identified by the operator.

Human factors principles in document design and checklist usage typically address the following:

- Preparation of documentation in a useable format for information presentation, at the appropriate reading level and with the required degree of technical sophistication and clarity.
- Improving user performance through the use of effective and consistent labels, symbols, colors, terms, acronyms, abbreviations, formats and data fields.
- Ensuring the availability and usability of information to the user for specific tasks, when needed, and in a form that is directly usable.
- Designing operational procedures for simplicity, consistency and ease of use.
- Enabling operators to perceive and understand elements of the current situation and project them to future operational situations.
- Minimizing the need for special or unique operator skills, abilities, tools or characteristics.
- Assessing the net demands or impacts upon the physical, cognitive and decision-making resources of the operator, using objective and subjective performance measures.

The specification in item ii) ensures the relevant sections of the OM are clearly identified as the OM can, in some instances, include sections published for flight operations personnel other than flight crew. As such, all OM sections need not be provided to the flight crew (e.g., training syllabi are usually restricted to training/checking personnel).

Refer to FLT 1.6.1 for specifications applicable to all flight operations documentation, including the OM.

FLT 1.7.5–1.7.6 (Intentionally open)

FLT 1.7.7 The Operator shall have a description of the Operational Flight Plan (OFP) or equivalent document in the OM, which includes:

(i) An outline of the OFP content;

(ii) Guidance for its use by flight crews. **(GM)**

Guidance

Refer to the IRM for the definition of Operational Flight Plan (OFP).

Items readily available in other documentation, obtained from another acceptable source or irrelevant to the type of operation, may be omitted from the OFP.

Refer to DSP 1.7.2 contained in ISM Section 3 for an outline of the OFP content.

1.8 Records System

FLT 1.8.1 The Operator shall have a system for the management and control of flight operations 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) Retention and retrieval;

(v) Protection and security;

(vi) Disposal, deletion (electronic records) and archiving. **(GM)** ◄

Guidance

Refer to guidance associated with ORG 2.2.1 located in ISM Section 1.

FLT 1.8.2 The Operator shall ensure the system for the management and control of flight operations records as specified in FLT 1.8.1 includes retention, for a period of time determined by the Operator or the Authority, of records that document:

(i) The fulfillment of flight crew qualification requirements, as specified in Table 2.3;

(ii) Successful and unsuccessful flight crew evaluations, as specified in FLT 2.1.28. **(GM)**

Guidance

The intent of this provision is for an operator, as a minimum, to record completion of the flight crew qualification activities specified in i) and ii), and to retain the specified records for a period of time acceptable to the Authority.

FLT 1.8.3 If the Operator utilizes an electronic system for the management and control of flight operations records, the Operator shall ensure the system provides for a scheduled generation of back-up record files. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 2.2.2 located in ISM Section 1.

1.9 (Intentionally Open)

1.10 Quality Assurance Program

FLT 1.10.1 The Operator shall have a quality assurance program that provides for the auditing and evaluation of the flight operations management system and operational functions at planned intervals 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. **[SMS] (GM)** ◄

Guidance

Refer to the IRM for the definition of Quality Assurance.

Refer to Guidance associated with ORG 3.4.1 located in ISM Section 1 for typical audit program requirements.

The specifications of this provision would typically apply to periodic audits of the training organization and program, whether training is conducted by the operator or outsourced to an external service provider.

Audits would normally be conducted at intervals that meet the requirements of the operator and/or the Authority.

FLT 1.10.2 The Operator shall have an audit planning process and sufficient resources to ensure audits of flight operations functions are:

(i) Scheduled at intervals that meet management system requirements;

(ii) Completed within a specified time period. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 3.4.10 located in ISM Section 1.

Intervals of surveillance activities typically vary, depending on the operator.

Previous outcomes would typically be considered by the operator when determining audit intervals.

FLT 1.10.3 The Operator shall have a process to ensure significant issues arising from audits of flight operations functions are subject to management review in accordance with ORG 1.5.1 and, as applicable, ORG 1.5.2. **[SMS] (GM)** ◄

Guidance

Refer to ORG 1.5.1, 1.5.2, 3.4.4 and associated Guidance located in ISM Section 1.

Significant issues are typically defined by the operator, but are regarded as those issues that could impact the safety, security and/or quality of flight operations.

FLT 1.10.4 The Operator shall have a process for addressing findings that result from audits of flight operations functions, which ensures:

(i) Identification of root cause(s);

(ii) Development of corrective action as appropriate to address the finding(s);

(iii) Implementation of corrective action in appropriate operational areas;

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

Guidance

Refer to Guidance associated with ORG 3.4.3 located in ISM Section 1.

1.11 Outsourcing and Product Quality Control

FLT 1.11.1 If the Operator has external service providers conduct outsourced flight operations functions, the Operator shall have a process to ensure a contract or agreement is executed with such external service providers. Contract(s) or agreement(s) shall identify measurable specifications that

can be monitored by the Operator to ensure requirements that affect the safety or security of flight operations are being fulfilled by the service provider. **(GM)** ◄

Guidance

Refer to the IRM for the definition of Outsourcing.

Refer to Guidance associated with ORG 3.5.1 located in ISM Section 1.

This provision only addresses flight operations functions that are outsourced to external service providers. An example of an operational function relevant to flight operations that could be conducted by external organizations is flight crew training.

FLT 1.11.2 If the Operator has external service providers conduct outsourced flight operations functions, the Operator shall have a process to monitor such external service providers to ensure requirements that affect the safety or security of flight operations are being fulfilled. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 3.5.2 located in ISM Section 1.

The intent of this provision is to ensure operators that outsource flight operations function(s) to external service providers as specified in FLT 1.11.1 have processes in place to monitor such providers in accordance with the specifications of this provision.

An example of an operational function relevant to flight operations that could be conducted by external organizations is flight crew training.

Examples of outsourced security functions related to flight operations include aircraft/flight deck security sweeps and the transmission of threat information to operators or aircraft.

Auditing is typically a preferred process for the monitoring and control of external organizations.

FLT 1.11.3 The Operator *should* have a process to ensure data or products purchased or otherwise acquired from an external vendor or supplier (other than electronic navigation data products, as specified in FLT 1.11.4A), meet the product technical requirements specified by Operator prior to being used in the conduct of operations. **(GM)** ◄

Guidance

Refer to guidance associated with ORG 3.6.1 located in ISM Section 1.

The specifications of this provision address data or products that directly affect aircraft, flight deck, or cabin operational safety. Such data or products typically include GPWS terrain and obstacle databases, airport analysis data, weight/mass and balance data and performance data.

The intent of the monitoring and control specifications of this provision pertaining to data is to ensure operational data acquired from external suppliers and used for the support of flight operations are current, accurate and complete.

Electronic navigation data product integrity is addressed in FLT 1.11.4.

FLT 1.11.4A If the Operator utilizes aircraft with electronic navigation data capabilities, the Operator shall have processes, approved or accepted by the State, if required, which ensure electronic navigation data products acquired from suppliers, prior to being used as a means for navigation 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;

(iii) Are distributed in a manner to allow insertion of current and unaltered electronic navigation data into all aircraft that require it. **(GM)**

Guidance

Refer to the IRM for the definition of Navigation Data Integrity.

The responsibility of ensuring that electronic navigation data is assessed for integrity and is compatible with its 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:

- 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) 20-153A, Acceptance of Data Processes and Associated Navigation Databases, issued 09/20/10;
- Any other State-approved or State-accepted standards of data integrity and quality that assure navigation database integrity.

The specifications in items i) and ii) may be satisfied by the operator, in accordance with State-approved or State-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 and flight crew 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.

Letters of acceptance are approved by the applicable authority (the state where data is sourced or supplied) *and* approved or accepted by the State (state in which the data is applied). For example, the FAA, via a letter of acceptance, attests to the integrity of data from a U.S supplier. The State would subsequently approve or accept the FAA letter as the operator's means to assure data integrity.

The specification in item iii) refers to processes that ensure timely insertion of data and mitigate the introduction of aeronautical information errors related to the content of navigation databases. The physical insertion of navigation data into applicable aircraft is addressed in ISM Section 4 (MNT), Subsection 2, Maintenance Control.

Monitoring and control of electronic navigation data products acquired from suppliers would also be in accordance with FLT 1.11.3.

FLT 1.11.4B If the Operator utilizes aircraft equipped with a GPWS with a Forward-looking Terrain Avoidance Function as specified in FLT 4.3.25 and/or FLT 4.3.27, the Operator *should* ensure terrain and, if applicable, obstacle data acquired from an external vendor or supplier is distributed in a manner to allow the timely insertion of current and unaltered data into all aircraft for which it is required. **(GM)**

Guidance

Refer to the IRM for the definition of GPWS with a Forward-looking Terrain Avoidance (FLTA) Function.

The intent of this provision is to ensure operators develop the means to periodically update GPWS terrain and, if applicable, obstacle databases, for the purposes of reducing false warnings and ensuring actual hazards are properly identified.

The specifications of this provision refer to:

- 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, obstacle databases for all areas of potential operations.

FLT 1.11.5 If the Operator has external service providers conduct outsourced flight operations functions, the Operator *should* include auditing as a process for the monitoring of external service providers in accordance with FLT 1.11.2. **(GM)** ◄

Guidance

Monitoring and control of external organizations typically include random samplings, product audits, supplier audits, or other similar methods.

1.12 Safety Management

Risk Management

FLT 1.12.1A The Operator *should* have a hazard identification program in flight operations that includes:

(i) A combination of reactive and proactive methods for safety data collection;

(ii) Processes for safety data analysis that identify existing hazards and predict future hazards to aircraft operations. **[SMS] (GM)** ◄

Note: *Effective 1 September 2015, this recommended practice will be upgraded to a standard (see FLT 1.12.1B).*

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 1.12.1B Effective 1 September 2015, the Operator shall have a hazard identification program in flight operations that includes:

(i) A combination of reactive and proactive methods for safety data collection;

(ii) Processes for safety data analysis that identify existing hazards and predict future hazards to aircraft operations. **[SMS] (GM)** ◄

Guidance

Refer to the Guidance associated with FLT 1.12.1A.

FLT 1.12.2A The Operator *should* 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] (GM)** ◄

Note: *Effective 1 September 2015, this recommended practice will be upgraded to a standard (see FLT 1.12.2B).*

Guidance

Refer to the IRM for the definition of Rescue and Fire Fighting Services (RFFS).

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 typically associated with:

- Weather (e.g. adverse, extreme and space);
- Geophysical events (e.g. volcanic ash, earthquakes, tsunamis);
- 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;
- EDTO;
- Performance-based compliance to prescriptive regulations;
- Any other condition(s) that would pose a safety risk to aircraft operations (e.g. radiation).

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

FLT 1.12.2B Effective 1 September 2015, 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]** ◄

Guidance

Refer to the Guidance associated with FLT 1.12.2A.

Operational Reporting

FLT 1.12.3 The Operator shall have an operational reporting system in the flight operations organization that:

(i) Encourages and facilitates 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)** ◄

Guidance

Operational reporting is considered a *proactive* hazard identification activity in an SMS.

Refer to Guidance associated with ORG 3.1.3 located in ISM Section 1.

FLT 1.12.4 The Operator *should* have a confidential safety reporting system in the flight operations organization that encourages and facilitates the reporting of events, hazards and/or concerns resulting from or associated with human performance in operations. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 3.1.4 located in ISM Section 1.

Safety Performance Monitoring and Management

FLT 1.12.5A The Operator *should* have processes in the flight operations organization for setting performance measures as a means to monitor the safety performance of the organization and to validate the effectiveness of risk controls. **[SMS] (GM)** ◄

Note: *Effective 1 September 2016, this recommended practice will be upgraded to a standard (see FLT 1.12.5B).*

Guidance

Refer to the IRM for the definition of Safety Assurance.

Setting measurable safety objectives is an element of the Safety Assurance component of the SMS framework.

By setting performance measures, an operator is able to track and compare its operational performance against a target (i.e. the performance objective, typically expressed as a rate or number reduction) over a period of time (e.g. one year). Achievement of the target (or objective) would represent an improvement in the operational performance. The use of performance measures is an effective method to determine if desired safety outcomes are being achieved, and to focus attention on the performance of the organization in managing operational risks and maintaining compliance with relevant regulatory requirements.

Performance measures in flight operations might address, for example, takeoff or landing tail strikes, unsatisfactory line or training evaluations, unstabilized approaches, runway incursions, or any other measurable occurrences that are managed by the SMS.

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

FLT 1.12.5B Effective 1 September 2016, the Operator shall have processes in the flight operations organization for setting performance measures as a means to monitor the safety performance of the organization and to validate the effectiveness of risk controls. **[SMS]** ◄

Guidance

Refer to the Guidance associated with FLT 1.12.5A.

2 Training and Qualification

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 (or alternative) 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;
(vii) As applicable, each traditional training program requirement that is replaced by a requirement under an Advanced Qualification Program (AQP) or Alternative Training and Qualification Program (ATQP) as approved or accepted by the Authority. **(GM)**

Guidance

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

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 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 always 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 utilizes one type of aircraft.

Specialized training could include training on a specific type of new equipment (e.g., ACAS) or training for specific operations to meet requirements of the Authority.

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

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 Advanced Qualification Program (AQP) or Alternative Training and Qualification Program (ATQP), such program shall be approved or accepted by the Authority and incorporate all of the elements and specifications contained in Table 2.6 and Table 2.7. **(GM)**

Guidance

An operator, in accordance with the requirements of the Authority, typically uses technical guidance for the development of an advanced (or alternative) training and qualification 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, Advanced Qualification Program (23 June 2006).
- Advisory Circular 120–35B (6 September 1990), Line Operational Simulations, Federal Aviation Administration, Washington D. C.: U. S. Department of Transportation.
- FAA Advisory Circular 120–51 (3 January 1995), Crew Resource Management Training, Federal Aviation Administration, Washington D. C.: U. S. Department of Transportation.
- Commission Regulation (EC) No 859/2008 of 20 August 2008 OPS 1.978 Alternative Training and Qualification Program (ATQP) and Appendix 1 to OPS 1.978.
- 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.
- 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 and Table 2.7.

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)**

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)**

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 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 utilizes 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)**

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.).

FLT 2.1.5–2.1.9 (Intentionally open)

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)**

Guidance

The training manual 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 2.1.11 (Intentionally open)

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)**

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 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

Operators that conduct Training Flights and cannot safely train/evaluate a non-normal procedure or maneuver in an aircraft or in a representative flight training device 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 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.

FLT 2.1.13 (Intentionally open)

FLT 2.1.14 The Operator shall ensure instructors, evaluators, line check airmen and flight crew members use documents for the conduct of training and evaluation that are authorized by the Operator for such use. **(GM)**

Guidance

The specification of this provision ensures unauthorized training materials (e.g., handouts, training aids) are not distributed to or used for the training or evaluation of flight crew members.

FLT 2.1.15–2.1.18 (Intentionally open)

Resources

FLT 2.1.19 The Operator shall ensure instructors, evaluators, line check airmen and flight crew members (whether employed or contracted), training facilities, devices, equipment and course materials (whether owned or contracted) are standardized and:

(i) As applicable, have the required certification(s) and approval or acceptance from the State;

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

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

FLT 2.1.20 (Intentionally open)

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.

FLT 2.1.22–2.1.26 (Intentionally open)

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)**

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 for the purpose of achieving continual program improvement.

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)**

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.

FLT 2.1.29–2.1.34 (Intentionally open)

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) 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 that permits supervised practical instruction and observation of experienced instructors administering the course and syllabus lessons;

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

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 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 year; 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 seat.

(v) If non-line qualified instructors are utilized, 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)**

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 a year. Minutes of standardization meetings are distributed to instructors, evaluators and line check airmen.

The observations required in conjunction with item ii) are typically conducted at least once a year 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) entail an assessment of the individual while carrying out the duties for which highest qualified (e.g., instructor or evaluator).

If airline security does not permit line observations, 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.

FLT 2.1.37–2.1.44 (Intentionally open)

Facilities, Training Aids and Equipment

FLT 2.1.45 The Operator shall ensure training aids and equipment, to include mock-ups, flight deck procedure trainers and other devices and/or course materials used in the flight crew training and evaluation program, reasonably reflect the configuration of the fleet(s) for which the respective training is being conducted. **(GM)**

Guidance

Differences in equipment configuration may be acceptable, provided the differences are clearly identified in the training manual or other training program documents available to instructors, evaluators, line check airmen and flight crew members.

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)**

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 utilized 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)**

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 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 must encompass all of 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 2.2.1–2.2.6 (Intentionally open)

FLT 2.2.7 The Operator shall ensure flight crew members complete Operator familiarization training during initial ground training and 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)**

Guidance

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, and such training shall be completed during initial ground training and subsequently during recurrent training once every calendar year or, if applicable, in accordance with the initial and continuing qualification curriculum as defined in the Operator's AQP/ATQP that conforms to the specifications of FLT 2.1.1B;

(ii) That address emergency evacuation and coordination among flight crew members and, as applicable, cabin crew members and/or supernumeraries, and such training shall be completed during initial ground training and subsequently during recurrent training once every three (3) calendar years or, if applicable, in accordance with the initial and continuing qualification curriculum as defined in the Operator's AQP/ATQP that conforms to the specifications of FLT 2.1.1B. **(GM)**

Guidance

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 onboard 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 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 elements and specifications, as well as Authority approval/ acceptance requirements.

FLT 2.2.9 <PA> If the Operator conducts passenger flights with cabin crew, the Operator *should* ensure flight crew members participate in joint training activities or exercises with cabin crew members for the purpose of enhancing onboard coordination and mutual understanding of the human factors involved in addressing emergency situations and security threats. Such training *should* be completed during initial ground training and subsequently during recurrent training once every three (3) calendar years or, if applicable, in accordance with the initial and continuing qualification curriculum as defined in the Operator's AQP/ATQP that conforms to the specifications of FLT 2.1.1B. **(GM)**

Guidance

FLT 2.1.1B addresses overall AQP/ATQP elements and specifications, as well as Authority approval/ acceptance requirements.

The intent of this provision is that the specified training is delivered jointly to flight and cabin crew members together in a common location. However, under certain specific conditions, conformity with this provision may be accomplished through training delivered independently to flight and cabin crew members:

- When approved by the Authority under an Advanced Qualification Program (AQP) or an Alternative Training and Qualification Program (ATQP), or
- When the flight crew training and cabin crew training occurs at different geographical locations.

When training is delivered independently under the above conditions, learning objectives are determined jointly through interdepartmental coordination and subsequently incorporated into the

respective flight crew and cabin crew training curricula. It is possible that, although the learning objectives are determined jointly, the development of curricula and administration of the training occurs independently within each department.

FLT 2.2.10 The Operator shall ensure flight crew members receive training in all aspects of aircraft performance during initial ground training. 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)**

Guidance

Training is applicable to all flight crew members.

MEL/CDL or equivalent application 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. Such training and evaluation shall be completed during initial ground training and subsequently during recurrent training once every three (3) calendar years or, if applicable, in accordance with the initial and continuing qualification curriculum as defined in the Operator's AQP/ATQP that conforms to the specifications of FLT 2.1.1B. **(GM)**

Guidance

Training and evaluation is applicable to all flight crew members.

FLT 2.1.1B addresses overall AQP/ATQP elements and specifications, as well as Authority approval/ acceptance requirements.

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 during initial ground training and subsequently once during recurrent training within the 24-month period from the previous training in dangerous goods or, if applicable, in accordance with the initial and continuing qualification curriculum as defined in the Operator's AQP/ATQP that conforms to the specifications of FLT 2.1.1B. Such training shall include:

(i) General philosophy;
(ii) Limitations;
(iii) List of dangerous goods;
(iv) Labeling and marking;
(v) Recognition of undeclared dangerous goods;
(vi) Storage and loading procedures;
(vii) Pilot's notification;
(viii) Provisions for passengers and crew;
(ix) Emergency procedures. **(GM)**

Guidance

Training and evaluation is applicable to all flight crew members.

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.

FLT 2.1.1B addresses overall AQP/ATQP elements and specifications, as well as Authority approval/ acceptance requirements.

Guidance may be found in the IATA Dangerous Goods Regulations (DGR) 1.5, Table 1.5.A.

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 during initial ground training and subsequently once during recurrent training within the 24-month period from the previous training in dangerous goods or, if applicable, in accordance with the initial and continuing qualification curriculum as defined in the Operator's AQP/ATQP that conforms to the specifications of FLT 2.1.1B. Such training shall include:

(i) General philosophy;
(ii) Limitations;
(iii) Labeling and marking;
(iv) Recognition of undeclared dangerous goods;
(v) Provisions for passengers and crew;
(vi) Emergency procedures. **(GM)**

Guidance

Training and evaluation is applicable to all flight crew members.

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.

FLT 2.1.1B addresses overall AQP/ATQP elements and specifications, as well as Authority approval/ acceptance requirements.

Guidance may be found in DGR 1.5, Table 1.5.B.

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. Such training and evaluation shall be completed during initial ground training and subsequently during recurrent training once every three (3) calendar years or, if applicable, in accordance with the initial and continuing qualification curriculum as defined in the Operator's AQP/ATQP that conforms to the specifications of FLT 2.1.1B. **(GM)**

Guidance

Refer to the IRM for the definitions of 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.

FLT 2.2.15 If the Operator utilizes FOO personnel and the Operator's method of Operational Control requires shared responsibility between an FOO and the PIC, the Operator *should* ensure flight crew members complete resource management training that addresses issues of mutual concern to flight crew members and FOO personnel. Such training *should* be conducted for the purposes of enhancing coordination, ensuring a mutual understanding of the human factors involved

in joint operational control and achieving common learning objectives as set out by the appropriate flight operations and operational control management personnel. **(GM)**

Guidance

The intent of this provision is to ensure that resource management issues of mutual concern to both FOO personnel and flight crew members are addressed for the purposes of enhancing coordination and to foster a mutual understanding of the human and other factors involved in joint operational control.

Such training is typically accomplished using common learning objectives determined during interdepartmental coordination meetings, which are subsequently incorporated into the respective training curricula. Although the learning objectives are determined jointly, it is possible that the development of curricula and administration of the training occurs independently within each department.

The training specified in this provision does not require the physical presence of flight crew members and FOO personnel at a common training location.

FLT 2.1.1B addresses overall AQP/ATQP elements and specifications, as well as Authority approval/ acceptance requirements.

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 during initial ground training and subsequently during recurrent training once every three (3) calendar years or, if applicable, in accordance with the initial and continuing qualification curriculum as defined in the Operator's AQP/ATQP that conforms to the specifications of FLT 2.1.1B. Such training and evaluation shall address, as applicable:

(i) Cold weather operations, to include de-/anti-icing policies and procedures;

(ii) Contaminated runway operations;

(iii) Thunderstorm avoidance. **(GM)**

Guidance

Training and evaluation is applicable to all flight crew members.

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 elements and specifications, as well as Authority approval/ acceptance requirements.

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 during initial ground training or, if applicable, in accordance with the initial and continuing qualification curriculum as defined in the Operator's AQP/ATQP that conforms to the specifications of FLT 2.1.1B. **(GM)**

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*, First Edition 2012.

FLT 2.1.1B addresses overall AQP/ATQP elements and specifications, as well as Authority approval/ acceptance requirements.

FLT 2.2.17 The Operator shall ensure flight crew members complete training in procedures for aircraft upset recovery during initial ground training and subsequently during recurrent training once every three (3) calendar years or, if applicable, in accordance with the initial and continuing qualification curriculum as defined in the Operator's AQP/ATQP that conforms to the specifications of FLT 2.1.1B. **(GM)**

Guidance

Training is applicable to all *pilot* crew members.

Aircraft upset recovery training typically includes:

- 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 elements and specifications, as well as Authority approval/ acceptance requirements.

FLT 2.2.18 If the Operator is authorized to conduct RVSM operations and/or operations in airspace that requires the maintenance of a particular RNP, the Operator shall ensure flight crew members complete training and an evaluation in RVSM and/or RNP procedures during initial ground training or, if applicable, in accordance with the initial and continuing qualification curriculum as defined in the Operator's AQP/ATQP that conforms to the specifications of FLT 2.1.1B. **(GM)**

Guidance

Training and evaluation is applicable to all *pilot* crew members.

FLT 2.1.1B addresses overall AQP/ATQP elements and specifications, as well as Authority approval/ acceptance requirements.

FLT 2.2.19 The Operator shall ensure flight crew members, including instructors and evaluators whose native language is not the same as the designated common language specified in FLT 3.1.1, complete an evaluation prior to being assigned to operational duties to demonstrate a level of proficiency in the designated common language that ensures such flight crew members are able to:

(i) Effectively communicate during the performance of operational duties;

(ii) Understand information in the OM pertaining to duties and responsibilities. **(GM)**

Guidance

Refer to the IRM for the definitions of Evaluator and Instructor.

Evaluation is applicable to all flight crew members, instructors and evaluators.

Such evaluation of proficiency is expected to be part of the flight crew selection process, but may occur during initial training or at any other point prior to the individual being assigned to duties as a flight crew member, instructor or evaluator for the operator.

FLT 2.2.20 The Operator shall require flight crew members, who conduct flights into areas where English is the primary language of Air Traffic Control (ATC) and whose duties include communication with ATC to complete an evaluation during initial ground training to demonstrate a sufficient level of English language proficiency that will ensure effective communication during the performance of such duties. **(GM)**

Guidance

The intent of this provision is to ensure a pilot who is required to communicate with air traffic control in English demonstrates a sufficient level of English language proficiency to ensure effective communication during the performance of duties.

Such evaluation applies to each operating member of the flight crew, as required by the AFM, whose duties require communication in English with ATC.

English proficiency requirements do not apply to flight engineers or flight navigators unless their duties include air/ground communication in English.

A State requirement, as part of flight crew licensing, for an individual to demonstrate expert English language proficiency may be used to satisfy the specifications of this provision.

FLT 2.2.21 (Intentionally open)

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) calendar years based on the proficiency level of the applicant. **(GM)**

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 2.2.23 (Intentionally open)

FLT 2.2.24 <AC> If the Operator transports dangerous goods and assigns flight crew members duties and responsibilities related to the preflight inspection of ULDs containing accessible dangerous goods, the Operator shall ensure applicable flight crew members complete training and an evaluation in the preflight inspection and operation of such ULDs during initial ground training. **(GM)**

Guidance

Refer to the IRM for the definition of Unit Load Device (ULD).

Training and evaluation is applicable to all flight crew members that would be assigned duties and responsibilities as specified.

Accessible dangerous goods are those containerized or palletized items accessible to the flight crew that could require flight crew action to ensure:

- ULDs containing accessible dangerous goods are visually intact;
- The airworthiness of the ULD;
- If applicable, the securing and preflight of any fire protection equipment;
- Accessible dangerous goods are stored properly, to include the proper segregation of dangerous goods.

A preflight inspection ensures containers and/or pallets containing accessible dangerous goods are visually intact.

FLT 2.2.25 (Intentionally open)

FLT 2.2.26 The Operator shall ensure flight crew members complete training in normal and non-normal procedures and maneuvers during initial training and subsequently during recurrent training once every calendar year or once every two (2) calendar years or, if applicable, in accordance with the initial and continuing qualification curriculum as defined in the Operator's AQP/ATQP that conforms to the specifications of FLT 2.1.1B. 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)**

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 policy 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 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.

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 as

approved or accepted by the Authority. Such training and, when applicable, evaluation shall be accomplished *either*:

(i) During initial training and subsequently during recurrent training once every calendar year, *or*

(ii) In accordance with an AQP/ATQP approved by the Authority that requires evaluations to be satisfactorily completed within the maximum evaluation period delineated in Table 2.7, and includes a demonstration of competence in normal and non-normal procedures and maneuvers. **(GM)**

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 advanced (or alternative) qualification 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 to be accomplished as part of ground, simulator/aircraft and line training;

Line training is in normal procedures/maneuvers only.

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.

Operators that conduct training flights and cannot safely train/evaluate a non-normal procedure or maneuver in an aircraft or in a representative flight training device 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.

FLT 2.2.28 The Operator shall ensure flight crew members, prior to an evaluation, are familiar with those maneuvers and/or malfunctions that might be presented during the evaluation, but are not given information that reveals the exact sequence and the circumstances under which such maneuvers or malfunctions will be presented. **(GM)**

Guidance

The specification of this provision is not intended to preclude flight crews from knowing the city pairs to be flown or the general maneuver requirements prior to the evaluation; however, flight crews would typically not be provided with the exact evaluation scenario.

Operators that conduct training flights in an aircraft may divulge as much information about the intended training/evaluation as is necessary to ensure the safety of the planned operation.

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)**

Guidance

An evaluation in conjunction with Initial Type Qualification satisfies this requirement.

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. Such training shall be completed during initial training and subsequently during recurrent training once every calendar year or, if applicable, in accordance with the initial and continuing qualification curriculum as defined in the Operator's AQP/ATQP that conforms to the specifications of FLT 2.1.1B. **(GM)**

Guidance

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 requirements.

This specification is intended to ensure CRM skills are emphasized during and integrated into simulator or aircraft training, as applicable, and line training.

FLT 2.2.31 The Operator shall ensure flight crew members complete a Line Operational Simulation (LOS) profile during initial simulator or aircraft training, and subsequently during recurrent training once every calendar year or, if applicable, in accordance with the initial and continuing qualification curriculum as defined in the Operator's AQP/ATQP that conforms to the specifications of FLT 2.1.1B. Such training shall be:

(i) Approved or accepted by the State;

(ii) Administered real-time in a line environment setting;

(iii) An uninterrupted planned scenario with specific CRM objectives where such skills are observed and debriefed upon completion. **(GM)**

Guidance

Refer to the IRM for the definition of Line Operational Simulation (LOS).

Training and/or evaluation is applicable to flight crew members.

FLT 2.1.1B addresses overall AQP/ATQP elements and specifications, as well as Authority approval/ acceptance requirements.

SPOT, LOE, and/or LOFT scenarios incorporated into the training program satisfy the specifications of this provision.

LOS scenarios are as standardized and scripted as possible. A simple menu of weather conditions and/or abnormals would not be acceptable as it increases the subjectivity of the presentation.

In the absence of a representative flight training device, such alternatives typically employ:

- LOS profiles conducted in a generic simulation 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.

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 windshear avoidance and recovery from predictive and actual windshear. Such training shall be completed during initial ground and simulator training, and subsequently during recurrent simulator training once every three (3) calendar years or, if applicable, in accordance with the initial and continuing qualification curriculum as defined in the Operator's AQP/ATQP that conforms to the specifications of FLT 2.1.1B. **(GM)**

Guidance

Refer to the IRM for the definition of Windshear.

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 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 training device 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 training device typically include a review of:

- Conditions conducive to windshear;
- Effects on aircraft performance;
- Indications of windshear presence;
- Avoidance and recovery techniques;
- Windshear case studies or scenarios.

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 shall be completed during initial ground and simulator training and subsequently during recurrent simulator training once every three (3) calendar years or, if applicable, in accordance with the initial and continuing qualification curriculum as defined in the Operator's AQP/ATQP that conforms to the specifications of FLT 2.1.1B. 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)**

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 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 training device 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 training device typically includes a review of:

- CFIT avoidance techniques;
- CFIT recovery techniques and maximizing aircraft performance;
- GPWS alerts and warnings;
- CFIT case studies or scenarios.

FLT 2.2.34 If the Operator conducts low visibility operations, 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. Such training shall be completed during initial ground and simulator training and subsequently during recurrent simulator training once every calendar year or, if applicable, in accordance with the initial and continuing qualification curriculum as defined in the Operator's AQP/ATQP that conforms to the specifications of FLT 2.1.1B. **(GM)**

Guidance

FLT 2.1.1B addresses overall AQP/ATQP elements and specifications, as well as Authority approval/ acceptance requirements.

Training and evaluation in the specified normal and non-normal procedures and maneuvers is applicable to all *pilot* crew members.

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 training device as specified in FLT 2.2.38 may demonstrate an alternative means of conformance in accordance with FLT 2.2.41.

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 procedures for the proper response to TCAS/ACAS alerts. Such training and evaluation shall be completed during initial ground and simulator training and subsequently during recurrent simulator training once every three (3) calendar years or, if applicable, in accordance with the initial and continuing qualification curriculum as defined in the Operator's AQP/ATQP that conforms to the specifications of FLT 2.1.1B. **(GM)**

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 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 training device 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 training device typically include a review of:

- TCAS procedures and alert responses;
- TCAS alerts;
- TCAS case studies or scenarios.

FLT 2.2.36 (Intentionally open)

FLT 2.2.37 If the Operator utilizes 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. Such training and evaluation shall be completed during initial ground and simulator training and subsequently during recurrent simulator training once every calendar year or, if applicable, in accordance with the initial and continuing qualification curriculum as defined in the Operator's AQP/ATQP that conforms to the specifications of FLT 2.1.1B. **(GM)**

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 elements and specifications, as well as Authority approval/ acceptance requirements.

The specifications of this provision 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 calendar year unless required as part of a State approved or accepted (cruise relief pilot) qualification program.

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 training device that is approved and/or certified by the Authority or, if such a 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) Windshear 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 training device does not exist, conformity with FLT 2.2.41 is required for the Operator to be in conformity with this provision.*

Guidance

The intent of this provision is to ensure:

- 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 training device or an alternative means (as specified in FLT 2.2.41).

Refer to FLT 2.2.41 if no representative flight training device 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 training and evaluation for 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)**

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. Such training and, when applicable, evaluation shall be completed during initial ground training and subsequently during recurrent training once every three (3) calendar years or, if applicable, in accordance with the initial and continuing qualification curriculum as defined in the Operator's AQP/ATQP that conforms to the specifications of FLT 2.1.1B. **(GM)**

Guidance

The specification of this provision is applicable to all flight crew members.

FLT 2.1.1B addresses overall AQP/ATQP 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.

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 training device, the Operator shall utilize 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 methods, to include:

(i) Generic flight training devices;

(ii) Additional ground and line training and evaluation;

(iii) As applicable, any other means that ensures a demonstration of pilot competence in the applicable maneuvers and procedures. **(GM)**

Guidance

The intent of this provision is for the operator to ensure, in the absence of a representative flight training device, that suitable and effective alternatives are utilized 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 (generic 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 such competence.

Windshear, GPWS, and TCAS training maneuvers and procedures, as specified in FLT 2.2.38, typically 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:

- Windshear 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, which shall be in accordance with requirements of the civil aviation security program of the State and applicable requirements of other states where operations are conducted. Such security training shall:

(i) Address the Operator's policies and procedures for crew communication, coordination and action in response to acts of unlawful interference and/or disruptive passenger behavior;

(ii) Have a balanced curriculum of theoretical and practical training to ensure flight crew members are able to act in the most appropriate manner to minimize the consequences of acts of unlawful interference and/or disruptive passenger behavior;

(iii) Be administered during initial ground training, and subsequently during recurrent training on a schedule in accordance with requirements of the security program of the State and, if applicable, other states where operations are conducted, but not less than a frequency specified by the Operator as necessary to maintain effectiveness in performing operational duties that involve aviation security responsibilities. **(GM)**

Note: *The specifications of this provision are applicable to flight crew members utilized onboard an aircraft during commercial and/or non-commercial operations.*

Guidance

Refer to the IRM for the definition of Passenger

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.

A Security training course for flight crew members focuses on the need for the flight crew to maintain control of the flight deck. Such course would typically address:

- Appropriate responses to acts of unlawful interference;
- Security of the flight deck;
- Maintaining control of the flight deck;
- Appropriate self-defense responses and use of non-lethal protective devices;
- Sabotage, hijacking;
- Unruly passengers.

The interval specified in item iii) may be set in accordance with the initial and continuing qualification curriculum as defined in an operator's AQP/ATQP that conforms to the specifications of FLT 2.1.1B.

FLT 2.2.43 If the Operator conducts passenger flights without cabin crew, the Operator shall ensure flight crew members, during initial training and subsequently during recurrent training every two (2) calendar years or, if applicable, in accordance with the initial and continuing qualification curriculum as defined in the Operator's AQP/ATQP that conforms to the specifications of FLT 2.1.1B, complete training to ensure competence in the performance of any assigned duties and functions related to passenger cabin safety and security. **(GM)**

Guidance

The training specified in the provision is to be accomplished as part of initial ground, simulator/aircraft or line training.

FLT 2.1.1B addresses overall AQP/ATQP elements and specifications, as well as Authority approval/ acceptance requirements.

Cabin safety and security training would typically address:

- Aircraft systems and emergency equipment including:
  - Aircraft interior, passenger seats and restraints;
  - Aircraft-specific cabin duties and responsibilities;
  - Emergency exit locations and operation;
  - Emergency equipment locations and operation;
  - Slides, rafts, slide/rafts, ramp slide/rafts, life vests and other flotation devices as applicable.
- Cabin safety and security duties and responsibilities including:
  - Mandatory passenger briefings;
  - Passenger acceptance and handling;
  - The stowage of carry-on baggage;
  - The use of personal electronic devices;
  - Fueling with passengers on-board;
  - Cabin safety and security checks.
- Emergency procedures including:
  - Cabin duties assumed in the event of an emergency;
  - Cabin smoke, fumes and fires;
  - Emergency landing (land and water);
  - Planned and unplanned cabin emergency evacuations (land and water);
  - Oxygen administration;
  - Medical emergencies and first aid.
- Response to acts of unlawful interference including:
  - Flight deck access and security of the flight deck;
  - Aircraft search procedures;
  - Least risk bomb location.

Cabin safety and security training elements incorporated into other curricula of the flight crew member training program may satisfy the specifications of this provision.

FLT 2.2.44 If the Operator utilizes supernumeraries in the passenger cabin or supernumerary compartment of an aircraft that are required for the safety of operations, the operator *should* ensure such supernumeraries receive aircraft type-specific training and an evaluation to ensure competence in the performance of any assigned duties or functions related to passenger cabin or cargo compartment safety. **(GM)**

Note: *The specifications of this provision are applicable to supernumeraries utilized onboard an aircraft during commercial and/or non-commercial operations.*

Guidance

Refer to the IRM for the definition *of* Supernumerary, which includes examples of supernumeraries that may be required for the safety of operations.

The intent of this provision is to ensure supernumeraries used in the passenger cabin or supernumerary compartment in accordance with the specifications of this provision are competent to perform any assigned duties or functions related to passenger cabin or cargo compartment safety.

An aircraft type-specific training course would typically address any cabin or supernumerary compartment actions to be taken during normal, abnormal or emergency situations.

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 line training and evaluation for each pilot crew member is completed during initial qualification or, if applicable, in accordance with the initial and continuing qualification curriculum as defined in the Operator's AQP/ATQP that conforms to the specifications of FLT 2.1.1B;

(v) Ensure line training and evaluation is completed prior to a pilot crew member being used as a PIC in operations. **(GM)**

Guidance

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 elements and specifications, as well as approval/ acceptance requirements of the Authority.

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 utilizing 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 advanced (or alternative) training and qualification 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 and Table 2.7. **(GM)**

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 advanced (or alternative) qualification 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 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 items i) and ii) of this provision may also be adjusted in accordance with State requirements that ensure each flight crew member undergoes training and, when applicable, an evaluation at least every 6 or 12 calendar months, as applicable. 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.

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 utilizing a complete flight crew;
- Maneuvers and procedures (abnormal and emergency) that may occur in line operations.

FLT 2.3.3 The Operator shall ensure line training for the second-in-command (SIC) includes an amount of Pilot Monitoring (PM) and Pilot Flying (PF) duties sufficient to develop and demonstrate proficiency in such duties. **(GM)**

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 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) during initial training and subsequently during recurrent training once every calendar year or, if applicable, in accordance with the initial and continuing qualification curriculum as defined in the Operator's AQP/ATQP that conforms to the specifications of FLT 2.1.1B. 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)**

Guidance

FLT 2.1.1B addresses overall AQP/ATQP 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).

FLT 2.3.5 (Intentionally open)

FLT 2.3.6 The Operator shall ensure pilot flight crew members complete a Command Training and Evaluation program during initial training and qualification or, if applicable, in accordance with the initial and continuing qualification curriculum as defined in the Operator's AQP/ATQP that conforms to the specifications of FLT 2.1.1B, and prior to a pilot flight crew member being assigned as PIC in operations. **(GM)**

Guidance

FLT 2.1.1B addresses overall AQP/ATQP 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 The Operator shall ensure each pilot flight crew member completes training in the special skills and/or knowledge required to operate in areas and on routes or route segments over difficult terrain and/or into special airports, as designated by the State or by the operator. Such training shall be completed during initial training and prior to a flight crew member being used as a PIC, and subsequently during recurrent training once every calendar year or, if applicable, in accordance with the initial and continuing qualification curriculum as defined in the Operator's AQP/ATQP that conforms to the specifications of FLT 2.1.1B. 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)**

Guidance

FLT 2.1.1B addresses overall AQP/ATQP elements and specifications, as well as Authority approval/ acceptance requirements.

Specifications in this provision apply to 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 specified in this provision is accomplished by pilot flight crew members as part of ground training, simulator/aircraft training or line training program.

Training requirements typically vary by state and class of special airport, but generally renewed once per calendar year unless special airport training occurs in conjunction with the training required to conform to FLT 2.3.2 or the interval is adjusted in accordance with an operator's AQP/ATQP as approved or accepted by the Authority.

Special airport and/or route qualification (if applicable) could include one or more of the following elements, as approved or accepted by the State:

- PIC review of an adequate pictorial representation (aerial photographic approach plate, video presentation, slideshows, etc.);
- Simulator training;
- Line check airmen briefing;
- PIC operation into the airport accompanied by a line check or other qualified airman;
- Exemptions for VFR operations.

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.

FLT 2.4.2 If the Operator engages in specialized navigation (MNPS, AMU), the Operator shall ensure flight crew members complete training or an evaluation in such operations during initial training and prior to being utilized in operations that require such specialized navigation. **(GM)**

Guidance

Refer to the IRM for the definition of Areas of Magnetic Unreliability (AMU).

The training or evaluation specified in this provision is accomplished by flight crew members as part of the initial ground training, simulator/aircraft training or line training program.

The specifications of this provision apply to pilot flight crew members and, if utilized in conjunction with such operations, flight navigators.

FLT 2.4.3 If the Operator utilizes 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. Such training and evaluation shall be completed during initial ground, simulator and line training, and subsequently during recurrent simulator training once every calendar year or, if applicable, in accordance with the initial and continuing qualification curriculum as defined in the Operator's AQP/ATQP that conforms to the specifications of FLT 2.1.1B. **(GM)**

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 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.

2.5 SMS Training

FLT 2.5.1A The Operator *should* have a program that ensures personnel throughout the flight operations organization are trained and competent to perform SMS duties. The scope of such training *should* be appropriate to each individual's involvement in the SMS. **[SMS] (GM)** ◄

Note: *Effective 1 September 2015, this recommended practice will be upgraded to a standard (see FLT 2.5.1B).*

Guidance

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

Refer to Guidance associated with ORG 1.6.5A located in ISM Section 1.

FLT 2.5.1B Effective 1 September 2015, the Operator shall have a program that ensures personnel throughout the flight operations organization are trained and competent to perform SMS duties. The scope of such training shall be appropriate to each individual's involvement in the SMS. **[SMS] (GM)** ◄

Guidance

Refer to the Guidance associated with FLT 2.5.1A.

3 Line Operations

3.1 Common Language

FLT 3.1.1 The Operator shall ensure the designation of a common language(s) for use by all flight crew members for communication:

(i) On the flight deck during line operations;

(ii) If the Operator conducts passenger flights with cabin crew, between the flight crew and cabin crew during line operations;

(iii) During flight crew training and evaluation activities. **(GM)**

Guidance

More than one common reference language might be designated.

Communication in the designated common language is applicable to all flight crew members, including foreign nationals and expatriates utilized as flight crew members, instructors or evaluators by the operator.

The operator is expected to be in compliance with the common language requirements of the State (e.g., mandatory for operations, a condition for employment or a condition for airman certification), if such requirements exist. If no State requirements exist, the operator is expected to designate an appropriate common operational language for use by flight crew members, as specified in this provision.

The existence (and application) of a State common language requirement that satisfies the specifications of this provision relieves the operator of such a designation in operational documentation.

3.2 Flight Crew Responsibilities

FLT 3.2.1 The Operator shall ensure the PIC is assigned the responsibility for recording the following information for each flight:

(i) Aircraft registration;

(ii) Date;

(iii) Flight number;

(iv) Flight crew names and duty assignment;

(v) Departure and arrival airports;

(vi) ATD, ATA, flight time. **(GM)**

Guidance

The specifications of this provision could be recorded by electronic means (e.g., ACARS) or manually by PIC or his/her designee.

The specification in item iv) refers to the designation of crew duty assignments as specified in the AFM or by the operator (e.g. Captain, First Officer, Flight Engineer, Navigator, Radio Operator, Load Master).

3.3 Flight Crew Qualifications

FLT 3.3.1 The Operator shall specify the composition and required number of flight crew members taking into account the type of aircraft, flight crew qualification requirements and flight/duty time limitations. **(GM)**

Guidance

The intent of this provision is to ensure flight crews are composed of the flight crew members appropriate for the aircraft type and planned operation.

As applicable to an operator, crew composition requirements would typically also address the use of relief pilots and/or augmented crews.

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)**

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)**

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)**

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.

FLT 3.3.5 If the Operator, in accordance with laws of the State, utilizes pilot flight crew members who have attained 60 years of age to operate aircraft in international operations, the Operator shall ensure any of the following apply:

(i) Such pilot crew members are not permitted to act as PIC, or

(ii) In the case of operations in aircraft certificated with more than one pilot where the other required pilot is younger than 60 years of age, such pilot crew members are not permitted to act as PIC after their 65th birthday, or

(iii) Where laws or regulations of the State do not permit maximum age limits, have a method, which is acceptable to the State of the Operator and other applicable states, for making a determination that such pilot crew members, for whatever reason, are no longer able to exercise unrestricted PIC privileges. **(GM)**

Guidance

The intent of this provision is to address pilot flight crew member duty assignments or pairings for international operations when the flight crew includes at least one pilot that has attained 60 years of age.

The specifications of this provision refer to the maximum age(s), as specified by an operator or the Authority, beyond which pilot privileges are curtailed or cancelled. Such curtailment or cancellation of privileges is generally associated with flight crew member position and/or flight crew composition.

The specifications in item iii) refer to operators that are subject to laws or regulations of the State that preclude the specification of maximum age limits for flight crew members to exercise the full privileges of their pilot license in operations for the operator.

The specifications of this provision may be satisfied by an operator's process for tracking pilot flight crew member age, if age requirements or limits are specified by the operator or Authority. Such tracking might be necessary to conform to State requirements when a pilot crew member changes position or reaches a mandatory age limit.

FLT 3.3.6 The Operator shall have a requirement that prohibits flight crew members from operating an aircraft if not qualified for duty in accordance with requirements specified in Table 2.3.

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 his/her duties in an aircraft unless *either*:

(a) Within the preceding 6 calendar 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) If a flight crew member does not satisfy recency-of-experience requirements in accordance with i), ii), or iii), such flight crew member completes re-qualification in accordance with the Operator's training and evaluation program. **(GM)**

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 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 iv) 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.

FLT 3.3.8 If the Operator utilizes flight navigators or radio operators, the Operator shall have a process to ensure flight navigators and/or radio operators, as applicable, do not perform their duties in an aircraft unless they satisfy the recency-of-experience requirements of the Operator and the State.

FLT 3.3.9 The Operator shall have a process to ensure each pilot, prior to being used as a PIC in operations, is currently qualified for operations into airports of intended landing in areas, on routes or route segments to be used in operations for the Operator. If an instrument approach is required into an airport for which the PIC has not made an actual approach, the PIC shall be accompanied by a pilot flight crew member or pilot observer on the flight deck who is qualified for the airport unless any of the following conditions exist:

(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 a process that adds a margin of safety that is approved or accepted by the State, or there is reasonable certainty that the approach and landing can be made in visual meteorological conditions, or

(ii) Descent from the initial approach altitude to landing at the airport can be made by day in VMC, or

(iii) The operator qualifies the PIC to land at the airport by means of a pictorial representation approved or accepted the Authority, or

(iv) The airport is adjacent to another airport at which the PIC is currently qualified to land. **(GM)**

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 special areas, routes, route segments and special airports.

FLT 3.3.10 The Operator shall have a process to ensure a pilot is not utilized 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) Fulfilled special line qualification requirements in accordance with FLT 2.4.1. **(GM)**

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.

For the purposes of route, area and airport qualification, 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 special areas, routes route segments and special airports.

3.4 Flight Crew Scheduling

FLT 3.4.1 The Operator shall have a scheduling process that ensures flight crew members, prior to being assigned to duty, are qualified and current in accordance with:

(i) Applicable flight crew qualification requirements contained in Table 2.3;

(ii) If applicable, additional requirements of the State

FLT 3.4.2 The Operator shall have a scheduling policy that ensures flight crew members, prior to being assigned to duty, will not be affected by factors that could impair human performance, to include, as a minimum:

(i) Pregnancy;

(ii) Illness, surgery or use of medication(s);

(iii) Blood donation;

(iv) Deep underwater diving;

(v) Fatigue occurring in one flight, successive flights or accumulated over a period of time. **(GM)**

Guidance

The intent of this provision is to ensure an operator's policies address flight crew member “fitness for duty.” Such policies typically assign the responsibility to the flight crew member to report or remain “fit for duty” in accordance with the list of specifications in this 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 and rest period limitations 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)**

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 and rest period limitations as the means for managing fatigue-related risks.

Guidance for the implementation of an FRMS is contained in the IATA/ICAO/IFALPA Fatigue Risk Management System (FRMS) Implementation Guide for Operators, 1st Edition, July 2011, or an equivalent document approved or accepted by the State.

FLT 3.4.3B If the Operator utilizes an FRMS to manage fatigue-related safety risks, the Operator shall incorporate scientific principles and knowledge within the FRMS, comply with any applicable requirements for managing 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;

(iii) Develop and maintain effective FRMS safety assurance processes;

(iv) Establish and implement effective FRMS promotion processes. **(GM)**

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 Risk Management System (FRMS) Implementation Guide for Operators, 1st Edition, July 2011, or an equivalent document approved or accepted by the State.

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 and rest period limitations 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 identification • Safety risk(s) assessment • Safety risk(s) mitigation
FRMS safety assurance processes	(iii)	• FRMS performance monitoring • Operational and organizational change management • Continual FRMS improvement

FRMS Component	Item	Description
FRMS promotion processes	(iv)	• Training programs (for management, flight and cabin crew, and all other involved personnel under the FRMS) • Communication plan (explains FRMS policies, procedures and responsibilities to all relevant stakeholders)

FLT 3.4.3C If the Operator utilizes an FRMS to manage fatigue-related safety risks, the Operator *should* ensure the organizational activities specified in FLT 3.4.3B related to the management of fatigue-related risks are integrated with the Operator's organizational safety management system (SMS) as specified in ORG 1.1.10. **(GM)**

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 Fatigue Risk Management System (FRMS) Implementation Guide for Operators, 1st Edition, July 2011.

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)**

Guidance

The term *deadhead* in sub-specification ii) refers to the transportation of non-operating crew members, typically for positioning purposes, before or after an operational duty assignment.

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 3.4.5 (Intentionally open)

FLT 3.4.6 If the Operator utilizes 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)**

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 3.5.1 The Operator shall have procedures that describe flight crew member duties and responsibilities for flight preparation and ensure flight crew members, prior to the commencement of each flight, complete a review of:

(i) The Aircraft Technical Log (ATL) and the MEL/CDL for the purposes of:
  (a) Determining the airworthiness status of the aircraft;
  (b) Precluding a flight from departing until any defect affecting airworthiness is processed in accordance with the MEL/CDL.

(ii) The OFP;

(iii) Weather information to include en route and departure, destination and alternate airports;

(iv) NOTAMS;

(v) Aircraft performance;

(vi) Aircraft weight/mass and balance. **(GM)**

Guidance

Refer to the IRM for the definition of Aircraft Technical Log (ATL).

FLT 3.5.2 If the Operator utilizes 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)**

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 utilizes electronic flight bag (EFB) devices or systems, the Operator *should* have guidance and procedures for flight crew members that address each EFB and the operations conducted. Such guidance and procedures *should* address as a minimum:

(i) EFB use during normal and abnormal operations;

(ii) Database currency;

(iii) Operating limitations;

(iv) The remediation of EFB defects and/or errors including MEL processing if applicable;

(v) EFB failures. **(GM)**

Guidance

Refer to the IRM for the definition of Electronic Flight Bag (EFB).

An EFB may be used in conjunction with traditional hardcopy documents or to ultimately replace the paper material a pilot is required to carry.

The specification in item i) refers to normal and abnormal operating procedures for all applicable flight operations with EFBs. Such procedures are typically designed to control additional workloads created by using EFB devices or systems and also specify times at which the flight crew should not use them.

The specification in item ii) refers specifically to flight crew validation procedures for EFB databases (e.g., electronic charts, performance data, etc.). Such validation may also apply to the software required to display informative documents, such as pre-composed, fixed presentations of data currently in paper format, if such validation is not accomplished by other means or personnel. The management and control of such information by the organization, however, is in accordance with FLT 1.6.1 to 1.6.5 inclusive. Additionally, the oversight and control of third party software is in accordance with FLT 1.11.3.

The specification in item iii) refers to limitations regarding the use of an EFB. For example, where the EFB is used for aircraft performance calculations such limitations would typically require procedures for flight crew members to independently verify input data and crosscheck calculations in a manner that provides sufficient opportunities for errors to be detected.

The specification in item iv) refers to the procedures for identifying and correcting defects and/or errors in EFB software or hardware. Such procedures may or may not require processing in accordance with the MEL depending on the class of EFB in use by the operator and approved by the Authority.

The specifications in item v) refer to contingency procedures should an EFB or combination of EFBs lose specific functionality or become unusable.

3.6 Route and Airport Planning

FLT 3.6.1 (Intentionally open)

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)**

Guidance

Refer to the IRM for the definition of Air Traffic Services.

FLT 3.6.3 The Operator shall have guidance that enables the flight crew to determine operating minima for airports of intended use. **(GM)**

Guidance

Operating minima refer to the limits of usability of an airport for takeoff or landing expressed in terms of RVR, visibility, cloud condition or decision altitude/height. Operating minima could be affected by aircraft equipment, flight crew qualifications and airport facilities/environment.

The specification of this provision only refers to the determination of minima related to airport facilities/environment.

The specification of this provision also applies to the modification of takeoff and approach minima to allow for airport equipment outages. Examples of airport equipment outages include: runway edge lights inoperative, center line lights inoperative, etc.

Airports of intended use include: departure alternate, en route alternate, destination and destination alternate.

FLT 3.6.4 The Operator shall have guidance that enables the flight crew to determine Runway Visual Range (RVR) requirements for runways of intended use, to include, as a minimum:

(i) Requirement for the availability of RVR reporting in order for CAT II and CAT III approach and landing operations to be authorized;
(ii) Required minimum RVR values for takeoff and authorized approaches;
(iii) Required minimum RVR values that consider inoperative approach/runway lighting, inoperative transmissometers or inadequate visual reference. **(GM)**

Guidance

The means of RVR measurement typically varies depending on the State.

The specification in item iii) may be satisfied by a corrections table or manual corrections for inoperative equipment applied to published minima.

FLT 3.6.5 The Operator *should* have guidance that ensures approach and landing operations are not authorized when the airport operating landing visibility minimum is below 800 meters unless RVR reporting is available for the runway of intended use. **(GM)**

Guidance

The intent of this provision is to ensure:

- A conversion of meteorological visibility to RVR (CMV) is not used to establish any required approach and landing RVR minimum less than 800 meters;
- RVR reporting is required for approach and landing operations to be conducted with any RVR minima less than 800 meters.

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)**

Guidance

DSP 4.3.1 defines 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 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)**

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 loadsheet with accurate aircraft weight/mass and balance calculations for each flight. Such guidance shall:

(i) Assign responsibility to the PIC for ensuring the loadsheet 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.

FLT 3.7.4 (Intentionally open)

FLT 3.7.5 The Operator shall have a description of the Air Traffic Services (ATS) Flight Plan, as well as guidance for its use, that is accessible to the flight crew during flight preparation.

FLT 3.7.6 The Operator shall ensure an Operational Flight Plan (OFP) or equivalent document is available for the flight crew during flight preparation and accessible to the flight crew during flight.

FLT 3.7.7 The Operator shall ensure the OFP or equivalent document is accepted and signed, using either manuscript or an approved electronic method, by the PIC during flight preparation. **(GM)**

Guidance

In a shared system of operational control, the signatures of both the PIC and the FOO are required on the OFP or equivalent document (e.g. dispatch release).

FLT 3.7.8 The Operator shall have guidance that enables the flight crew to identify appropriate en route alternate airports.

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)** ▲

▲ An operator may conform to FLT 3.7.9 through Active Implementation as long as the implementation Action Plan (IAP) projects conformance on or before 31 December 2016.

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 3.8.1 The Operator shall have guidance that describes flight crew duties and responsibilities for the use and/or application of the ATL, MEL and CDL. Such guidance shall be included 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. **(GM)**

Guidance

The intent of this provision is for the operator to have guidance that ensures the proper use and application of the ATL, MEL and CDL. Such guidance typically addresses:

- Flight crew responsibilities related to a review of the ATL and the application of the MEL/CDL;
- Instructions for when to reference the MEL/CDL regarding a malfunctioning system or component;
- Instructions for the completion of log book entries that ensure defects are properly recorded for the purpose of remediation and processing in accordance with the MEL/CDL, as applicable;
- If applicable, the fault identification codes, trouble codes or other entries that ensure defects are appropriately identified, categorized and tracked for the purposes of remediation and/or to identify chronic or repetitive unserviceable items;
- Flight crew responsibilities related to the repetitive system or component checks that are required to conform to the MEL (e.g. verifying a redundant system is operable in the case of a single system failure);
- Any additional guidance necessary to ensure the ATL, MEL and CDL are used and applied in accordance with operator requirements.

The specifications of this provision also apply to equivalents for the MEL and CDL.

FLT 3.8.2 The Operator shall have guidance that is published in the OM or other document(s) and is available to the flight crew to ensure information entered in the ATL:

(i) Is up to date;

(ii) Legible;

(iii) Cannot be erased;

(iv) Is correctable in the case of an error provided each correction is identifiable and errors remain legible.

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)**

Guidance

PIC acceptance 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 3.8.4 (Intentionally open)

FLT 3.8.5 The Operator shall have a procedure to ensure the PIC records in the ATL, for each flight, a description of known or suspected defects that affect the operation of the aircraft.

FLT 3.8.6 The Operator shall ensure, prior to each flight, an exterior aircraft inspection (walk-around) is performed by a member of the flight crew or delegated to a licensed aircraft maintenance technician. If delegated, the Operator shall ensure the flight crew is notified prior to flight that the inspection has been completed.

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)**

Guidance

This provision requires guidance also be present in documents accessible to licensed maintenance technicians, if the exterior aircraft inspection is delegated in accordance with FLT 3.8.6.

FLT 3.8.7B The Operator shall have a procedure to ensure the availability, accessibility and serviceability of aircraft flight deck emergency systems and equipment. Such procedure shall include a 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 a flight crew for any period of time. **(GM)**

Note: *The specifications of this provision are applicable to commercial and/or non-commercial operations.*

Guidance

The intent of this provision is for a preflight inspection of aircraft flight deck emergency systems and equipment to be accomplished under the circumstances specified.

The period of time specified in item ii) is typically established by the operator and is dependent upon whether or not the aircraft was under the direct supervision of personnel appropriately trained to ensure flight deck emergency systems and equipment remained undisturbed while unattended by the flight crew.

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 for any period of time. **(GM)**

Note: *The specifications of this provision are applicable to commercial and/or non-commercial operations.*

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.

The period of time specified in item ii) is typically established by the operator and is dependent upon whether or not the aircraft was under the direct supervision of personnel appropriately trained to ensure aircraft cabin emergency systems and equipment remained undisturbed during the absence of the flight crew or cabin crew and since the last preflight inspection.

FLT 3.8.9 <AC> If the flight crew is required to conduct a preflight interior inspection of the cargo compartment and/or supernumerary compartment, the Operator shall have guidance, published in the OM or other document available to the flight crew during the flight preparation, for the conduct of such inspection to ensure the availability, accessibility and serviceability of restraint systems and emergency equipment.

Note: *The specifications of this provision are applicable to commercial and/or non-commercial operations.*

FLT 3.8.10 If the Operator transports passengers and/or supernumeraries, and does *no*t 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 in accordance with CAB 4.2.7, 4.2.8, or 4.2.9;

(iv) Lifesaving rafts, if required in accordance with FLT 4.3.35 or CAB 4.2.10;

(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.*

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.

Refer to CAB 4.2.7, 4.2.8, 4.2.9 or 4.2.10 in Section 5 (CAB) of this manual.

3.9 Ground Handling

FLT 3.9.1 (Intentionally open)

FLT 3.9.2 If the Operator conducts passenger flights, 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)**

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 utilized 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 cabin crew members, or if a cabin crew is not utilized, other 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 utilized 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, and transports passengers that require special handling, the Operator shall have a policy and associated procedures for the acceptance and onboard handling of such passengers. The policy and procedures shall be in accordance with applicable regulations and as a minimum address, as applicable:

(i) Intoxicated and/or abusive passengers;
(ii) Passengers with disabilities or reduced mobility;
(iii) Infants and unaccompanied children;
(iv) Inadmissible passengers;
(v) Deportees;
(vi) Passengers in custody. **(GM)**

Guidance

The intent of this provision is to ensure an operator provides guidance to the flight crew to address the acceptance or non-acceptance of passengers requiring special handling. Such guidance typically defines the conditions necessary to accept or deny boarding to a passenger.

The specifications in items i), iv), v) and vi) 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 3.9.4 If the carriage of weapons on board an aircraft by law enforcement officers and other authorized persons acting in the performance of their duties is approved by the Operator, State and/or other applicable authorities, the Operator shall have a procedure to ensure the PIC is notified prior to the departure of a flight. Such notification shall include:

(i) The number of authorized armed persons on board the aircraft;
(ii) The location(s) of such persons, if permitted by the state(s) involved. **(GM)**

Guidance

The term *applicable authorities* refers 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.

FLT 3.9.5 (Intentionally open)

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.*

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.

FLT 3.9.7 If the Operator *does not* conduct flights from any airport when conditions are conducive to ground aircraft icing, the Operator shall have guidance published in the OM or other document that is available to the flight crew during flight preparation and accessible to the flight crew during flight. Such guidance shall include:

(i) A description of meteorological and other conditions that are conducive to ground aircraft icing and/or the formation of ice on aircraft critical surfaces;

(ii) A prohibition from operating an aircraft from any airport when conditions conducive to ground aircraft icing exist. **(GM)**

Note: *The specifications of this provision are applicable to commercial and/or non-commercial operations.*

Guidance

The intent of this provision is to preclude flight operations from airports when conditions conducive to ground aircraft icing exist and there is an absence of de-/anti-icing capability and/or appropriate policies and procedures that will ensure compliance with the clean aircraft concept prior to takeoff.

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 notification requirements;

(v) Dangerous goods incident and/or emergency response procedures. **(GM)**

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. This specification 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).

FLT 3.9.9 If the Operator *does not* transport dangerous goods as cargo, the Operator shall have guidance for the flight crew that includes procedures for response to dangerous goods incidents.

3.10 Airspace Rules

FLT 3.10.1 The Operator shall require all commercial flights to be conducted under an IFR Flight Plan and in accordance with an IFR clearance. **(GM)**

Guidance

Refer to the IRM for the definition of Instrument Flight Rules (IFR) and Visual Flight Rules (VFR).

The intent of this provision is for an operator to file an IFR flight plan with the appropriate ATS unit and obtain an IFR clearance in order to ensure its flights are afforded all of the air traffic services applicable to aircraft operating under IFR within controlled airspace. Such services typically include:

- Maintenance of minimum separation standards;
- Traffic advisory information;
- Terrain or obstruction alerting;
- Low altitude alerting;
- Strategic route planning;
- Automatic flight plan closure at airports with functioning control towers.

The specifications of this provision do not preclude an operator from:

- Operating certain portions of a commercial flight under VFR (visual flight rules) as specified in FLT 3.10.2 and DSP 3.2.9A;
- Where possible, identifying portions of flights to be flown under VFR, as permissible in accordance with DSP 3.2.9A, on the ATS flight plan (in lieu of filing a purely IFR Flight Plan);
- Operating non-commercial flights (e.g. maintenance, repositioning flights) under VFR.

FLT 3.10.2 If the Operator is authorized to conduct certain portions of a commercial flight under VFR, the Operator shall have a policy and procedures that describe how an IFR clearance is to be obtained (departures) and/or cancelled (arrivals). **(GM)**

Guidance

The intent of this provision is to afford an operator some latitude in obtaining an IFR clearance or closing an IFR flight plan when originating or terminating a flight operated in accordance with DSP 3.2.9A, which specifies how certain portions of a flight may be conducted under VFR. Such

latitude is typically required when flights that have filed an IFR Flight Plan depart from uncontrolled airports, transit uncontrolled airspace and/or arrive at uncontrolled airports or airports without an operating control tower.

The specifications of DSP 3.2.9A also refer 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 IFR flight plan (e.g. X and Y designation on an ICAO flight plan). In other cases, an IFR Flight Plan must be filed for all flights and an instrument clearance obtained or cancelled en route.

FLT 3.10.3 (Intentionally open)

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)**

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 3.10.5 The Operator shall have guidance that requires the flight crew to maintain a radio listening watch on the frequencies appropriate for the area of operation and as required by the applicable authorities. Such guidance shall include, as a minimum, an additional requirement for the flight crew to monitor:

(i) VHF emergency frequency (121.5MHz):

(a) On long-range over-water flights or on flights that require the carriage of an emergency locator transmitter (ELT), except during those periods when aircraft are carrying out communications on other VHF channels, or when airborne equipment limitations or flight deck duties do not permit simultaneous guarding of two channels;

(b) If required by the applicable authorities, in areas or over routes where the possibility of military intercept or other hazardous situations exist.

(ii) If required by the applicable authorities, the appropriate common frequency used for in-flight communication in designated airspace without ATC coverage. **(GM)**

Guidance

Refer to the IRM for definitions of In Flight Broadcast Procedures (IFBP), Selective Calling (SELCAL) and Satellite Communications (SATCOM).

The intent of this provision is to ensure flight crews maintain a radio listening watch on those VHF and/or HF frequencies that are appropriate for the area of operation and are in accordance with the requirements of the applicable authorities.

The specification in item ii) refers to the monitoring of the In Flight Broadcast Procedures (IFBP) frequency in areas of the world where such procedures are required.

The use of SELCAL or SATCOM could relieve the radio listening watch responsibility of this provision, but not the requirement for VHF emergency and/or IFBP frequency monitoring.

The continuous monitoring of a company discrete frequency or exclusive dedication of a secondary radio to ACARs does not take precedence over the monitoring of requirements specified in this provision.

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.

FLT 3.10.6 The Operator shall have procedures and/or limitations that address operations into and out of uncontrolled airspace and/or airports, to include, if applicable, a prohibition if such operations are not permitted in accordance with restrictions of the AOC or equivalent documents. **(GM)**

Guidance

The intent of this provision is to ensure procedures and limitations address operations in uncontrolled airspace or at uncontrolled airports, and include a prohibition for such operations if not authorized by either the Authority or the operator.

An uncontrolled airport is an airport without an operating control tower.

A controlled airport is an airport with a manned and operating control tower surrounded by controlled airspace.

Procedures and limitations typically include aircraft position radio broadcast procedures, VFR weather requirements and the ability to receive ATC clearance within a specified time/distance from the departure airport.

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)**

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 3.11.1 The Operator shall have guidance that includes a description of flight crew duties and responsibilities, as well as procedures, for monitoring navigation performance, verifying present position and, if applicable, maintaining a particular RNP. **(GM)**

Guidance

There are various means to verify navigation accuracy, for example FMC RNP/ANP display, “High Accuracy” FMS alerts, navigation radio accuracy checks (radial/DME).

FLT 3.11.2 If applicable, the Operator shall have guidance that includes procedures to ensure navigation accuracy is checked prior to an approach and after prolonged in-flight operation. **(GM)**

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.

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 3.11.3 The Operator shall have a collision avoidance policy that encourages the flight crew to maintain vigilance for conflicting visual traffic ("see and avoid"). **(GM)**

Guidance

This policy complements TCAS collision avoidance procedures.

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)**

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 guidance that requires 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.

FLT 3.11.6 The Operator shall have guidance and procedures to ensure flight crews monitor flight time and fuel burn for the purposes of identifying trends and for comparison to the OFP. **(GM)**

Guidance

The specifications of this provision ensure fuel and time trends are monitored and compared against the OFP.

Such guidance and procedures address or include:

- An interval, in accordance with operator and/or State requirements, for the flight crew to record on the OFP the fuel quantity and time over waypoints;
- A description of any equivalent means for monitoring flight progress and/or recording the fuel quantity over waypoints.

Equivalent means of recording fuel and time data include FMS, ACARS or other automated methods for recording data.

FLT 3.11.7 The Operator shall have guidance that requires the PIC to monitor fuel during flight to ensure a fuel quantity upon landing that is not less than final reserve fuel. **(GM)**

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 3.11.8 If the Operator is authorized to conduct RVSM operations and/or RNP operations in airspace that requires the maintenance of a particular RNP, the Operator shall have guidance that includes procedures 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) As applicable, operating minima. **(GM)**

Guidance

Refer to the IRM for the definitions of Reduced Vertical Separation Minima (RVSM) and Required Navigation Performance (RNP).

FLT 3.11.9 If the Operator is authorized to conduct low visibility operations, 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)**

Guidance

Refer to IRM for the definition of Low Visibility Operations.

The operating limitations specified in item 1) typically address crosswinds, runway condition and aircraft equipment capability.

FLT 3.11.10 If the operator conducts operations beyond 60 minutes from a point on a route to an alternate, including 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, including EDTO alternate(s), during the en route phase of a flight;

(iii) Procedures to ensure, for aircraft with two engines engaged in 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)**

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 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;
- EU-OPS AMC 20-6 rev. 2 Effective: 12/23/2010: 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 EDTO.

FLT 3.11.11 If the Operator engages in specialized navigation (MNPS, AMU), the Operator shall have guidance that includes procedures to ensure the proper conduct of such operations and addresses, as a minimum:

(i) Required ground and airborne equipment;

(ii) Operating limitations and procedures. **(GM)**

Guidance

Refer to the IRM for the definition of Minimum Navigation Performance Specifications (MNPS).

FLT 3.11.12–3.11.15 (Intentionally open)

Flight Management and General Procedures

FLT 3.11.16 The Operator shall publish Crew Resource Management (CRM) principles in the OM or in other documentation available to the flight crew and have a requirement in the OM for the application of such principles by the flight crew during line operations.

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 microphones for communication with ATC;

(iv) A restriction of flight crew activities to essential operational matters. **(GM)**

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 3.11.18 The Operator shall have a task sharing policy and guidance that defines and addresses the division of duties related to the performance and prioritization of flight crew member operational tasks, to include, as a minimum:

(i) Instructions for the use of checklists prior to, during and after all phases of flight, and in abnormal and emergency situations, to ensure compliance with the procedures contained in the OM and provisions of the aircraft certificate of airworthiness;

(ii) PM/PF duties for all phases of flight, to include normal, abnormal and emergency situations;

(iii) PM/PF actions during manual and automatic flight;

(iv) Flight and cabin crew duties during situations that require coordination, to include, as a minimum, emergency evacuation, medical emergency and incapacitated flight crew member. **(GM)**

Guidance

The intent of this provision is to ensure flight crew duties are defined and appropriately divided, and that compliance with all applicable checklists contained in the AOM, MEL and CDL occurs in accordance with the operator's task sharing policy.

Elements of task sharing are described in the following table.

Task sharing is observed during most phases of flight and addresses areas such as: • Philosophy for the use of checklists; • Performance calculations; • Automated flight procedures for flight crew; • Manual flight procedures for flight crew; • Flight crew briefings; • Administrative duties at the appropriate times (such as top of descent and prior to commencing approach).
Task sharing is applicable during emergency situations such as: • Rejected takeoff; • Engine failure or fire at V1; • TCAS/ACAS resolution advisory (RA); • GPWS Alert; • Emergency descent.
Task sharing is applicable during emergency situations that require coordination with the cabin crew such as: • Emergency evacuation; • Medical emergency; • Flight crew member incapacitation.

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 3.11.19 (Intentionally open)

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 (landing gear, wing flaps, speedbrakes);
(ii) Altimeter bug and airspeed bug settings, as applicable;
(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)**

Guidance

The intent of this provision is to ensure flight crew actions, when considered critical to the safety of flight, are crosschecked and confirmed. It is important to note that the criticality of certain actions may be dependent on phase of flight (e.g. flap selection before takeoff).

The specification in item iii) refers to the barometric pressure setting to which altitude is referenced.

FLT 3.11.21 The Operator shall have a policy and procedures that define and specify the requirements for standardized verbal callouts (standard callouts) by the flight crew during each phase of flight. **(GM)**

Guidance

Refer to the IRM for the definition of Standard Callout.

Standard callouts are used to improve crosscheck, coordination and mutual crew member awareness and are typically used to:

- Give commands, delegate a task;
- Acknowledge a command or confirm receipt of information;
- Challenge and respond to checklist items;
- Call a change of an indication;
- Identify a specific event;
- Identify exceedences.

A silent flight deck philosophy typically limits verbal callouts to the identification of exceedences and other items as determined by the operator.

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.

FLT 3.11.23 The Operator shall have guidance that defines and specifies the requirements for the conduct and content of the briefing to be accomplished by the flight crew prior to any departure and approach. Such briefing shall address and include, as a minimum:

(i) The technical status of the aircraft unless reviewed in conjunction with another checklist or procedure;

(ii) Normal and non-normal departure and approach considerations;

(iii) A flight deck jump seat occupant safety briefing. **(GM)**

Guidance

Refer to the IRM for the definition of Jump Seat.

Normal and non-normal departure and approach considerations include, as appropriate for each phase and each flight:

- Fuel status;
- Airport/taxi diagrams;
- Meteorological conditions;
- NOTAMS;
- Low visibility procedures;
- Departure/approach charts;
- Minimum safe altitudes and terrain;
- Use of automation;
- Takeoff/landing (flaps, autobrakes and stopping distances);
- Missed approach/go-around and alternates;
- Special conditions and operations (e.g., crew familiarization with the route or airport flown, hazardous materials, environmental, non-standard noise abatement, etc.).

Non-normal departure/approach considerations include items, such as: engine-out procedures, mountainous terrain or airspace constraints.

Briefings can be structured in order to encourage crew member feedback/participation.

FLT 3.11.24–3.11.27 (Intentionally open)

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)**

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 3.11.29 The Operator shall have guidance and procedures that include instructions for the use of barometric altimeter reference settings appropriate for the area of operation (QNE, QFE, QNH). **(GM)**

Guidance

Refer to the IRM for the definition of Altimeter Reference Setting, which includes definitions for QNE, QFE and QNH.

Information related to barometric reference setting instructions appropriate for specific areas of operation can be found in one or more of the following documents:

- ICAO Doc 8168–Procedures for Air Navigation Services–Aircraft Operations (PANS-OPS), Volume 1, Flight Procedures, Part III, Section 1;
- U.S. Department of Transportation–Federal Aviation Administration–Aeronautical Information Manual (AIM)–Official Guide to Basic Flight Information and ATC Procedures, Section 2. Altimeter Setting Procedures;
- The Aeronautical Information Publication (AIP) of the State;
- Any other State-approved or State-accepted altimetry reference.

FLT 3.11.30 The Operator *should* have guidance and procedures that include a requirement for barometric altimeters, referenced to QNH, to be used as the sole barometric altitude reference for the takeoff, approach and landing phases of flight.

FLT 3.11.31 If the Operator engages in operations that require metric/imperial (ft) conversions for barometric altimeter readings, the Operator shall have guidance and procedures that ensure the proper computation and application of such conversions. **(GM)**

Guidance

The operator may provide tables, charts or other means for completing the required conversion.

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)**

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.

FLT 3.11.33–3.11.37 (Intentionally open)

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)**

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) 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) Windshear avoidance;

(ii) Windshear encounter recovery;

(iii) As applicable, response to predictive and/or reactive alerts. **(GM)**

Guidance

Refer to the IRM for the definition of Airborne Windshear Warning System, which includes definitions for Predictive Alert and Reactive Alert.

FLT 3.11.40 The Operator shall have guidance that addresses wake turbulence, to include procedures for encounter avoidance. **(GM)**

Guidance

Refer to the IRM for the definition of Wake Turbulence.

FLT 3.11.41–3.11.45 (Intentionally open)

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.

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)**

Guidance

The intent of this provision 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)**

Guidance

Values typically vary depending on the operator, or could include exceptions covering special airport operations.

FLT 3.11.49 The Operator shall have guidance for the use of oxygen masks, to include a requirement for the flight crew to use supplemental oxygen whenever, *either*:

(i) The cabin altitude exceeds 10,000 feet or the cabin atmospheric pressure is less than 700 hPa, *or*

(ii) If permitted by the State and applicable authorities, the cabin altitude exceeds 10,000 ft. or the cabin atmospheric pressure is less than 700 hPa for a period in excess of 30 minutes and for any period the cabin altitude exceeds 13, 000 ft. or the cabin atmospheric pressure is less than 620 hPa. **(GM)**

Guidance

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.

FLT 3.11.50 The Operator shall have guidance that requires flight crews, when operating an aircraft at low heights AGL, to restrict rates of descent for the purposes of reducing terrain closure rate and increasing recognition/response time in the event of an unintentional conflict with terrain. **(GM)**

Guidance

The intent of this provision is to preclude CFIT situations when a crew, operating an aircraft at high rates of descent and temporarily distracted from altitude monitoring by unexpected events, would not have:

- Sufficient recognition or alert time to realize that terrain is rapidly approaching or;
- Sufficient response time to accomplish an aircraft escape maneuver once potential terrain conflict is recognized.

The low heights AGL specified in this provision are those altitudes where high descent rates can result in excessive rates of terrain closure.

Stabilized approach criteria provide conformity with the specifications of this provision for the approach phase of flight only. The specifications of this provision also require descent rate guidance be provided for other descents where terrain closure rate could significantly reduce recognition and response time.

The description of GPWS sink rate mode does not address the specifications of this provision.

FLT 3.11.51 The Operator shall have guidance and applicable data to enable the flight crew to determine or compute aircraft performance for all phases of the flight. **(GM)**

Guidance

The specifications of this provision may be satisfied by an automated or electronic means described in the OM.

FLT 3.11.52 The Operator shall have guidance that addresses the use of flight data recorders (FDR) and cockpit voice recorders (CVR) to ensure the:

(i) FDR is never intentionally switched off by the flight crew;

(ii) CVR is not intentionally switched off, unless required to preserve CVR data after an accident or serious incident. **(GM)**

Guidance

Refer to the IRM for the definitions of Flight Data Recorder (FDR), Cockpit Voice Recorder (CVR), Accident, Incident and Serious Incident.

The definition of accident, incident or serious incident could vary according to the state.

FLT 3.11.53–3.11.57 (Intentionally open)

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.

FLT 3.11.59 The Operator shall have a stabilized approach policy with associated guidance, criteria and procedures to ensure the conduct of stabilized approaches. Such policy shall specify:

(i) A minimum height for stabilization not less than 1000 feet AAL for approaches in IMC or not less than 500 ft. AAL for approaches in IMC as designated by the operator and/or State where a lower stabilization height is operationally required;

(ii) A minimum height for stabilization not less than 500 feet AAL for approaches in VMC;

(iii) Aircraft configuration requirements specific to each aircraft type (landing gear, wing flaps, speedbrakes);

(iv) Speed and thrust limitations;

(v) Vertical speed limitations;

(vi) Acceptable vertical and lateral displacement from the normal approach path. **(GM)**

Guidance

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

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 visual approaches and/or as depicted in published approach procedures

without excessive maneuvering. The parameters to be considered at the 1000 ft. AAL and 500 ft. gates as well as in the definition of a stabilized approach are listed in items iii) through vi) of the provision.

The specifications in item i) permit an operator, 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, but above 500 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.

The criteria used to conform to the specifications in item vi) also typically address the maneuvering that may be required in accordance with a charted visual or instrument approach procedure.

FLT 3.11.60 The Operator shall have a policy that requires the flight crew to execute a missed approach or go-around if the aircraft is not stabilized in accordance with criteria established by the Operator. **(GM)**

Guidance

The intent of this provision is for an operator's stabilized approach policy to address the actions to be taken by the flight crew in the event of deviations from the criteria that define a stabilized approach, and to designate the minimum altitude at which a go-around must be accomplished if the aircraft is not stabilized in accordance with the operator's stabilization criteria.

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)**

Guidance

The definition of the touchdown zone could vary, depending on the operator.

FLT 3.11.62 The Operator shall have a policy and procedures to ensure the flight crew will not continue an instrument approach to land at any airport beyond a point at which the limits of the operating minima specified for the approach in use would be infringed.

FLT 3.11.63 The Operator shall have a policy and procedures to ensure the flight crew will not continue an instrument approach beyond a designated point in the approach unless reported meteorological conditions, including visibility or controlling RVR, are equal to or above those specified for the approach in use. **(GM)**

Guidance

Designated points in the approach can be defined by the operator or applicable authority (e.g. final approach fix, outer marker, established on final approach segment).

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.

FLT 3.11.64 The Operator shall have guidance and procedures for the acceptance of a clearance for a visual approach and the conduct of a visual approach.

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)**

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)**

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 (V-NAV);
- 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 3.11.67 The Operator shall have guidance, criteria and procedures for the acceptance of a clearance for an ILS approach and the conduct of any authorized ILS approach, to include:

(i) Minimum meteorological conditions, including the visibility required to continue an approach;
(ii) Operating conditions that require a missed approach to be initiated. **(GM)**

Guidance

The specifications of the provision refer to ILS approaches authorized by the AOC (e.g., CAT I, II, III).

FLT 3.11.68 The Operator *should* have guidance that requires the flight crew to assess landing performance prior to arrival at the destination or alternate airport in order to determine that sufficient landing distance exists for a landing to be accomplished with an adequate safety margin:

(i) On the runway of intended use;
(ii) In the conditions existing at the estimated time of arrival (ETA);
(iii) In the aircraft configuration and with the means of deceleration that will be used for the landing. **(GM)**

Guidance

The intent of this provision is for an operator to require a landing performance assessment under conditions distinct from those presumed at time of dispatch. Such an assessment ensures adequate landing performance under the conditions existing at the ETA, and when necessary enables the flight crew to make the determination that a landing cannot be accomplished with an appropriate safety margin.

This provision is not intended to preclude the flight crew from determining the absolute landing capability of the aircraft during emergencies or abnormal configurations. In these circumstances, the

pilot must calculate and know the actual landing performance capability of the aircraft (without an added safety margin).

An appropriate safety margin may be defined by the operator or the Authority, and can be expressed as a fixed distance increment or a percentage increase beyond the actual landing distance required.

Factors that may affect landing performance include, but are not limited to:

- Runway contaminants;
- Runway cutback or reduced runway available;
- Environmental conditions at the ETA (crosswind, tailwind, wind gusts, rain, etc);
- Aircraft equipment outages;
- Flight control malfunctions, engine failures, or other non-normal/emergency events that may affect landing distance;
- Flap setting to be used;
- The use of manual vs. auto-brakes (if available);
- The use of manual vs. auto speed brakes (if available);
- The use/availability of reverse thrust;
- The use of automatic approach and landing (if available);
- Any other event or contingency that degrades stopping ability or increases landing distance under the conditions present at the ETA.

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)

Guidance

Refer to the IRM for the definition of Circling Approach, PANS-OPS and TERPS.

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. PAN-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 3.12.1 The operator shall have a corrective lenses policy that is in accordance with the requirements of the State and addresses the need for flight crew members requiring the use of corrective lenses to have a spare set readily available. **(GM)**

Guidance

Corrective lens requirements are typically listed on a medical certificate or license issued by the State.

FLT 3.12.2 The Operator shall a have policy that requires flight crew members to keep their seat belts fastened when at their assigned stations and:

(i) Those flight crew members occupying a pilot's seat to keep their safety harnesses (shoulder straps and seat belts) fastened during the takeoff and landing phases of flight;

(ii) Other flight crew members to keep their safety harnesses fastened during the takeoff and landing phases of flight, unless the shoulder straps interfere with the performance of duties, in which case the shoulder straps may be unfastened but the seat belts shall remain fastened.

FLT 3.12.3 The Operator shall have a policy and procedures to ensure, during flight, when a pilot transfers control of the aircraft or leaves the flight deck, a minimum of one pilot continuously maintains:

(i) Unobstructed access to the flight controls;

(ii) Alertness and situational awareness. **(GM)**

Guidance

The specifications of this provision apply when transfer of control occurs during en route crew changes or in conjunction with a pilot leaving the flight deck in the performance of duties or to meet physiological needs.

FLT 3.12.4 The Operator shall have a policy and procedures to ensure flight crew members are only permitted to leave their duty stations during flight in the performance of duties or to meet physiological needs. **(GM)**

Guidance

The specifications of this provision do not apply to crew changes that occur in conjunction with relief and/or augmented crews.

FLT 3.12.5 The Operator shall have a policy and procedures to ensure pilot flight crew members do not vacate an aircraft control seat below 10,000 feet (AFE/AAL) for the purposes of transferring duties to another pilot flight crew member. **(GM)**

Guidance

The specifications of this provision refer to the transfer of duties associated with augmented crews or crews with multiple pilot flight crew members.

FLT 3.12.6 (Intentionally open)

FLT 3.12.7 The Operator shall have guidance that addresses runway incursions, to include a description of the flight crew duties, responsibilities, procedures and any other flight crew actions necessary to prevent, or reduce the risk of, a runway incursion occurring during taxi, takeoff, and landing. Such guidance *should* 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 low visibility policies and procedures that minimize the risk of an incursion. **(GM)**

Guidance

The intent of this provision is 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:

- 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;
- Methods for maintaining situational awareness at night and during times of reduced visibility;
- 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 low visibility policies and procedures such as:

- A recommendation that checklists be suspended or delayed until the aircraft is stopped;
- 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 from one or more source reference documents, to include:

- ICAO Document 9870, Manual on the Prevention of Runway Incursions;
- European Action Plan for the Prevention of Runway Incursions, Edition 2.0;
- FAA Advisory Circular AC No: 120–74B;
- Runway Safety; A Pilot's Guide to Safe Surface Operations, Second Edition published by FAA Air Traffic Organization (ATO), Office of Safety Services;
- Communications; A key Component of Safe Surface Operations, Second Edition 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 3.13.1 (Intentionally open)

FLT 3.13.2 The Operator shall have guidance that defines persons authorized to use flight deck jump seat(s). Such guidance shall, if applicable, be in accordance with the requirements of the Authority.

FLT 3.13.3 <PA> If the Operator conducts passenger flights with cabin crew, **t**he 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 entry 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)**

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 sterile flight deck, 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 non-communication phases during critical phases of flight (e.g., during the takeoff roll or landing).

Refer to FLT 3.13.4 for operations that do not utilize cabin crew members.

FLT 3.13.4 If the Operator transports passengers and/or supernumeraries, and does *not* use a cabin crew, the Operator shall have procedures for communication by the flight crew with, as applicable, passengers and/or supernumeraries to address:

(i) The dissemination of passenger/supernumerary safety information;

(ii) Cabin or supernumerary compartment readiness prior to first aircraft movement, takeoff and landing;

(iii) If applicable, the arming or disarming of door slides;

(iv) Preparation for and an encounter with turbulence;

(v) Medical situations;

(vi) Emergency evacuation;

(vii) Abnormal situations;

(viii) Verification that baggage is stowed;

(ix) If applicable, verification that the 9G rigid barrier or cargo net is secured. **(GM)**

Note: *The specifications of this provision are applicable to commercial and/or non-commercial operations.*

Guidance

The intent of this provision is to ensure communication and coordination with passengers, and/or supernumeraries to address relevant safety subjects (e.g., sterile flight deck, security, aircraft technical issues, flight crew incapacitation, cabin depressurization, onboard fire, emergency evacuation, forced landing, ditching, etc.)

The specification in item iii) refers to appropriate communication from the flight crew to address the arming and disarming of cabin or cargo entry door slides, if installed.

FLT 3.13.5 <PA> If the Operator conducts passenger flights with cabin crew, the Operator *should* have a policy and procedures that define and specify the requirements for standard verbiage, terminology, signals and/or verbal commands used for communication between flight crew and cabin crew during normal, abnormal and emergency situations. **(GM)**

Guidance

The intent of this provision is to ensure communication between flight crew and cabin crew during abnormal and emergency situations is conducted using standardized methods of communication identified and defined in documentation available to applicable crew members.

Examples of such situations include:

- Cabin depressurization;
- Severe turbulence;
- Emergency evacuation;
- “Before impact” notification (forced/emergency landing or ditching);
- Crew member incapacitation;
- Unlawful interference.

FLT 3.13.6 If the Operator transports passengers and/or supernumeraries, the Operator shall have a policy that provides for announcements to, as applicable, passengers and/or supernumeraries by either the flight crew or cabin crew to address matters related to safety, including turbulence and abnormal and emergency situations. **(GM)**

Note: *The specifications of this provision are applicable to commercial and/or non-commercial operations.*

Guidance

The intent of this provision is to ensure passengers and/or supernumeraries are made aware of matters related to safety.

FLT 3.13.7 (Intentionally open)

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.*

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 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 <AC> If the Operator utilizes aircraft with a smoke barrier door, the Operator shall have procedures to ensure such door is closed for:

(i) Taxi operations;

(ii) Takeoff;

(iii) Landing.

FLT 3.13.10 <AC> If the Operator transports radioactive material as cargo in excess of the baseline amount prescribed by regulations, the Operator *should* have a program or process to ensure flight crew members that operate such flights are not exposed to unsafe levels of radiation. **(GM)**

Note: *Radioactive material in excess of baseline regulatory amounts is transported under special arrangement, or exclusive use.*

Guidance

Refer to the IRM for the definitions of Exclusive Use and Special Arrangement.

An operator, in accordance with requirements of the Authority, typically develops programs related to the transport of dangerous goods, including radioactive materials, based on technical information from one or more source reference documents, to include:

- Annex 18 to the Convention on International Civil Aviation (Chicago, 1944) and the 2013–2014 Edition of the associated Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284-AN/905), including addenda to the 2013–2014 Technical Instructions.
- IATA Dangerous Goods Regulations (DGR), 54th Edition, effective 1 January 2013.
- FAA CFR 49, Parts 171–175, as applicable.
- Any equivalent dangerous goods manual or other reference document approved or accepted by the Authority for the development of radiation protection programs related to the transportation of dangerous goods by air.

FLT 3.13.11 If the Operator conducts cargo flights and/or passenger flights without cabin crew, and utilizes aircraft equipped with entry doors that have an automatic slide or slide/raft deployment system, the Operator shall have flight crew procedures for arming and disarming such door systems. **(GM)**

Guidance

This standard addresses door systems that are designed to 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.

FLT 3.13.12 If the Operator transports passengers and/or supernumeraries, and does *not* use a cabin crew, the Operator shall have flight crew procedures that ensure, as applicable, passengers and/or supernumeraries have ready access to emergency oxygen. **(GM)**

Note: *The specifications of this provision are applicable to commercial and/or non-commercial operations.*

Guidance

The intent of this provision is to ensure passengers and/or supernumeraries are made aware of matters related to safety.

FLT 3.13.13 If the Operator transports passengers and/or supernumeraries, and does *not* use a cabin crew, the Operator shall have flight crew procedures that ensure, as applicable, passengers and/or supernumeraries are seated with their seat belts (or, as available, harness or other restraint) fastened:

(i) During the taxi phases of a flight;

(ii) During the takeoff and landing phases of flight;

(iii) Prior to and/or during turbulence;

(iv) During an emergency situation, if considered necessary.

Note: *The specifications of this provision are applicable to commercial and/or non-commercial operations.*

Guidance

The intent of this provision is to ensure passengers and/or supernumeraries are made aware of matters related to safety.

FLT 3.13.14 If the Operator transports supernumeraries in the passenger cabin or cargo compartment, the Operator shall have guidance and procedures to ensure:

(i) All seats in the cargo compartment are considered emergency exit row seats;

(ii) Supernumeraries meet applicable requirements and restrictions.

FLT 3.13.15 If the Operator transports passengers and/or supernumeraries in the passenger cabin or supernumerary compartment, and does *not* use a cabin crew, the Operator shall have guidance and procedures that require the flight crew to ensure, as applicable, passengers and/or supernumeraries:

(i) Are informed and receive instruction on all restrictions pertaining to onboard smoking;

(ii) Comply with the *Fasten Seat Belt* sign;

(iii) If applicable, comply with the *No Smoking* sign.

Note: *The specifications of this provision are applicable to commercial and/or non-commercial operations.*

Guidance

The intent of this provision is to ensure passengers and/or supernumeraries are made aware of matters related to safety.

FLT 3.13.16 If the Operator utilizes aircraft equipped with a flight deck entry door in accordance with FLT 4.5.1, 4.5.2 or 4.5.3, 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 entry door must remain locked;

(ii) If the Operator conducts passenger flights with cabin crew:

(a) The way the cabin crew notifies the flight crew in the event of suspicious activity or security breaches in the cabin;

(b) The way cabin crew members gain entry to the flight deck. **(GM)**

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 *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 utilizes aircraft with a reinforced flight deck entry door in accordance with FLT 4.5.2 or FLT 4.5.3, 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)**

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.

FLT 4.5.2 and FLT 4.5.3 contain specifications related to requirements and recommendations for the installation of reinforced flight deck entry 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 utilizing aircraft equipped with a flight deck door in accordance with FLT 4.5.2 or FLT 4.5.3, the Operator shall have procedures:

(i) To ensure such door is closed and locked from the time all external aircraft doors are closed following embarkation until any external aircraft door is subsequently opened for disembarkation, except when necessary to permit access and egress by authorized persons;

(ii) For monitoring from either pilot station the entire area outside the flight deck entry door to identify persons requesting entry and to detect suspicious behavior or potential threat. **(GM)**

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 entry 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 utilized by an operator for such monitoring ensures that the cabin area outside the flight deck entry 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 utilize a flight deck entry door in accordance with FLT 4.5.1, 4.5.2 or 4.5.3, the Operator shall have measures in place to ensure unauthorized persons are prevented from entering the flight deck. **(GM)**

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 3.14.1 (Intentionally open)

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.

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)**

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.

FLT 3.14.4 <PA> If the Operator conducts passenger flights with cabin crew, the Operator shall have procedures in accordance with FLT 3.11.18, applicable to each aircraft type, that specify the flight and cabin crew member functions and actions to be executed during a situation requiring an emergency evacuation.

FLT 3.14.5 If the Operator transports passengers and/or supernumeraries, and does *not* use a cabin crew, the Operator shall have procedures that are applicable to each aircraft type and:

(i) Specify flight crew functions and actions to be executed during an emergency evacuation;

(ii) Address, as applicable, passengers and/or supernumeraries.

Note: *The specifications of this provision are applicable to flight crew members utilized onboard an aircraft during commercial and/or non-commercial operations.*

FLT 3.14.6 The Operator shall have policies and procedures in accordance with FLT 3.11.18, applicable to each aircraft type, that are to be applied during a situation requiring a rejected takeoff and address the operational considerations for low speed and high speed rejected takeoffs.

FLT 3.14.7 The Operator shall have policies and associated procedures accordance with FLT 3.11.18, applicable to each aircraft type, that are to be applied when an engine failure or fire occurs after V1.

FLT 3.14.8 If the Operator utilizes TCAS/ACAS equipped aircraft, 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.

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.

FLT 3.14.10 The Operator shall have procedures in accordance with FLT 3.11.18, applicable to each aircraft type, that are to be applied in the event of an emergency descent.

FLT 3.14.11 The Operator shall have guidance and procedures that address abnormal and/or emergency communication, to include the:

(i) Appropriate use of PAN/PAN and/or MAYDAY;

(ii) Actions to be taken in the event of a complete radio failure (lost communication);

(iii) Interception protocol for civil aircraft intercepted by military aircraft, to include a description of visual signals used by intercepting and intercepted aircraft.

FLT 3.14.12 The Operator shall have procedures in accordance with FLT 3.11.18 that are to be applied by the flight crew in the event of a medical emergency on board the aircraft. If a cabin crew is used, such procedures shall also address cabin crew duties and ensure flight deck-to-cabin communication and coordination occurs in accordance with FLT 3.13.3.

FLT 3.14.13 The Operator shall have procedures in accordance with FLT 3.11.18 that are to be applied by the flight crew in the event of flight crew member incapacitation on board the aircraft. If a cabin crew is used, such procedures shall also address cabin crew duties and ensure flight deck-to-cabin communication and coordination occurs in accordance with FLT 3.13.3.

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.

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)**

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.”

▲ An operator may conform to FLT 3.14.16 ii) through Active Implementation as long as the implementation Action Plan (IAP) projects conformance on or before 31 December 2016.

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.

Active Implementation is applicable to the specification in item ii) for the sole purpose of affording states the time necessary to implement the standard ICAO phraseology related to minimum fuel states.

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)**

▲ An operator may conform to FLT 3.14.17 ii) through Active Implementation as long as the implementation Action Plan (IAP) projects conformance on or before 31 December 2016.

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.

Active Implementation is applicable to the specification in item ii) for the sole purpose of affording States the time necessary to implement standard ICAO phraseology related to fuel emergencies.

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 3.15.1 The Operator shall have a policy that encourages flight crew members to submit a written report to the Operator when an occurrence that could potentially have an adverse effect on the safety of flight operations has been observed.

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)**

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, windshear, 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, Braking Action 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
Other	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.

FLT 3.15.4 The Operator shall have a policy that assigns responsibility to the PIC for:

(i) Notifying the appropriate local authority without delay in the event of any emergency situation that necessitated action in violation of local regulations and/or procedures;

(ii) Submitting, if required by the state of occurrence, a report to the appropriate local authority and also to the Authority of the State of the Operator.

4 Operations Engineering Specifications

General Guidance

Refer to the IRM for the definition of Operations Engineering.

Refer to Section 5, Cabin Operations, Subsection 4, for additional passenger cabin systems and equipment 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)**

Guidance

The intent of this provision 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;

(iv) Temperature;

(v) Wind;

(vi) Runway gradient;

(vii) Runway contaminant/braking action;

(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)**

Guidance

The intent of this provision 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 or 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)**

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.

FLT 4.1.4 The Operator *should* provide operating instructions, applicable to each aircraft type, that enable the PIC to determine if the required all-engine climb gradient can be achieved during the departure phase of flight under the existing conditions. **(GM)**

Guidance

The intent of this provision is for the operator to provide instructions for the PIC to determine if all engine takeoff and departure climb performance is adequate for the planned operation under the existing conditions. Such instructions typically contain one or more of the following elements:

- Assurances that automated performance and flight planning systems account for minimum takeoff and departure path climb performance;
- Tailored (e.g. Jeppesen) takeoff performance charts that assure aircraft meet all-engine minimum climb performance requirements;
- Aircraft manufacturer climb performance charts and instructions for their use;
- A requirement for the PIC to monitor and adjust vertical speed to maintain minimum climb gradient);
- Specific thrust and/or flight control configuration settings to exceed the minimum climb gradient performance at airports requiring different climb performance due to terrain, traffic or other considerations.

In the absence of manufacturer all-engine climb performance data, the specifications of this provision may be satisfied if the operator provides:

- Guidance that enables the PIC to determine that the aircraft climb performance, in the event of a critical power unit failure at any point in the takeoff, is sufficient to meet ATC or obstacle clearance constraints (e.g. minimum vertical speed required to meet climb gradient specified in a SID), and/or
- Instructions for the PIC to monitor and adjust vertical speed as necessary to comply with the departure path.

If available from the manufacturer, the operator should include all-engine takeoff climb gradient information or guidance for calculations in the documentation carried on board the aircraft for each flight.

4.2 Navigation and Facilities

FLT 4.2.1 The Operator shall have guidance and procedures to ensure a flight will not be commenced unless it has been ascertained, to the extent possible, that conditions and ground facilities required for the flight are acceptable for the type of operation. **(GM)**

Guidance

A review of factors to determine if the conditions at the airport(s) of operation are acceptable for operations includes, as applicable:

- Navigation aids;
- Runways, taxiways, ramp areas;
- Curfews;
- PPR (prior permission required);
- Field conditions;
- Lighting;
- ARFF;
- Applicable operating minima.

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 during extended operations;
(viii) As applicable, EDTO requirements;
(ix) Air Traffic Services;
(x) Critical engine inoperative operations;
(xi) Depressurization over critical areas;
(xii) (Special) airport classification. **(GM)**

Guidance

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) applies 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).

FLT 4.2.3 The Operator *should* provide information that identifies and describes en route emergency airports associated with operations over remote or sparsely populated areas. **(GM)**

Guidance

The specifications of this provision refer to emergency airports identified and described by the operator that are not subject to the adequacy specifications of FLT 4.2.1 or the new airport analysis specifications of FLT 4.2.2.

Such information is provided for consideration by the PIC in the event an emergency over such areas precludes continuation to an en route alternate. Any deficiencies in airport adequacy with respect to the specifications of FLT 4.2.1 and FLT 4.2.2 are to be identified and described.

FLT 4.2.4 The Operator shall have guidance, data and procedures to enable operations engineering personnel to determine minimum safe altitudes for all phases of flight. **(GM)**

Guidance

Minimum safe altitudes (MSAs) are typically established by the states over which flights are conducted.

MSAs are typically established by the operator through specified methods approved by the State and included in the OM.

FLT 4.2.5 The Operator shall specify operating minima for each airport of intended use, which shall not be lower than those established by the state in which the airport is located.

4.3 Aircraft Systems and Equipment Specifications

FLT 4.3.1 The Operator shall ensure all aircraft in its fleet are equipped with:

(i) Instrumentation and/or avionics, readily visible to the intended pilot flight crew member, necessary to conduct operations and meet applicable flight parameters, maneuvers and limitations;

(ii) Equipment necessary to satisfy applicable operational communication requirements, including emergency communication;

(iii) Avionics, equipment and/or components necessary to satisfy applicable navigation requirements, provide necessary redundancy and, as applicable, authorized by the State for use in RNP, MNPS and/or RVSM operations;

(iv) Avionics, instrumentation and/or radio equipment necessary to satisfy applicable approach and landing requirements;

(v) Other components and/or equipment necessary to conduct operations under applicable flight conditions, including instrument meteorological conditions.

FLT 4.3.2 The Operator shall ensure all aircraft operated at flight altitudes above 25000 feet are equipped with a quick-donning oxygen mask for each flight crew member.

FLT 4.3.3 If the Operator utilizes pressurized 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, the Operator shall ensure such aircraft are equipped with a device that provides positive warning to the pilot of any dangerous loss of pressurization.

FLT 4.3.4 If the Operator utilizes unpressurized aircraft operated at flight altitudes where the cabin altitude will be greater than 10,000 feet (less than 700 hPa), the Operator shall ensure all such aircraft are equipped with oxygen storage and dispensing apparatus in accordance with requirements of the Authority and, as a minimum, also ensures;

(i) The aircraft can continue at a pressure altitude that will allow continued safe flight and landing;

(ii) An amount of stored supplemental oxygen, in accordance with the requirements of the Authority, and, as a minimum, to supply:

(a) The flight crew for any period the cabin altitude would be above 10,000 feet;

(b) All aircraft occupants for any period the cabin altitude would be above 15,000 feet;

(c) The flight crew and all aircraft occupants in accordance with a) and b) as appropriate for the route to be flown. **(GM)**

Guidance

The operator, in accordance with the requirements of the Authority, typically uses technical guidance for the computation of sufficient stored breathing oxygen for unpressurized aircraft derived from any one of the following sources, as applicable:

- ICAO Annex 6, 4.3.8.1;
- EU-OPS 1.775 and Appendix 1 to EU-OPS 1.775;
- FAR 135.157 (a), FAR 121.327, FAR 121.329;
- Any equivalent reference document approved or accepted by the Authority for the computation of sufficient stored breathing oxygen for unpressurized aircraft that conforms to the specifications of this provision.

The specifications of this provision require a minimum amount of oxygen supply be determined and/or designated by the operator or the Authority.

Flight altitude is equivalent to cabin pressure altitude for the purposes of unpressurized aircraft oxygen supply calculations.

The specifications in item ii) may require the operator to define escape routes in the OM.

FLT 4.3.5 If the Operator utilizes aircraft operated at flight altitudes greater than 10,000 feet (less than 700 hPa), but pressurized to maintain a cabin altitude of less than 10,000 feet (greater than 700 hPa), the Operator shall ensure all such aircraft can descend to an altitude after a loss of pressurization that will allow continued safe flight and landing and are equipped with oxygen storage and dispensing apparatus in accordance with requirements of the Authority and, as a minimum, also ensures:

(i) The aircraft can continue at a pressure altitude that will allow continued safe flight and landing;

(ii) An amount of stored supplemental oxygen, in accordance with the requirements of the Authority, and, as a minimum, to supply:

(a) The flight crew for any period the cabin altitude would be above 10,000 feet;

(b) All aircraft occupants for any period the cabin altitude would be above 15,000 feet;

(c) The flight crew and all aircraft occupants in accordance with a) and b) as appropriate for the route to be flown.

(iii) For aircraft that do not operate above 25,000 feet, the amount of stored oxygen for aircraft occupants specified in ii) b) above may be reduced, in accordance with the requirements of the Authority, if at all points along the route to be flown, the aircraft is able to descend safely within 4 minutes to a cabin pressure altitude of 15,000 ft. or less. (**GM)**

Guidance

The intent of this provision is to define a minimum amount of oxygen supply and should not be confused with requirements for the use of oxygen as specified in FLT 3.11.49.

The operator, in accordance with the requirements of the Authority, typically uses technical guidance for the computation of sufficient stored breathing oxygen for pressurized aircraft derived from any one of the following sources, as applicable:

- ICAO Annex 6, 4.3.8.2;
- EU-OPS 1.770 and Appendix 1 to EU-OPS 1.770;
- FAR 135.157 (b), FAR 121.329, 121.331, and 121.333;
- Any equivalent reference document approved or accepted by the Authority for the computation of sufficient stored breathing oxygen for pressurized aircraft that conforms to the specifications of this provision.

The specifications of this provision require a minimum amount of oxygen supply be determined and/or designated by the operator or the Authority.

The descent specified in item ii) is in accordance with emergency procedures specified in the AFM to a safe altitude for the route to be flown that will allow continued safe flight and landing.

FLT 4.3.6 The Operator shall ensure all aircraft in its fleet are equipped with flight Crew Protective Breathing Equipment (PBE) as follows:

(i) Equipment shall protect the eyes, nose and mouth of each flight crew member while on flight duty and provide oxygen for a period of not less than 15 minutes;

(ii) Equipment shall allow the flight crew to communicate using the aircraft radio equipment and to communicate by interphone with each other while at their assigned duty stations;

(iii) When a cabin crew is *not* used, a portable unit of PBE shall be carried. **(GM)**

Guidance

The oxygen supply to satisfy the specifications in item i) may be portable or provided by the supplemental oxygen system present on board the aircraft.

The specification in item i) can be satisfied by equipment that protect the eyes, nose and mouth such as a smoke hood, full face oxygen mask or combination of smoke goggles and oxygen mask.

The specification in item iii) can only be satisfied by a portable PBE intended to be carried to protect the eyes, nose and mouth of one member of the flight crew and to provide breathing gas for a period of not less than 15 minutes.

FLT 4.3.7 The Operator shall ensure Crew Protective Breathing Equipment (PBE) as specified in FLT 4.3.6 is located as follows:

(i) 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;

(ii) Applicable to cargo aircraft, an additional unit of portable PBE shall be provided at or adjacent to the flight deck hand fire extinguisher except that, where the fire extinguisher is located inside an accessible cargo or supernumerary compartment, the unit of portable PBE shall be stowed in the supernumerary compartment or outside but adjacent to the entrance of the accessible cargo compartment;

(iii) Applicable to passenger aircraft, additional portable units of PBE shall be located in accordance with CAB 4.2.6. **(GM)**

Guidance

Refer to the IRM for the definitions of Cargo Aircraft and Passenger Aircraft.

The oxygen supply to satisfy the specifications in item i) may be portable or provided by the supplemental oxygen system present on board the aircraft.

The specifications in items ii) and iii) can only be satisfied by a portable unit of PBE intended to be carried to protect the eyes, nose and mouth of one member of the flight or cabin crew and to provide breathing gas for a period of not less than 15 minutes.

The specification in item i) can be satisfied by equipment that protect the eyes, nose and mouth such as a smoke hood, full face oxygen mask or combination of smoke goggles and oxygen mask.

FLT 4.3.8 The Operator shall ensure all aircraft in its fleet are equipped with hand-held fire extinguishers in accordance with CAB 4.2.5, which shall be of a type that will minimize the hazard of toxic gas concentration. A minimum of one hand-held fire extinguisher shall be located in the flight deck.

FLT 4.3.9 The Operator shall ensure all aircraft in its fleet are equipped with a minimum of one crash axe or crowbar located on the flight deck and/or the passenger cabin unless constrained by certification or security requirements of the Authority and/or State. **(GM)**

Guidance

The intent of this provision 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.

FLT 4.3.10 The Operator shall ensure all aircraft intended to be operated at night are equipped with a flashlight at each flight crew member station. **(GM)**

Guidance

This provision 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 utilize flight crew member flashlights to conform to the specifications of this provision need to demonstrate the means of ensuring the carriage, accessibility and serviceability of such flashlights.

FLT 4.3.11–4.3.12 (Intentionally open)

FLT 4.3.13 If the Operator conducts international flights, the Operator shall ensure all aircraft utilized for such flights, except those aircraft specified in FLT 4.3.14, are equipped with emergency locator transmitters (ELTs) as follows:

(i) Aircraft with more than 19 passenger seats shall have a minimum of either one automatic ELT or two ELTs of any type;

(ii) Aircraft with 19 passenger seats or less shall have a minimum of one ELT of any type;

(iii) All ELTs shall operate on 121.5 MHz and 406 MHz simultaneously. **(GM)**

Note: *The specifications of this provision are applicable to all aircraft utilized to conduct international flights unless the State differentiates between domestic and international flights for the purpose of establishing ELT equipage requirements. In such cases, a state's domestic regulations, which typically apply to flights within the territory of that state, may be extended by a special authorization, issued by the Authority, to encompass specific flights to/from airports in nearby states. The specifications of this provision would not apply to aircraft used to conduct such international flights if the requirements specified in the special authorization, as well as the regulations established by the applicable nearby state(s), define ELT equipage requirements.*

Guidance

Refer to the IRM for the definition of Emergency Locator Transmitter (ELT), which includes the definitions for the types of ELTs.

The intent of this provision is to ensure all aircraft, regardless of configuration (passenger, cargo, combi), used in international operations are equipped with ELTs in accordance with the specifications in items i) or ii), as applicable, and all aircraft are equipped only with ELTs that operate on 121.5 MHz and 406 MHz simultaneously. In practical terms, this means that any passenger, cargo or combi aircraft equipped with more than 19 passenger seats is subject to the specifications in item i).

Conversely, any passenger, cargo or combi aircraft equipped with less than 19 seats, including a cargo aircraft without provision for any passenger seating, is subject to the specifications in item ii). Technical guidance for the operational requirements applicable to ELTs is contained in ICAO Annex 10, Volume III.

FLT 4.3.14 If the Operator conducts international flights, the Operator shall ensure all aircraft utilized for such flights, for which the individual certificate of airworthiness is first issued after 1 July 2008, are equipped with ELTs as follows:

(i) Aircraft with more than 19 passenger seats shall have a minimum of two ELTs, one of which shall be automatic;

(ii) Aircraft with 19 passenger seats or less shall have a minimum of one automatic ELT;

(iii) All ELTs shall operate on 121.5 MHz and 406 MHz simultaneously. **(GM)**

Note: *The specifications of this provision are applicable to all aircraft utilized to conduct international flights unless the State differentiates between domestic and international flights for the purpose of establishing ELT equipage requirements. In such cases, a state's domestic regulations, which typically apply to flights within the territory of that state, may be extended by a special authorization, issued by the Authority, to encompass specific flights to/from airports in nearby states. The specifications of this provision would not apply to aircraft used to conduct such international flights if the requirements specified in the special authorization, as well as the regulations established by the applicable nearby state(s), define ELT equipage requirements*

Guidance

The intent of this provision is to ensure all aircraft, regardless of configuration (passenger, cargo, combi), used in international operations are equipped with ELTs in accordance with the specifications in items i) or ii), as applicable, and all aircraft are equipped only with ELTs that operate on 121.5 MHz and 406 MHz simultaneously. In practical terms, this means that any passenger, cargo or combi aircraft equipped with more than 19 passenger seats is subject to the specifications in item i). Conversely, any passenger, cargo or combi aircraft equipped with less than 19 seats, including a cargo aircraft without provision for any passenger seating, is subject to the specifications in item ii).

Refer to ICAO Annex 10, Volume III, for technical guidance applicable to ELTs.

FLT 4.3.15–4.3.16 (Intentionally open)

FLT 4.3.17 The Operator *should* ensure all aircraft are equipped with a minimum of one automatic ELT that operates on 121.5 and 406 MHz simultaneously.

Note: *The specifications of this provision apply to all aircraft engaged in all types of operations, regardless of any exemptions or authorizations issued by the Authority or other applicable authorities.*

FLT 4.3.18 If the Operator conducts operations in defined portions of airspace where, based on a Regional Air Navigation Agreement, minimum navigation performance specifications (MNPS) are prescribed, the Operator shall ensure all aircraft utilized for such operations contain navigation equipment that:

(i) Is visible and usable by either pilot seated at his/her duty station;

(ii) Continuously provides indications to the flight crew of adherence to or departure from track to the required degree of accuracy at any point along that track.

FLT 4.3.19 If the Operator conducts operations in defined RVSM airspace, the Operator shall ensure all aircraft authorized for such operations are equipped to:

(i) Indicate to the flight crew the flight level being flown;

(ii) Automatically maintain a selected flight level;

(iii) Provide an alert to the flight crew when a deviation occurs from the selected flight level, with the threshold for such alert not to exceed 90 m (300 feet). **(GM)**

Guidance

Refer to the IRM for the definition of Reduced Vertical Separation Minima (RVSM).

FLT 4.3.20A The Operator shall ensure all turbine-engine aircraft in its fleet are equipped with an airborne collision avoidance system II (ACAS II). Such system shall utilize a software version approved or accepted by the applicable authorities as appropriate for the airspace or area of operation. **(GM)**

Guidance

It is important to note that technical requirements related to required ACAS software 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;
- Commission Regulation (EU) No 1332/2011 of 16 December 2011 - “Laying down common airspace usage requirements and operating procedures for airborne collision avoidance.”

FLT 4.3.20B The Operator *should* ensure all turbine-engine aircraft in its fleet are equipped with an airborne collision avoidance system (ACAS II) utilizing software version 7.1.

FLT 4.3.21 The Operator *should* ensure all turbine-engine aircraft in its fleet are equipped with an airborne collision avoidance system (ACAS II). **(GM)**

Guidance

Technical guidance for the operational requirements applicable to ACAS II is contained in ICAO Annex 10, Volume IV.

FLT 4.3.22 The Operator shall ensure all aircraft in its fleet are equipped with a pressure altitude reporting transponder. **(GM)**

Guidance

A Mode C or greater transponder satisfies the specifications of this provision as well as the pressure altitude reporting capability required for operations in RVSM airspace.

FLT 4.3.23 The Operator shall ensure all pressurized aircraft in its fleet are equipped with 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.

FLT 4.3.24 The Operator shall ensure all turbine engine aircraft in its fleet are equipped with a ground proximity warning system (GPWS) that automatically provides a warning to the flight crew when the aircraft is in close proximity to the earth's surface with:

(i) Excessive descent rate;
(ii) Excessive terrain closure rate;
(iii) Excessive altitude loss after takeoff or go-around;
(iv) Unsafe terrain clearance while not in the landing configuration;
(v) Excessive descent below the instrument glide path. **(GM)**

Guidance

Refer to the IRM for the definition of Ground Proximity Warning System (GPWS).

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.

FLT 4.3.25 The Operator shall ensure all turbine-engine aircraft in its fleet are equipped with a GPWS as specified in FLT 4.3.24 that has a forward-looking terrain avoidance function. **(GM)**

Guidance

Refer to the IRM for the definition of GPWS with a Forward-Looking Terrain Avoidance (FLTA) Function.

Different systems are available and acceptable as a GPWS with a forward-looking terrain avoidance (FLTA) function, as specified in this provision. 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.

FLT 4.3.26 The Operator shall ensure all piston-engine aircraft in its fleet are equipped with a GPWS that automatically provides a warning to the flight crew when the aircraft is in close proximity to the earth's surface with:

(i) Excessive descent rate;

(ii) Excessive terrain closure rate;

(iii) Excessive altitude loss after takeoff or go-around.

FLT 4.3.27 The Operator shall ensure all piston-engine aircraft in its fleet are equipped with a GPWS as specified in FLT 4.3.26 that has a forward-looking terrain avoidance function. **(GM)**

Guidance

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.

FLT 4.3.28 The Operator *should* ensure aircraft in its fleet are equipped with a forward-looking windshear warning system. **(GM)**

Guidance

Refer to the IRM for the definition of Forward-Looking Windshear Warning System

FLT 4.3.29 The Operator shall ensure all aircraft in its fleet are equipped with an FDR that:

(i) Does not utilize photographic film or engraving metal foil;

(ii) Is not of the analog type utilizing frequency modulation (FM);

(iii) After 1 January 2016, does not utilize magnetic tape;

(iv) Is capable of recording, as a minimum, the last 25 hours of aircraft operation;

(v) Records time, altitude, airspeed, normal acceleration and heading;

(vi) Is of a type that is in accordance with requirements of the Authority. **(GM)**

Guidance

Engraving metal foil and photographic film are obsolete recording media and are no longer acceptable for use in FDRs. Therefore, aircraft equipped with this type of FDR do not conform to the specifications of this provision.

Technical guidance for the operational requirements applicable to each type of FDR is contained in ICAO Annex 6.

FLT 4.3.30 The Operator *should* ensure all aircraft in its fleet are equipped with an FDR that does not utilize magnetic tape.

FLT 4.3.31 The Operator shall ensure all aircraft in its fleet are equipped with a CVR that:

(i) Records the aural environment on the flight deck during flight and is capable of retaining recorded information *either*:

(a) For the last 30 minutes of its operation, as a minimum, *or*

(b) For a period of time in excess of 30 minutes in accordance with the requirements of the Authority.

(ii) After 1 January 2016, does not utilize magnetic tape and wire. **(GM)**

Guidance

Technical guidance for CVR performance requirements are contained in the Minimum Operational Performance Specifications (MOPS) document for Flight Recorder Systems of the European Organization for Civil Aviation Equipment (EUROCAE) or equivalent documents.

FLT 4.3.32 <AC> The Operator shall ensure all cargo aircraft in its fleet are equipped with one or more first aid kits that are readily accessible to the flight crew and, if applicable, supernumeraries. **(GM)**

Note: *The specifications of this provision are applicable to commercial and/or non-commercial operations.*

Guidance

Refer to the Guidance Material for CAB 4.2.1 for the typical contents of first aid kits.

FLT 4.3.33 The Operator shall ensure all aircraft are equipped with seats and associated restraint devices as follows:

(i) For flight crew, seats fitted with a safety harness for each flight crew member;

(ii) If the Operator transports supernumeraries, a seat fitted with a seat belt (or safety harness) for each supernumerary. **(GM)**

Note: *The specifications of this provision are applicable to commercial and/or non-commercial operations.*

Guidance

Refer to the IRM for the definition of Safety Harness.

Refer to CAB 4.2.13 and 4.2.14 for the specifications applicable to restraint devices for passenger and cabin crew seats.

The safety harness specified in item i) or ii) typically incorporates a device that will automatically restrain the occupant's torso in the event of rapid deceleration.

FLT 4.3.34 <AC> The Operator shall ensure all cargo aircraft in its fleet utilized for over-water flights are equipped with a minimum of one life jacket or equivalent individual flotation device for each person on board, with each life jacket or flotation device stowed for easy accessibility from individual seating positions. **(GM)**

Guidance

Refer to the IRM for the definition of Over-water Flights.

FLT 4.3.35 <AC> If the Operator conducts long-range over-water flights, the Operator shall ensure, unless a specific exemption has been granted by the Authority, all cargo aircraft in its fleet utilized for such flights are equipped with 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 shall contain:

(i) Life-sustaining equipment as appropriate to the flight to be undertaken;

(ii) Equipment for making pyrotechnical distress signals.

FLT 4.3.36 <AC> If the Operator conducts flights across land areas that have been designated by the state(s) concerned as areas in which search and rescue would be especially difficult, the Operator shall ensure all cargo aircraft in its fleet utilized for such flights are equipped with signaling devices and lifesaving equipment (including, means of sustaining life) in accordance with requirements of the applicable state(s). **(GM)**

Guidance

An Emergency Locator Transmitter (ELT) is considered an appropriate signalling device.

4.4 Cargo Compartment Systems and Equipment Requirements

FLT 4.4.1 If the Operator utilizes passenger aircraft with a cargo compartment that is accessible to a crew member, the Operator shall ensure *either*:

(i) Such compartments are equipped with a built-in cargo compartment fire suppression system, *or*

(ii) A portable fire suppression system is available for use in such compartments by a crew member. **(GM)**

Guidance

Refer to the IRM for the definitions of Cargo Compartment and Cargo Compartment Fire Suppression System.

This provision is applicable to passenger aircraft only and is intended to ensure a means of fire suppression in cargo compartments accessible to crew members.

FLT 4.4.2 If the Operator utilizes aircraft that have a cargo compartment, the Operator shall ensure, on all aircraft for which the application for certification was submitted on or after 2 March 2004, each cargo compartment not accessible to a crew member is equipped with a built-in fire detection system and a built-in fire starvation or suppression system. Such suppression systems, including associated extinguishing agents, shall be designed to account for a sudden and extensive fire that could be caused by an explosive or incendiary device, or by dangerous goods.

FLT 4.4.3 <AC> The Operator shall ensure all cargo aircraft are equipped with a cargo restraint system, which may include barriers, ULDs, nets, straps, chains, tie-downs and/or floor locks that prevent cargo from shifting and:

(i) Blocking or reducing access to emergency exits;

(ii) Obstructing the flow of required fire retardants;

(iii) Interfering with design features of the aircraft critical to the safety of flight (e.g. flight controls). **(GM)**

Guidance

Refer to the IRM for the definition of a Cargo Restraint System.

FLT 4.4.4 <AC> If the Operator carries a humane killer device on board the aircraft in association with the transport of livestock, the Operator shall ensure:

(i) The device is stowed in a secure manner;

(ii) Access to the device in flight is controlled. **(GM)**

Guidance

Refer to the IRM for the definition of Humane Killer.

4.5 Flight Deck Security Equipment Requirements

FLT 4.5.1 If the Operator conducts passenger flights utilizing aircraft with a flight deck door, the Operator shall:

(i) Ensure such door is capable of being locked;

(ii) Provide a 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)**

Guidance

The principal intent of this provision is to ensure the security of the flight deck by equipping aircraft in accordance with the specifications in i) and ii).

The specification in item ii) 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.

FLT 4.5.2 If the Operator conducts international passenger flights utilizing aircraft with a maximum certificated takeoff mass in excess of 45,500 kg (100,310 lb) or with a seating capacity greater than 60 passengers, the Operator shall ensure such aircraft used for international flights are equipped with an approved flight deck door that is:

(i) Capable of being locked and unlocked from either pilot station;

(ii) Designed to resist penetration by small arms fire, grenade shrapnel or forcible intrusions by unauthorized persons. **(GM)**

Guidance

The principal intent of this provision is to ensure the security of the flight deck by equipping aircraft in accordance with the specifications in i) and ii).

The design of the reinforced flight deck door 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.

A smoke barrier or curtain is not acceptable for addressing the specifications of this provision.

FLT 4.5.3 If the Operator conducts passenger flights, the Operator *should* ensure all aircraft utilized for such flights are equipped, where practicable, with an approved flight deck door that is:

(i) Capable of being locked and unlocked from either pilot station;

(ii) Designed to resist penetration by small arms fire, grenade shrapnel or forcible intrusions by unauthorized persons. **(GM)**

Guidance

The principal intent of this provision is to ensure the security of the flight deck by equipping aircraft in accordance with the specifications in i) and ii).

The specifications in this standard are applicable to passenger aircraft not included in FLT 4.5.2 with the capability of being equipped with the specified flight deck door.

Table 2.1–Onboard Library Specifications	
The following documents shall be included in the Onboard Library:	
General Operating Information	
(i)	General Operations Manual (GOM).
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 back-up 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 loadsheet).
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 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 Operations Manual (GOM), 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, 1.3.8
	(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 loadsheet);		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 and navigation aids;	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 and escape routes used in the event of decompression in an area of high terrain;	None
	(f)	If applicable, procedures for loss of communication between the aircraft and the FOO;	DSP 3.6.1
	(g)	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

Table 2.2–Operations Manual (OM) Content Specifications			
Areas, Routes and Airport Information			**DSP ISARP**
	(h)	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
	(i)	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
	(j)	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
	(k)	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
	(l)	The essential information concerning the search and rescue services in the area over which the aircraft will be flown.	None
	(m)	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 all-cargo 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; (ii) Specific qualifications (LVP, RVSM, EDTO); (iii) Equipment qualifications (TCAS/ACAS, GPWS/EGPWS, HGS, HUD/EVS); (iv) Recency-of-experience; (v) Medical status, including Medical Certificate; (vi) Initial training and checking/line check/proficiency check/recurrent training and checking results; (vii) Right seat qualification; (viii) Type(s) qualification; (ix) Airport and route competence (including special airports); (x) Instructor/evaluator/line check airman qualification; (xi) CRM/Human Factors training; (xii) Dangerous goods training; (xiii) Security training; (xiv) 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 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 of an Advanced Qualification Program (AQP) or Alternative Training and Qualification Program (ATQP)

The following elements shall be included as part of an AQP/ATQP 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 utilize 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 analyzes 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 of an Advanced Qualification Program (AQP) or Alternative Training and Qualification Program (ATQP)
(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 of an Advanced Qualification Program (AQP) or 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 identify 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 of an Advanced Qualification Program (AQP) or 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.

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 utilized 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.

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 utilized 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 provisions, or individual sub-specifications within a provision, that:

- 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 utilizes…" or "If an FOO or FOA is utilized…").
- Do not begin with a conditional phrase are applicable to all operators unless determined otherwise by the Auditor.

Individual provisions:

- Beginning 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.
- Beginning 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.
- That 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).
- Containing 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.

- Containing 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).

Where operational control functions, duties or tasks are outsourced to external service providers, an operator retains overall responsibility for operational control and will have processes to monitor applicable external service providers in accordance with DSP 1.11.2 to ensure requirements that affect operational control are being fulfilled.

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 always remains 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 to be 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 always 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

DSP 1.1.1 The Operator shall have a management system that ensures:

(i) Management of safety and security in flight operations;

(ii) Supervision and control of all flights, operational control functions and other associated activities;

(iii) Compliance with standards of the Operator and requirements of the State of the Operator (hereinafter, the State) and other applicable authorities. **(GM)** ◄

Guidance

Refer to the IRM for the definitions of Operational Control, Operator and State.

Refer to Guidance associated with ORG 1.1.1 located in ISM Section 1.

The specification in item i) ensures the management system addresses the elements of operational safety and security specifically related to the operational control of flights. Safety and security management at this operational level typically occurs within the greater context of the operator's overall or corporate safety and/or security management plan. For example, the overall requirements for the dissemination of security information would typically be specified in an operator's security plan, but the actual dissemination of such information to operational control personnel would occur under the supervision of those individuals with assigned responsibilities related to the operational control of flights (e.g., the transmission of security alerts to aircraft).

Applicable authorities as specified in item iii) 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.

1.2 (Intentionally Open)

1.3 Authorities and Responsibilities

DSP 1.3.1 The Operator shall ensure authorities and responsibilities for the operational control of flights are defined and communicated throughout the organization, to include the authorities and responsibilities of the pilot-in command (PIC) and, as applicable, the:

(i) Flight operations officer (FOO), who supports, briefs and/or assists the PIC or designated member of management in the safe conduct of each flight;

(ii) Designated member of management or Post Holder that has joint authority with the PIC over the decisions functions, duties or tasks associated with the operational control of each flight;

(iii) Flight operations assistant (FOA) who supports, briefs and/or assists the PIC, FOO, or designated member of management in the safe conduct of each flight. **[SMS] (GM)** ◄

Guidance

Refer to the IRM for definitions of Flight Operations Officer (FOO), Flight Operations Assistant (FOA) and Post Holder.

The specification in item ii) refers to a designated member of management in a shared system of operational control (e.g. director of flight operations or other designated post holder).

Refer to Guidance associated with ORG 1.3.1 located in ISM Section 1.

The intent of this provision is to ensure the authorities and responsibilities of personnel that perform functions relevant to the operational control of flights and the safety of aircraft operations are communicated throughout the organization(s). The entities that receive such information are dependent upon the system of operational control but always include the flight operations organization.

Refer to Table 3.1, which contains definitions, duties and responsibilities of relevant operational control personnel as well as examples of FOAs who might support or assist the FOO, designated member of management and/or PIC.

Refer to the legend of Table 3.1 for examples of FOA personnel who support or assist the FOO and/or PIC.

PIC roles and responsibilities are specified in ISM Section 2 (FLT).

The description of duties and responsibilities of an FOO, FOA, and/or designated member of management typically include a definition of the working relationship with the PIC (e.g. the joint responsibility of the PIC, FOO and, if applicable, designated member of management in a shared system of operational control).

Refer to Guidance associated with ORG 1.4.1 located in ISM Section 1 regarding the need for internal communication.

DSP 1.3.2 The Operator shall have a process and/or procedure for the delegation of duties within the management system for operational control that ensures managerial continuity is maintained when managers responsible for operational control are absent from the workplace. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 1.3.2 located in ISM Section 1.

The operational managers subject to the specifications of this provision include, as a minimum:

- Managerial personnel, as defined by the operator, required to ensure the operational control of each flight;
- If applicable, nominated post holders as required by the Authority.

DSP 1.3.3 The Operator shall ensure a delegation of authority and assignment of responsibility within the management system for liaison with regulatory authorities, original equipment manufacturers and other external entities relevant to operational control. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 1.3.3 located in ISM Section 1 regarding the need to coordinate and communicate with external entities.

The specifications of this provision are intended to ensure ongoing compliance with regulations, organizational standards and other applicable rules and requirements.

DSP 1.3.4 The Operator shall delegate the authority for operational control of each flight only to the PIC in a non-shared system of operational control, or to a combination of suitably qualified individuals in a shared system of operational control, to include the PIC and either:

(i) An FOO in a shared system of operational control that requires the use of FOO personnel, or

(ii) A designated member of management or Post Holder in a shared system of operational control that requires the use such management personnel. **(GM)**

Guidance

Refer to the IRM for the definition of Flight Monitoring.

Refer to General Guidance in the beginning this section for the definition of *Authority* in the context of operational control.

The intent of this provision is to ensure an operator delegates the authority to initiate, continue, divert or terminate a flight in the interest of the safety and security of the aircraft and its occupants (operational control) only to appropriately qualified individuals.

Examples of operational control systems are provided in the following table as a means to identify how authority is typically delegated by an operator.

System of Operational Control	Location	System Description
Shared system (General)	(i), (ii)	Operational control **authority** is shared between the PIC and a flight operations officer/flight dispatcher (FOO) or a designated member of management.
Full Shared System (PIC and FOO)	(i)	The PIC and FOO have **joint authority** over the decisions functions, duties or tasks associated with the operational control of a flight. Such systems are characterized by the use of flight monitoring and a dedicated communications system (voice or electronic) separate from the ATC system in order to maintain shared authority.
Partial Shared System (PIC and FOO)	(i)	The PIC and FOO have **joint authority** over all preflight decisions, functions, duties or tasks associated with the operational control of a flight, but during flight the PIC has sole authority. Such systems are characterized by the use of flight monitoring if required by the Authority or desired by the Operator and typically lack the dedicated communications system necessary to maintain shared authority in flight.
Shared System (PIC and Management)	(ii)	Functionally equivalent to a full-shared system except that the PIC and a designated member of management, often the Director of Flight Operations or any suitably qualified and knowledgeable member of management designated by the operator, have **joint authority** over the decisions, functions, duties or tasks associated with the operational control of a flight.
Non-shared system (General)	Main standard	Operational control **authority** is delegated only to the PIC who may or may not be assisted by other support personnel.
Non-shared System (PIC-only)	Main standard	The PIC has **sole authority** over any and all decisions and completes all tasks (unassisted) related to the operational control of each flight. This does not preclude administrative personnel from providing, collecting or assembling operational documents or data related to each flight on behalf of the PIC and as defined in Table 3.1. Such systems may employ flight monitoring if required by the Authority or desired by the operator.
Non-shared System (PIC-assisted)	Main standard	The PIC has **sole authority** over any and all decisions regarding operational control. However, the PIC is assisted by others (e.g. FOO, FOA or a member of management) that lack operational control authority, but are assigned the responsibility to carry out specific functions, duties or tasks, such as flight planning, flight support, briefing and in-flight monitoring. Such systems employ flight monitoring if required by the Authority or desired by the operator.
Note: *An FOA can be utilized in combination with FOOs or designated members of management in all systems of operational control except purely non-shared (PIC-only) systems. If such personnel are delegated authority in a shared system, however, it would be limited to their specific area of competency*.		

Table 3.1 categorizes operational control personnel, defines their authority, identifies their responsibilities and illustrates the relationship of such responsibilities to the operation as a whole.

DSP 1.3.5 The Operator shall retain the overall responsibility for operational control of each flight and assign the responsibility to carry out functions, duties or tasks related to the operational control of each flight only to the PIC, or to a combination of suitably qualified personnel as defined in Table 3.1, to include the PIC and:

(i) If the Operator has a shared system of operational control responsibility, *either* of the following:

(a) An FOO, who shares overall operational control responsibility with the PIC and/or supports, briefs and/or assists the PIC in the safe conduct of each flight, *or*

(b) A designated member of management or Post Holder who shares overall operational control responsibility with the PIC and/or supports, briefs and/or assists the PIC or FOO in the safe conduct of each flight.

Note: *FOA and/or administrative personnel can be utilized in combination with FOOs and/or designated members of management in a shared system of operational control, but neither would share operational control responsibility with the PIC, FOO or designated member of management.*

(ii) If the Operator has a non-shared system of operational control responsibility, one or more of the following:

(a) An FOO who supports, briefs and/or assists the PIC in the safe conduct of each flight, or

(b) A designated member of management or Post Holder who supports, briefs and/or assists the PIC or FOO in the safe conduct of each flight, or

(c) FOA personnel who support, brief and/or assist the PIC or FOO in the safe conduct of each flight, and/or

(d) Administrative personnel who do not support, brief and/or assist the PIC or FOO, but provide, collect or assemble operational documents or data relevant to the conduct of each flight. **(GM)**

Note: *An operator may choose to assign limited responsibilities to fully qualified FOO personnel, or to utilize them only to carry out individual or specific operational control functions, duties or tasks. In such cases, an FOO would be functionally acting as an FOA.*

Guidance

Refer to General Guidance in the beginning this section for the definition of *Responsibility* in the context of operational control.

The intent of this provision is to specify the various ways operational control responsibilities can be assigned by an operator and to ensure only suitably trained and qualified individuals, in addition to the PIC, are assigned overall responsibility for operational control or the responsibility to carry out one or more functions, duties or tasks related to the operational control of each flight.

The specifications of this provision apply irrespective of post holder titles or whether personnel positions are described in the OM. If personnel are assigned the responsibility to carry out operational control functions, duties or tasks, and act in a manner consistent with the specifications of this provision or the descriptions found in Table 3.1, the specifications of this provision are applicable, as well as the specifications of ensuing provisions that require such personnel to be trained and qualified for the operational control responsibilities, functions, duties or tasks that they are performing.

Examples of operational control systems are provided in the following table as a means to identify how responsibility is typically assigned by an operator.

System of Operational Control	Item	System Description
Shared systems (General)	(i) (a), (i) (b)	Operational control responsibility is shared between the PIC and an FOO or designated member of management.
Full Shared System (PIC and FOO)	(i) (a)	The PIC and FOO are **jointly responsible** for the decisions, functions, duties or tasks associated with the operational control of a flight. Such systems are characterized by flight monitoring and a dedicated communications system (voice or electronic) separate from the ATC system in order to maintain joint responsibility.
Partial Shared System (PIC and FOO)	(i) (a)	The PIC and FOO are **jointly responsible** for all preflight decisions, functions, duties or tasks associated with the operational control of a flight, but during flight the PIC has sole responsibility. Such systems are characterized by the use of flight monitoring if required by the Authority or desired by the Operator and typically lack the dedicated communications system necessary to maintain shared responsibility in flight.
Shared System (PIC and Management)	(i) (b)	Functionally equivalent to a full-shared system except that the PIC and a designated member of management, often the Director of Flight Operations or any suitably qualified and knowledgeable member of management designated by the operator are **jointly responsible** for the functions, duties or tasks associated with the operational control of a flight. The responsibility to carry out actual functions, duties or tasks such as flight planning, supporting/briefing the crew or flight monitoring is typically assigned to other non-management personnel (e.g. FOOs and/or FOAs).
Non-shared Systems (General)	(ii) (a)–(d)	Operational control responsibility is assigned only to the PIC who may or may not be assisted by other support personnel.
Non-shared System (PIC-only)	Parent provision and/or (ii) (d)	The PIC is **solely responsible** for completing all tasks (unassisted) related to the operational control of each flight. This does not preclude administrative personnel from providing, collecting or assembling operational documents or data related to each flight on behalf of the PIC as defined in Table 3.1. Such systems employ flight monitoring if required by the Authority or desired by the operator.
Non-shared System (PIC-assisted)	(ii) (a)–(c)	The PIC is **solely responsible** for all decisions regarding operational control. However, the PIC may be assisted by others, such as an FOA, or an FOO or member of management that functions as an FOA, who is assigned the responsibility to carry out specific functions, duties or tasks, such as flight planning, support, briefing and in-flight monitoring. Such systems employ flight monitoring if required by the Authority or desired by the operator.

Note:

- *FOOs can be present in shared or non-shared systems of operational control to support, brief and/or assist the PIC or designated member of management in all competencies of operational control.*
- *FOAs can be present in any system of operational control except purely non-shared (PIC-only) systems, but their responsibilities are limited to their area(s) of expertise.*
- *FOAs may be assigned specific flight responsibilities depending on area of expertise or general (non-flight specific) responsibilities in support of other operational control personnel or functions.*
- *The responsibilities of administrative personnel utilized in operational control functions are limited to the provision or collection of operational data.*

Table 3.1 categorizes operational control personnel, defines their authority, identifies their responsibilities and illustrates the relationship of such responsibilities to the operation as a whole.

Table 3.5 defines the competencies of individuals assigned the responsibility for operational control and/or the responsibility to carry out individual operational control functions, duties or tasks.

When operational control functions are outsourced to external service providers, an operator retains overall responsibility for operational control and would ensure such service providers are subjected to contractual and monitoring processes as specified in DSP 1.11.1 and 1.11.2.

FOO and/or FOA responsibilities for operational control typically begin when assigned a flight during flight preparation and end after flight termination.

DSP 1.3.6 If an FOO is utilized in the system of operational control, the Operator shall assign responsibility to such personnel for:

(i) Assisting the PIC in flight preparation and providing required information;

(ii) Assisting the PIC in preparing the operational and ATS flight plans;

(iii) When applicable, signing the operational and ATS flight plans;

(iv) Filing the ATS flight plan with the appropriate ATS unit;

(v) Furnishing the PIC, while in flight, with appropriate information necessary for the safe conduct of the flight;

(vi) In the event of an emergency, initiating relevant procedures as specified in the OM. **(GM)**

Note: *An operator may choose to assign responsibility for one or more of the specified functions to an FOA, or the PIC may be assigned the responsibility for filing the flight plan in the case of iv) and/or for obtaining the necessary information in the case of v).*

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 specified in Table 3.5.

The authority and responsibilities of an FOO are defined in Table 3.1.

The specification in item v) may be satisfied by the PIC if such information is available from other sources that can be accessed while in flight.

DSP 1.3.7 The Operator shall ensure, in the event of an emergency situation that endangers the safety of the aircraft or persons, and which becomes known first to the Operator, the FOO, FOA or other delegated person is assigned responsibility for implementation of action in accordance with DSP 1.3.8, to include, where necessary:

(i) Initiation of emergency procedures, as outlined in the OM;

(ii) Notification to the appropriate authorities, without delay, of the nature of the situation;

(iii) A request for assistance, if required. **(GM)**

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.

DSP 1.3.8 The Operator shall have a process to ensure, in the event of an emergency, the FOO, FOA or other delegated person:

(i) Initiates procedures as outlined in the OM, while avoiding taking any action that would conflict with ATC procedures;

(ii) 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 amendments to the flight plan that become necessary in the course of the flight. **(GM)**

Guidance

Processes used for operational control of flights in the event of an emergency would 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 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. This would not preclude the PIC, in accordance with requirements of the applicable authorities, from taking any action necessary during an emergency in the interest of the safety of the passengers and aircraft.

Also, it would be important for the PIC to convey relevant information to the FOO, FOA or other delegated person during the course of the flight, particularly in the context of emergency situations.

1.4 Communication and Coordination

DSP 1.4.1 The Operator shall have a communication system that enables an exchange of information relevant to operational control throughout the management system and in areas where operations are conducted. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 1.4.1 located in ISM Section 1.

The specifications of this provision may be satisfied by the flight operations organization and/or other organization(s) with responsibilities related to the operational control of flights.

This specification also applies to coordination among appropriate managerial personnel associated with supervision of operational control.

DSP 1.4.2 The Operator shall have a system that ensures operational control personnel 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 (current accident and incident notification procedures);

(iv) Routes, including over water and critical terrain (NOTAMs, facilities, outages);

(v) Air Traffic Services (ATS). **(GM)**

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.

DSP 1.4.3 The Operator shall have a communication system that ensures the FOO, FOA and/or other person delegated responsibilities in accordance with DSP 1.3.7 and 1.3.8 are provided with current accident and incident notification procedures.

1.5 Provision of Resources

DSP 1.5.1 The Operator shall have the necessary facilities, workspace, equipment and supporting services, as well as work environment, to satisfy operational control safety and security requirements. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 1.6.1 located in ISM Section 1.

The specifications of this provision refer only to the infrastructure and resource requirements that would be necessary to deliver safe and secure flight operations, to include operational control and support facilities, services and equipment.

The specifications of this provision may be satisfied by the flight operations organization and/or other organization(s) with responsibilities related to the operational control of flights.

DSP 1.5.2 The Operator shall ensure management and non-management operational control positions within the organization that require the performance of functions relevant to the safety of flights are filled by personnel on the basis of knowledge, skills, training and experience appropriate for the position. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 1.6.2 located in ISM Section 1.

The operational control positions subject to the specifications of this provision include, as a minimum:

- Managerial personnel, as defined by the operator, required to ensure control and supervision of flight operations in accordance with DSP 1.1.1;
- Nominated post holders as required by the Authority if applicable;

FOO knowledge, skill and experience requirements are in accordance with DSP 1.5.5, 1.5.6 and, 1.5.8.

FOA knowledge, skill and experience requirements are in accordance with DSP 1.5.7 and 1.5.8.

FOO and FOA training requirements are in accordance with the applicable provisions of Subsection 2, Training and Qualification.

PIC knowledge, skill, experience and training requirements are in accordance with the applicable provisions of ISM Section 2 (FLT), Subsection 2, Training and Qualification.

DSP 1.5.3 The Operator shall have a process to ensure applicants hired in operational control functions are required to demonstrate the capability of speaking and reading in a language that will permit communication with other areas within the organization relevant to operational control.

DSP 1.5.4 If a licensed FOO is utilized in the system of operational control, the Operator shall ensure each FOO, prior to being assigned to operational control duties, holds a valid Flight Operations Officer or Flight Dispatcher license issued or recognized by the State. **(GM)**

Guidance

The specifications of this provision apply only to each FOO qualified in all applicable competencies of operational control 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 specified in Table 3.5, and
- Requires licensing or certification by the State in order to participate in an approved or accepted system of operational control.

DSP 1.5.5 If an FOO is utilized in the system of operational control, the Operator shall ensure such personnel, prior to being assigned to operational control duties:

(i) As applicable, meet minimum age, knowledge, experience and skill requirements of the State;

(ii) Have demonstrated knowledge and/or proficiency in *all* competencies of operational control, as specified in Table 3.5;

(iii) Have demonstrated the ability to analyze weather, create accurate flight plans and provide assistance to flights;

(iv) Complete an observation flight or simulator observation in accordance with DSP 2.3.4. **(GM)**

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 specified in Table 3.5.

DSP 1.5.6 If an FOO is utilized in the system of operational control, the Operator *should* ensure personnel hired to perform the FOO functions are not less than 21 years of age and meet one or more of the following criteria:

(i) Have, as a minimum, one year of experience as an assistant in the operational control of air transport flights, or

(ii) Have satisfactorily completed a formal training course as a flight operations officer or flight dispatcher, or

(iii) Have, as a minimum, a total of two years of service in any one or combination of the following:

(a) Flight crew member in air transport operations;

(b) Meteorologist in an organization dispatching aircraft;

(c) Air traffic controller;

(d) Technical supervisor of FOO personnel;

(e) Technical supervisor of air transportation systems. **(GM)**

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 specified in Table 3.5.

DSP 1.5.7 If an FOA is utilized in the system of operational control to support or assist the PIC, FOO and/or designated member of management in specific areas of competency, the Operator shall ensure such personnel, prior to being assigned duties in an operational control function, have received training for their specific area of competency and:

(i) As applicable, meet minimum age, knowledge, experience and skill requirements of the Authority;

(ii) Have demonstrated knowledge and/or proficiency in the competencies of operational control appropriate to any assignment of duties, as specified in Table 3.5;

(iii) Have demonstrated the ability to provide assistance, in their specific area of competency, to the PIC and/or FOO, as applicable. **(GM)**

Guidance

The specifications of this provision apply to FOA personnel who are delegated authority and/or assigned responsibilities in accordance with DSP 1.3.4 and/or DSP 1.3.5, respectively.

FOA personnel need only demonstrate knowledge and ability to assist flights in their area(s) of competence.

DSP 1.5.8 If an FOO or FOA is utilized in the system of operational control, the Operator shall have a process to ensure such personnel, as applicable, prior to being assigned duties in an operational control function;

(i) Are trained to a minimum experience level acceptable to the Operator and/or State;

(ii) Have demonstrated proficiency in the performance of the applicable operational control function(s) under the supervision of qualified operational control personnel. **(GM)**

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.

Newly hired operational control personnel may include individuals who already work for the operator in another area, that have worked in an operational control position or function for another operator, or that are newly trained and newly hired, having never worked in an operational control function.

The minimum amount of time needed to demonstrate proficiency under the supervision of qualified operational control personnel will depend on the operational control function being provided and the requirements of the operator and/or State.

The operator may use an evaluation or check to determine that knowledge competencies of applicable areas are attained by each individual assigned to an operational control function, and the results of any evaluations are documented and retained in accordance with DSP 1.8.1.

DSP 1.5.9 If an FOO, designated member of management, FOA, or other person that supports or assists in the operational control of flights are utilized in the system of operational control, the Operator shall have a policy regarding the use of psychoactive substances by such personnel, as applicable, which, as a minimum:

(i) Prohibits the exercise of duties while under the influence of psychoactive substances;

(ii) Prohibits the problematic use psychoactive substances;

(iii) Requires that all personnel who are identified as engaging in any kind of problematic use of psychoactive substances are removed from safety-critical functions;

(iv) Conforms to the requirements of the Authority. **(GM)**

Guidance

Refer to the IRM for the definitions of Biochemical Testing, Psychoactive Substance and Problematic Use of Substances.

The specifications of this provision apply to an FOO, designated member of management, FOA or other persons that are delegated authority and/or assigned responsibilities in accordance with DSP 1.3.4 and/or DSP 1.3.5, respectively.

Operators subject to laws or regulations of the State that preclude the publication of a psychoactive substance prohibition policy as specified in this provision may demonstrate an equivalent method of ensuring that personnel engaging in any kind of problematic use of psychoactive substance abuse do not exercise their duties and are removed from safety-critical functions.

Re-instatement to safety-critical duties is possible after cessation of the problematic use and upon determination continued performance is unlikely to jeopardize safety.

Examples of other subjects that might be addressed in a comprehensive and proactive policy include:

- Education regarding the use of psychoactive substances;
- Identification, treatment and rehabilitation;
- Employment consequences of problematic use of psychoactive substances;
- Biochemical testing;
- Requirements of ICAO and the Authority. **(GM)**

Additional guidance may be found in the *ICAO Manual on Prevention of Problematic use of Substances in the Aviation Workplace* (Doc 9654-AN/945).

1.6 Documentation System

DSP 1.6.1 The Operator shall have a system for the management and control of documentation and/or data used directly in the conduct or support of operational control. Such system shall include elements as specified in ORG 2.1.1. **(GM)** ◄

Guidance

Refer to the IRM for the definition of Documentation and Electronic Documentation.

Refer to ORG 2.1.1 and associated Guidance, and Table 1.1, located in ISM Section 1.

Internal documents are subject to management and control by the operator.

Refer to DSP 1.6.2 for a description of the documents subject to management and/or control.

This provision refers to the library, which may be any organized system for documentation retention, and which contains current manuals, regulatory publications and other essential documents associated with operational control.

Documents received from external sources:

- Are managed by the operator and controlled by the issuing entity.
- Include applicable regulations and associated documents, original manufacturer's manuals and documents and/or data produced externally for the operator.
- Typically include dangerous goods documents, route and airports charts, FMS databases, airport analysis data, weight/mass and balance data and performance data.

The specifications of this provision may be satisfied by the flight operations organization's external documentation dissemination and retention processes, if such processes are used in conjunction with the operator's system of operational control.

DSP 1.6.2 The Operator shall ensure the management and control system for operational control documentation specified in DSP 1.6.1 addresses, as a minimum:

(i) The OM;

(ii) Other documents that are referenced in the OM and contain information and/or guidance relevant to operational control personnel. **(GM)**

Guidance

The specifications of this provision may be satisfied by the flight operations organization documentation management and control system, if used in conjunction with an operator's system of operational control.

Internal documents are subject to management and control by the operator.

DSP 1.6.3 The Operator shall ensure the management and control system for operational control documentation specified in ORG 2.1.1 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 International Standards and Recommended Practices;

(iii) Airworthiness Directives;

(iv) Aeronautical Information Publications, including NOTAMS;

(v) State-approved or -accepted Aircraft Flight Manuals (AFM);

(vi) Manufacturer's aircraft operating manuals, including performance data, weight and balance data/manuals, checklists and MEL\CDL;

(vii) As applicable, other manufacturer's operational communications. **(GM)**

Guidance

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

The specifications in item i) and ii) refer to applicable regulations imposed on the operator by other states or authorities (e.g., FAR 129). 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 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 specification in item vii) refers to bulletins or directives distributed by the manufacturer for the purposes of amending aircraft technical specifications and/or operating procedures.

DSP 1.6.4 The Operator shall ensure documentation used in the conduct or support of operational control, including the Operations Manual (OM) and associated revisions:

(i) Is identifiable and accessible to operational control personnel;

(ii) Contains legible and accurate information;

(iii) Is written in language(s) understood by operational personnel;

(iv) Is presented in a format that meets the needs of operational control personnel;

(v) Is accepted or approved by the Authority. **(GM)** ◄

Guidance

Refer to the IRM for the definitions of Operations Manual, State Acceptance and State Approval.

The intent of this provision is for an operator to provide operational documentation in a form that is acceptable to the Authority and useable by all relevant personnel.

Documentation used in the support of operations control may:

- Exist in paper or electronic form;
- Be issued in more than one language.

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)**

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 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)**

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.

DSP 1.7.3 (Intentionally open)

DSP 1.7.4 If an FOO or FOA is utilized in the system of operational control, the Operator shall have guidance and procedures to enable such personnel, as applicable, to comply with the conditions and limitations specified in the AOC. **(GM)**

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 Guidance associated with FLT 1.2.1 for information on the content of the AOC, to include conditions and limitations.

The conditions and limitations of the AOC are to be available in documentation available to flight operations officers/flight dispatchers (FOO) and/or flight operations assistant (FOA) if the operator's system of operational control requires their use.

1.8 Records System

DSP 1.8.1 The Operator shall have a system for the management and control of operational control 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) Retention and retrieval;

(v) Protection and security;

(vi) Disposal, deletion (electronic records) and archiving. **(GM)** ◄

Guidance

Refer to guidance associated with ORG 2.2.1 located in ISM Section 1.

DSP 1.8.2 The Operator shall ensure the system for the management and control of operational control records as specified in DSP 1.8.1 addresses, as a minimum, records that document or include:

(i) Operational information and data for each flight specified in DSP 1.8.4 and Table 3.4;

(ii) Operational control communication records specified in DSP 1.8.5;

(iii) The fulfillment of FOO and/or FOA qualification requirements specified in DSP 1.8.6, 1.8.7, 1.8.8 and 1.8.9, as applicable;

(iv) A signed copy of the OFP or equivalent document, as specified in DSP 3.2.5.

Guidance

The specifications in items i) and iv) may be satisfied by the flight operations organization records system, if used in conjunction with the operator's system of operational control.

DSP 1.8.3 If the Operator utilizes an electronic system for the management and control of operational control records, the Operator shall ensure the system provides for a scheduled generation of back-up record files. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 2.2.2 located in ISM Section 1.

DSP 1.8.4 The Operator shall have a process or procedures to record and retain, for a period of time determined by the Operator or the Authority, operational information and data for each flight, and, as a minimum, such retained flight information and data shall be in accordance with the specifications in Table 3.4. **(GM)**

Guidance

Operational information and data may be retained by different means (e.g. ACARS logs, paper logs, manually, computer systems).

Fuel and oil consumption records are typically maintained in accordance with MNT 3.1.1.

DSP 1.8.5 The Operator shall have a process or procedures to ensure copies of communications records associated with operational control are retained for a period of time determined by the Operator or the Authority. **(GM)**

Guidance

The communications typically subject to the record keeping specifications of this provision include operational voice, text, or data communications to/from:

- Flights from the period beginning at the originating station when flight crew begins their duties on the flight deck until the flight crew finishes their duties on the flight deck at the terminating station;
- If applicable, the operations control center.

DSP 1.8.6 If an FOO or FOA is utilized in the system of operational control, the Operator shall ensure training records for such personnel, as applicable, are managed in accordance with DSP 1.8.1, to include records that document completion of:

(i) Initial qualification;

(ii) Continuing qualification. **(GM)**

Guidance

The specifications of this provision apply to FOO or FOA personnel that are delegated authority and/or assigned responsibilities in accordance with DSP 1.3.4 and/or DSP 1.3.5, respectively.

Initial qualification training records are retained permanently while an individual is employed by an operator, unless required otherwise by the Authority.

Continuing qualification training records are retained for three years to ensure that the subjects required in DSP 2.2.2 have been covered during that time period.

PIC training records are addressed in ISM Section 2 (FLT).

DSP 1.8.7 If an FOO or FOA is utilized in the system of operational control, the Operator shall have a process to maintain records that document completion of an annual competency evaluation by such personnel, as applicable, for a period in accordance with requirements of the Authority, but not less than one year. **(GM)**

Guidance

The specifications of this provision apply to FOO or FOA personnel that are delegated authority and/or assigned responsibilities in accordance with DSP 1.3.4 and/or DSP 1.3.5, respectively.

DSP 1.8.8 If the Operator has a flight deck familiarization program for FOO personnel in accordance with DSP 2.3.4, the Operator *should* have a procedure to retain a record of the operational flight deck familiarization activities completed by each FOO for a period of time in accordance with requirements of the Operator and/or Authority.

DSP 1.8.9 If a licensed FOO is utilized in the system of operational control, the Operator shall have a procedure to retain a copy of the license of each FOO for a period of time, in accordance with the requirements of the Operator and/or Authority. **(GM)**

Guidance

This provision is only applicable to operators that have a state requirement for licensing of FOO personnel in conjunction with an approved system of operational control.

1.9 (Intentionally Open)

1.10 Quality Assurance Program

DSP 1.10.1 The Operator shall have a quality assurance program that provides for the auditing and evaluation of the management system and operational control functions at planned intervals to ensure the organization(s) with responsibility for operational control is (are):

(i) Complying with applicable regulations and standards;

(ii) Satisfying stated operational control needs;

(iii) Identifying areas requiring improvement;

(iv) Identifying hazards to operations. **[SMS] (GM)** ◄

Guidance

Refer to the IRM for the definition of Quality Assurance.

Refer to Guidance associated with ORG 3.4.1 located in ISM Section 1 for typical audit program requirements.

Refer to Table 3.1 for examples of operational control functions that could be subjected to audit and evaluation as part of an operator's quality assurance program.

Previous audit results could be made available by the operator as evidence of program implementation.

Audit records generated by the quality assurance program would be managed and controlled in accordance with DSP 1.8.1

The management systems responsible for operational control might vary according to the operator and/or State.

If operational control is under the flight operations management system, refer to ISM Section 2 (FLT), Subsection 1.10.

DSP 1.10.2 The Operator shall have an audit planning process and sufficient resources to ensure audits of operational control functions are:

(i) Scheduled at intervals that meet management system requirements;

(ii) Completed within a specified time period. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 3.4.10 located in ISM Section 1.

Intervals of surveillance activities might vary depending on the operator.

Previous outcomes would typically be considered in determining audit intervals.

DSP 1.10.3 The Operator shall have a process to ensure significant issues arising from quality assurance audits of operational control functions are subject to management review in accordance with ORG 1.5.1 and, as applicable, ORG 1.5.2. **[SMS] (GM)** ◄

Guidance

Refer to ORG 1.5.1, 1.5.2, 3.4.4 and associated Guidance located in ISM Section 1.

Significant issues would be defined by the operator, but are typically regarded as those issues that could affect the safety and/or quality of operations.

DSP 1.10.4 The Operator shall have a process for addressing findings that result from audits of operational control functions, which ensures:

(i) Identification of root cause(s);

(ii) Development of corrective action as appropriate to address the finding(s);

(iii) Implementation of corrective action in appropriate operational areas;

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

Guidance

Refer to Guidance associated with ORG 3.4.3 located in ISM Section 1.

1.11 Outsourcing and Product Quality Control

DSP 1.11.1 If the Operator has external service providers conduct outsourced functions associated with the operational control of flights, the Operator shall have a process to ensure a contract or agreement is executed with such external service providers. Such contract(s) or agreement(s) shall identify measurable specifications that can be monitored by the Operator, to ensure requirements that affect the safety of flight operations are being fulfilled by the service provider. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 3.5.1 located in ISM Section 1.

Examples of operational control functions that might be outsourced typically include flight planning, flight monitoring, meteorological reporting/monitoring and/or weight and balance provision/computation.

DSP 1.11.2 If the Operator has external service providers conduct operational functions associated with the operational control of flights, the Operator shall have a process to monitor such external service providers, to ensure requirements that affect the safety of flight operations are being fulfilled. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 3.5.2 located in ISM Section 1.

An operator would typically use external auditing in accordance with DSP 1.11.5 as the preferred process for the monitoring and control of external organizations.

DSP 1.11.3 The Operator *should* have a process to ensure data or products relevant to the safety of aircraft operations that are purchased or otherwise acquired from an external vendor or supplier (other than electronic navigation data products as specified in DSP 1.11.4) meet the product technical requirements specified by the Operator prior to being used in the operational control of flights. **(GM)** ◄

Guidance

Refer to guidance associated with ORG 3.6.1 located in ISM Section 1.

Conformity with this provision ensures databases and other internal and external sources of operational data provided for operational control are current, accurate and complete.

Examples of acquired operational control data or products typically include performance data, weight and balance data and NOTAMs.

DSP 1.11.4 If the Operator utilizes 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)**

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.

DSP 1.11.5 If the Operator has external service providers conduct operational functions associated with the operational control of flights, the Operator *should* include auditing as a process for the monitoring of external service providers in accordance with DSP 1.11.2. **(GM)** ◄

Guidance

Monitoring and control of external organizations by an operator might include random samplings, product audits, supplier audits, or other similar methods.

1.12 Safety Management

Risk Management

DSP 1.12.1A The Operator *should* have a hazard identification program in the organization responsible for the operational control of flights that includes:

(i) A combination of reactive and proactive methods for safety data collection;

(ii) Processes for safety data analysis that identify existing hazards and predict future hazards to aircraft operations. **[SMS] (GM)** ◄

Note: *Effective 1 September 2015, this recommended practice will be upgraded to a standard (see DSP 1.12.1B).*

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.

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

DSP 1.12.1B Effective 1 September 2015, the Operator shall have a hazard identification program in the organization responsible for the operational control of flights that includes:

(i) A combination of reactive and proactive methods for safety data collection;

(ii) Processes for safety data analysis that identify existing hazards and predict future hazards to aircraft operations. **[SMS] (GM)** ◄

Guidance

Refer to the Guidance associated with DSP 1.12.1A.

DSP 1.12.2A The Operator *should* 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] (GM)** ◄

Note: *Effective 1 September 2015, this recommended practice will be upgraded to a standard (see DSP 1.12.2B).*

Guidance

Refer to the IRM for the definitions of EDTO (Extended Diversion Time Operations) and Rescue and Fire Fighting Services (RFFS).

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

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

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

- Weather (e.g. adverse, extreme and space);
- Geophysical events (e.g. volcanic ash, earthquakes, tsunamis);
- 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;
- Preflight fuel planning and in-flight fuel management;
- Critical fuel scenarios;
- EDTO;
- Performance-based compliance to prescriptive regulations;
- Any other condition(s) that would pose a safety risk to aircraft operations (e.g. radiation).

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.

DSP 1.12.2B Effective 1 September 2015, 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] (GM)** ◄

Guidance

Refer to the Guidance associated with DSP 1.12.2A.

Operational Reporting

DSP 1.12.3 The Operator shall have an operational 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)** ◄

Guidance

Operational reporting is considered a *proactive* hazard identification activity in an SMS.

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 3.1.3 located in ISM Section 1.

DSP 1.12.4 The Operator *should* have a confidential safety reporting system in the organization responsible for the operational control of flights that encourages and facilitates the reporting of events, hazards and/or concerns resulting from or associated with human performance in operations. **(GM)** ◄

Guidance

The specifications of this provision may be satisfied by a confidential reporting system in the flight operations organization if such system includes the operational control system.

Refer to Guidance associated with ORG 3.1.4 located in ISM Section 1.

Safety Performance Monitoring and Management

DSP 1.12.5A The Operator *should* have processes in the organization responsible for the operational control of flights for setting performance measures as a means to monitor the safety performance of the organization and to validate the effectiveness of risk controls. **[SMS] (GM)** ◄

Note: *Effective 1 September 2016, this recommended practice will be upgraded to a standard (see DSP 1.12.5B).*

Guidance

Refer to the IRM for the definition of Safety Assurance.

Setting measurable safety objectives is an element of the Safety Assurance component of the SMS framework.

By setting performance measures, an operator is able to track and compare its operational performance against a target (e.g. the performance objective, typically expressed as a rate or number reduction) over a period of time (e.g. one year). Achievement of the target (or objective) would represent an improvement in the operational performance. The use of performance measures is an effective method to determine if desired safety outcomes are being achieved, and to focus attention on the performance of the organization in managing operational risks and maintaining compliance with relevant regulatory requirements.

The specifications of this provision may be satisfied by processes in the flight operations organization if such processes include setting performance measures for the operational control system.

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

DSP 1.12.5B Effective 1 September 2016, the Operator shall have processes in the organization responsible for the operational control of flights for setting performance measures as a means to monitor the safety performance of the organization and to validate the effectiveness of risk controls. **[SMS] (GM)** ◄

Guidance

Refer to the Guidance associated with DSP 1.12.5A.

2 Training and Qualification

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 specified in Table 3.1, as applicable, are competent to perform any assigned duties relevant to operational control in accordance with the applicable specifications of Table 3.5. Such program shall, as a minimum, address:

(i) Initial qualification;

(ii) Continuing qualification. **(GM)**

Guidance

Refer to the IRM for the definition of State Acceptance.

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.

DSP 2.1.2 If an FOO or FOA is utilized in the system of operational control, the Operator shall ensure the training program specifies minimum training hours for such personnel, as applicable, in accordance with requirements of the Operator and/or State. **(GM)**

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 training curriculum specifies minimum training hours for each subject area and also indicates whether it has been mandated by the Authority or 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)**

Guidance

Such process provides for:

- Continual improvement and effectiveness;
- Incorporation of the latest regulatory and operational changes in a timely manner.

DSP 2.1.4–2.1.6 (Intentionally open)

Instructors and Evaluators

DSP 2.1.7 If an FOO or FOA is utilized 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)**

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.

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 2.2.1 If an FOO or FOA is utilized in the system of operational control, the Operator shall ensure such personnel, prior to being assigned to operational control duties, receive initial training and demonstrate appropriate knowledge and/or proficiency in the applicable competencies of operational control as specified in Table 3.5. **(GM)**

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.

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, Second Edition, 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 2.2.2 If an FOO or FOA is utilized 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 calendar month from the original qualification anniversary date or base month*. **(GM)**

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 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 utilized 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 calendar month from the original qualification anniversary date or base month*. **(GM)**

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 specified in Table 3.5.

DSP 2.2.4 If the Operator transports dangerous goods as cargo, and an FOO or FOA is utilized 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 plus or minus one calendar month from the original qualification anniversary date or base month. **(GM)**

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, and perform or directly supervise job functions related to the carriage of dangerous goods as defined by the Authority.

Subjects recommended to be included in dangerous goods training include the following:

- General philosophy;
- Limitations;
- List of dangerous goods;
- Labeling and marking;
- Recognition of undeclared dangerous goods;
- Storage and loading procedures;
- Pilot's notification;
- Provisions for passengers and crew;
- Emergency procedures.

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.

2.3 Line Qualification

DSP 2.3.1 If an FOO or FOA is utilized 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 applicable competencies of operational control, as specified in Table 3.5. **(GM)**

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.

Proficiency is demonstrated annually and recorded in accordance with DSP 1.8.1.

Competencies of operational control are contained in Table 3.5 and addressed based on the assigned area(s) of responsibility, to include:

- A proficiency review of an FOO that addresses all competencies relevant to the operations of the operator;
- A proficiency review of an FOA that is customized and addresses competencies specific to the assigned area(s) of responsibility and the operations of the operator.

DSP 2.3.2 If an FOO, FOA or designated member of management is utilized 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 the ability, as applicable, 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)**

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.

FOO personnel are to demonstrate the ability to perform all duty functions.

FOA personnel are to demonstrate the ability to perform specific duty functions associated with assigned area(s) of responsibility.

A designated member of management that is directly involved with or directly performs the functions specified in this provision would typically demonstrate 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 utilized 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 2.2.1. **(GM)**

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 specified in Table 3.5.

DSP 2.3.4 If an FOO is utilized in the system of operational control, the Operator shall ensure such personnel are not assigned to FOO duties unless, within the preceding 12 months *plus or minus one calendar month from the original qualification anniversary date or base month*, they have *either*:

(i) Observed one familiarization flight from the flight deck of an aircraft over any area or route segment where responsibility for operational control will be exercised, *or*

(ii) If approved by the State and/or if access to the aircraft flight deck is restricted by the Authority, observed a Line Operational Simulation (LOS) profile accomplished in a representative flight simulator approved for the purpose by the State, and such profile addresses the areas or route segments where responsibility for operational control will be exercised. **(GM)**

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 specified in Table 3.5.

Operators subject to laws or regulations of the State that prohibit the application of specification i) of this provision, and that cannot comply with specification ii) of this provision due to the non-existence of an representative flight training device, may demonstrate an equivalent method of ensuring the specifications of this provision are satisfied.

The familiarization flight or LOS is typically representative of the operational environment within which the FOO will be working. Examples of a representative environment include ultra long haul, long haul, short haul, over water, mountainous terrain, EDTO, areas of special navigational requirements, or passenger versus cargo flights.

Familiarization flights typically include at least one takeoff and landing as well as a minimum of 2.5 to 5 hours on the flight deck. If a flight is operating a long-haul segment of more than 5 hours, the FOO is typically permitted to take a break during the cruise portion of the flight.

An operator, in accordance with the requirements of the State and other applicable authorities, may adjust the frequency of evaluations specified in this provision to minimize overlap, preserve the original qualification date and to ensure evaluations are completed within the annual cycle and any constraints set forth by the operator, State and/or applicable authorities.

2.4 Special Qualification

DSP 2.4.1 If the Operator utilizes FOO personnel and the Operator's method of Operational Control requires shared responsibility between an FOO and the PIC, the Operator *should* ensure FOO personnel complete resource management training that addresses issues of mutual concern to FOOs and flight crew members. Such training should be conducted for the purposes of enhancing coordination, ensuring a mutual understanding of the human factors involved in joint operational control and achieving common learning objectives as set out by the appropriate operational control and flight operations management personnel. **(GM)**

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 shared (including partial shared) system of operational control and:

- Is delegated authority in accordance with DSP 1.3.4;
- 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 specified in Table 3.5.

The intent of this provision is to ensure that resource management issues of mutual concern to FOO personnel and flight crew members are addressed for the purposes of enhancing coordination and to foster a mutual understanding of the human and other factors involved in joint operational control.

Such training is typically accomplished using common learning objectives, determined during interdepartmental coordination meetings, which are subsequently incorporated into the respective training curricula. It is possible that although the learning objectives are determined jointly that the development of curricula and administration of the training occurs independently within each department.

The training specified in this provision does not require the physical presence of FOO personnel and flight crew members at a common training location.

2.5 SMS Training

DSP 2.5.1A The Operator *should* have a program that ensures personnel in the organization responsible for the operational control of flights are trained and competent to perform SMS duties. The scope of such training *should* be appropriate to each individual's involvement in the SMS. **[SMS] (GM)** ◄

Note: *Effective 1 September 2015, this recommended practice will be upgraded to a standard (see DSP 2.5.1B).*

Guidance

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

The specifications of this provision may be satisfied by a training program in the flight operations organization if such program includes SMS training for operational control personnel.

Refer to Guidance associated with ORG 1.6.5A located in ISM Section 1.

DSP 2.5.1B Effective 1 September 2015, the Operator shall have a program that ensures personnel in the organization responsible for the operational control of flights are trained and competent to perform SMS duties. The scope of such training shall be appropriate to each individual's involvement in the SMS. **[SMS] (GM)** ◄

Guidance

Refer to the Guidance associated with ORG 2.5.1A.

3 Line Operations

3.1 General

DSP 3.1.1 (Intentionally open)

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.

DSP 3.1.3 If an FOO or FOA is utilized in the system of operational control, the Operator shall have procedures for succession to ensure, if necessary in the case of absence of such personnel, the responsibility for operational control functions is assumed by qualified personnel. **(GM)**

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.

Succession of responsibility refers to FOO personnel, if applicable, or other personnel with assigned responsibilities for operational control that support or assist the PIC during flight.

3.2 Flight Preparation and Planning

DSP 3.2.1 (Intentionally open)

DSP 3.2.2 If an FOO or FOA is utilized in the system of operational control, the Operator shall have a process or procedures to ensure such personnel, as applicable, and the PIC utilize a common set of flight documents for each planned flight. **(GM)**

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 3.2.3 The Operator shall have a procedure to ensure an Operational Flight Plan (OFP) and Air Traffic Services (ATS) Flight Plan is generated for every intended flight.

DSP 3.2.4 If an FOO or FOA is utilized in the system of operational control, the Operator shall have guidance and procedures to ensure such personnel, as applicable, assist the PIC in flight preparation, furnish required operational information as necessary and *either*:

(i) Prepare the OFP and ATS flight plan, *or*

(ii) Assist the PIC in the preparation of the OFP and ATS flight plan. **(GM)**

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.

In a non-shared system of operational control, the ATS flight plan may be prepared by the PIC.

DSP 3.2.5 The Operator shall have guidance and procedures that ensure the original OFP or equivalent document is accepted and signed by the following personnel, using either manuscript or an approved electronic method:

(i) The PIC for all systems of operational control;

(ii) The FOO for a shared system of operational control. **(GM)**

Guidance

In a shared system of operational control, the signatures of both the PIC and the FOO are required on the OFP or equivalent document (e.g. dispatch release).

DSP 3.2.6 If an FOO is utilized in a shared system of operational control, the Operator shall have guidance and procedures to ensure en route amendments to the OFP are coordinated and verified through:

(i) A signature (manuscript or approved electronic method) by the FOO or other person responsible for operational control;

(ii) A recorded agreement of the PIC. **(GM)**

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 shared (except partial shared) system of operational control and:

- Is delegated authority in accordance with DSP 1.3.4;
- 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 specified in Table 3.5.

FOO personnel that participate in a partial shared system typically lack the dedicated equipment necessary to ensure en route amendments to the OFP can be coordinated and verified.

DSP 3.2.7 If an FOO or FOA is utilized in the system of operational control, the Operator shall have a process or procedures to ensure Operator changes in an ATS flight plan that occur prior to departure are coordinated with the appropriate ATS unit before transmission to the aircraft by the FOO, FOA or other delegated person. **(GM)**

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.

DSP 3.2.8 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)**

Guidance

Areas of operations to be reviewed for adequacy include, as applicable:

- Navigation aids;
- Runways, taxiways, ramp areas;
- Curfews;

- PPR (prior permission required);
- Field conditions;
- Lighting;
- ARFF/RFFS (airport rescue and fire fighting/rescue and firefighting services);
- Applicable operating minima.

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)**

Guidance

The intent of this provision is to ensure operations that require compliance with VFR are practicable under the anticipated meteorological conditions.

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 must be 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, Fifteenth Edition (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, at the time of use, 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, at or above the operator's established airport operating minima for that operation. **(GM)**

Guidance

Refer to the IRM for the definitions of Alternate Airport and In-flight Re-planning Point.

The intent of this provision is to ensure flights do not takeoff 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 estimated time of use.

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 the purposes of determining whether or not an approach and landing can be safely conducted at each required alternate airport at the estimated time of use. Such guidance and procedures shall:

(i) Specify the appropriate incremental values for visibility (and ceiling, if required), to be added to the operator's established airport operating minima;

(ii) Define an appropriate time margin to be applied to the estimated time of arrival for the purposes of establishing the estimated time of use of an airport and to account for the uncertainty of flight time estimates or meteorological events. **(GM)**

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 estimated time of use 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.

The additives specified in item i) are typically dependent on the approach facility configuration and require ceiling be taken into account when the only approaches available are non-precision and/or circling approaches.

One example of a time margin used to conform to item ii), which is accepted by many national authorities, is one hour before and after the estimated earliest and latest time of arrival. This may be reduced in special circumstances, such as when a forecast is only valid for the time of operation of the airport and does not cover the period before opening.

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);
- Commission Regulation EC No. 859/2008 of 20 August 2008.
- Commission Regulation EC No. 965/2012 of 5 October 2012.
- 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.

DSP 3.2.10 The Operator shall have guidance and procedures to ensure, before a flight is commenced, oil consumption trends are taken into account and are determined to be such that an aircraft has sufficient oil to complete each flight. **(GM)**

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 in accordance with MNT 2.1.1, and/or the flight crew in accordance with ISM Section 2 (FLT), Table 2.2, item v).

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 and landing weight limits, based upon environmental conditions expected at the times of departure and arrival;

(ii) The aircraft structural takeoff, en route and landing weight limits.

DSP 3.3.2 (Intentionally open)

DSP 3.3.3 The Operator shall ensure qualified personnel perform weight and balance calculations. **(GM)**

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.

DSP 3.4.2 (Intentionally open)

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.*

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.

3.5 (Intentionally Open)

3.6 Flight Monitoring and In-Flight Management

DSP 3.6.1 If an FOO or FOA is utilized 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)**

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 would be reliable, clear and understandable over the entire route of the flight. An effective system would 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)**

Guidance

Refer to the IRM for the definition of Flight Monitoring.

DSP 3.6.3 The Operator *should* 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.

DSP 3.6.4 If the Operator has a system of operational control that includes an automated flight monitoring system, the Operator *should* have an adequate back-up method of flight monitoring in case of failure of the automated system. **(GM)**

Guidance

Refer to the IRM for the definition of Automated Flight Monitoring System.

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 expected time of use, a landing can be made either at that airport or at least one destination alternate airport. **(GM)**

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 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.

Information that would be useful in determining whether or not 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. **(GM)**

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.

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 extended diversion time operations (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)**

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.

DSP 3.6.6 The Operator shall have guidance and procedures to ensure notification to the Operator when a flight has been completed. **(GM)**

Guidance

Refer to the IRM for the definitions associated with Flight Time (Aircraft).

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)**

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 facilities.

Refer to FLT 4.3.35 **<AC>**, FLT 4.3.36 **<AC>,** CAB 4.2.10 and CAB 4.2.18 for emergency and survival equipment that is specified for certain types of flight operations.

DSP 3.7.2 The Operator shall have guidance and procedures to ensure an FOO, FOA or other designated personnel notifies 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.

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)**

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);
- 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 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 and Authorities alike are placing increased emphasis on performance-based methods and performance-based compliance to regulation. Such mechanisms allow for greater operational flexibility without degrading the safety performance of an operational activity. This presumption is primarily dependent on the presence of specific organizational and operational capabilities, the results of safety risk management activities and the determination of acceptable standards of safety performance.

Many of the provisions in the following sub-section contain an option applicable only to those operators that use performance-based methods in order to conform to selected alternate airport selection, fuel planning and/or EDTO ISARPs. These options are typically presented as alternatives to one or more “prescriptive” specifications that are independent of other systems, policies, processes or procedures. That is to say, the parent provision and related specifications completely describe “what” must be accomplished and “how” it is to be accomplished.

In order to take advantage of the shift in emphasis from “how” an operational activity is to be accomplished to “what” the activity is to accomplish, operators must have the resources necessary to analyze very specific operational hazards, manage the associated safety risks and achieve target levels of safety performance. 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:

Organizational and Operational Capabilities	Description
Organizational and Operational Process Management and Control Practically speaking, operators must possess the requisite knowledge, skills, experience, resources and technologies necessary to implement and oversee the many systems and processes required to support performance-based compliance.	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 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
A (Tactical) Safety Risk Management Sub-system (specific to operational systems or processes that support performance-based compliance)	This is the subsystem that interfaces with the internal system of production (related to a specific system or process) for data reporting, measurement and analysis, as well as appropriate organizational SRM components. This also should 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 (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.

Keeping the aforementioned capabilities in mind, the performance-based options in the following sub-sections allow for operational flexibility based on conformance with the provisions in sub-section 4.6. The specifications in those provisions define the related and interdependent systems, policies, processes or procedures designed to support the achievement of operational outcomes equivalent to that of prescriptive compliance. In other words, they allow for variations in “how” something is achieved as long as “what” is achieved is substantially equal to or better than prescriptive compliance.

It is important to note that the majority of operators will follow a well-defined and prescriptive approach to alternate selection, fuel planning and EDTO. There will be cases, however, where operators that have made significant investments in organizational and operational systems, advanced technologies and modern aircraft seek to derive greater efficiencies from the inherent flexibility of performance-based compliance. In such cases, the specifications of sub-section 4.6 are designed to ensure the operator possesses the capabilities to sustain demonstrable levels of safety performance that are acceptable to the State and the operator.

Refer to the IRM for the definition of Performance-Based Compliance.

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 *either*:

(i) The meteorological conditions at the airport of departure are below the applicable airport operating landing minima, *or*

(ii) Other operational conditions exist that would preclude a return to the departure airport. **(GM)**

Guidance

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.

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 EDTO (extended diversion time operations) 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.

(iv) If the Operator uses a performance-based compliance in accordance with DSP 4.6.1A, not more than the flying time to the first available alternate airport at which the Operator has determined with reasonable certainty that a safe landing can be accomplished at the estimated time of use. **(GM)**

Note: *Pre-existing approved 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.*

Guidance

Refer to the IRM for the definition of Performance-Based Compliance.

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.

Conformity with this provision as specified in item iv) is possible in accordance with performance-based compliance methods and DSP 4.6.1A using operationally specific performance measures. The performance measures**,** demonstrable levels of safety performance and associated targets are specific to each operator.

Examples of performance-based compliance to regulation and performance measures related to the selection of takeoff alternate airports can be found in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

DSP 4.1.3 (Intentionally open)

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 estimated time of use of the destination airport:
  (a) The approach and landing may be made under visual meteorological conditions (VMC), as defined by the State;
  (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 estimated time of use 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;
  (b) 1,500 feet above the lowest (*TERPS*) circling MDA, if a circling approach is required and authorized for that airport;
  (c) 2,000 feet or 500 feet above the (*PANS-OPS*) circling height, whichever is greater;
  (d) 2,000 feet or 1,500 feet above the lowest applicable HAT/HAA, whichever is greater.

(iii) If the Operator uses a performance-based compliance method in accordance with DSP 4.6.1A, when it is determined with reasonable certainty that the destination airport, or another airport where a safe landing can be made, will be available when needed and current information indicates that conditions at the estimated time of use will be at or above the Operator's established airport operating minima for that operation. **(GM)**

Note: *Item ii) is a Parallel Conformity Options in effect until 31 December 2016.*

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), as a minimum, is contingent on the definition of the ceiling and visibility expected at the estimated time of use of the destination airport. Other determinants such as flight time (e.g. 6 hours) or the availability of separate runways may 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).*

Guidance

Refer to the IRM for the definitions of Domestic Flight, Isolated Airport, PANS-OPS and TERPS, and 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 estimated time of use.

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 conformance with items i) through iii) is "as applicable to the operator" and dependent on many factors including the regulatory environment and the type of operations conducted. An operator, for example, that uses purely performance-based compliance method, need only conform to item iii). Conversely, operator that uses purely prescriptive compliance methods could conform to other specifications alone or in combination.

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 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.

Conformity with this provision is possible in accordance with performance-based compliance methods as specified in item v) and DSP 4.6.1A using operationally-specific performance measures. The performance measures, demonstrable levels of safety performance and associated targets are specific to each operator.

Examples of performance-based compliance and performance measures related to the selection of alternate airports are contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976). Such examples include, but are not limited to, specific operational approvals based on the demonstrable operator capabilities and mitigation measures described in FAA OPSpecs, Deviations or Exemptions.

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 estimated time of use 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 estimated time of use 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 estimated time of use 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 estimated time of use.

(v) If the Operator uses a performance-based compliance method in accordance with DSP 4.6.1A, when it cannot be determined with reasonable certainty that the destination airport, first alternate airport or another airport where a safe landing can be made, will be available when needed and current information indicates that conditions at the estimated time of use will be at or above the Operator's established airport operating minima for that operation. **(GM)**

Note: *Items iii) and iv) are Parallel Conformity Options in effect until 31 December 2016.*

Note: *The specifications of this provision are not applicable for flights conducted under isolated airport operations as specified in DSP 4.1.7.*

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 estimate time of use 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 estimated time of use.

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 conformance with items i) through v) 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 additional 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.

Conformity with this provision is possible in accordance with performance-based compliance methods as specified in item v) and DSP 4.6.1A using operationally specific performance measures.

The performance measures**,** demonstrable levels of safety performance and associated targets are specific to each operator.

Examples of performance-based compliance and performance measures related to the selection of alternate airports are contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976). Such examples include but are not limited to specific operational approvals based on the demonstrable operator capabilities and mitigation measures described in FAA OPSpecs, Deviations or Exemptions.

DSP 4.1.6 (Intentionally open)

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 estimated time of use. (**GM)** ▲

▲ *An operator may conform to DSP 4.1.7 through Active Implementation as long as the implementation Action Plan (IAP) projects conformance on or before 31 December 2016*.

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 provide practical instructions so that operational control personnel and the flight crew can calculate or determine the actual position of the PSR.

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 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 4.2.1 The Operator shall have guidance and procedures to ensure planned minimum flight altitudes are within the limits established by the applicable authorities. **(GM)**

Guidance

Operational flight planning includes a review of the route of flight, in conjunction with published aeronautical information, to ensure compliance with minimum flight altitudes. Such review could 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.

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.

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)**

Guidance

Operational flight planning 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.

DSP 4.2.3 If the Operator utilizes aircraft with three or more engines, the Operator shall have guidance and procedures for provision of an OFP that ensures aircraft with three or more engines can *either*:

(i) If a second engine becomes inoperative en route, continue from the point where two engines are assumed to fail simultaneously to an en route alternate airport at which the landing distance specification for alternate airports is complied with and where it is expected that a safe landing can be made**,** *or*

(ii) If a single engine becomes inoperative en route, and for operations conducted in areas of the world with limited diversion options, the flight is planned with a more distant alternate than specified in item i) in order to provide for a diversion for any en route contingency that may limit the planned operation. Such diversion planning shall be conducted in accordance with the specifications of a program approved or accepted by the State that requires the Operator to actively manage the risk of subsequent engine failures or other flight limiting occurrences and:

(a) Contains special considerations for extended range flights conducted over remote areas designed to prevent the need for a diversion and protect the diversion to an alternate airport when it cannot be prevented;

(b) Utilizes aircraft designed and manufactured for the intended operation and maintained to ensure original reliability;

(c) Requires the Operator to implement and maintain a problem reporting, tracking and resolution system that contains a means for the prompt reporting, tracking and resolution of specific problems, as designated by the Operator or State, that could affect the safety of the operation;

(d) Requires a prescribed level of engine reliability, as measured by an in-flight shutdown rate (IFSD) determined by the Operator or State, where the risk of independent failures leading to a loss of thrust from two simultaneous engine failures ceases to limit the operation and other limiting factors come into play;

(e) Designates a maximum diversion distance in cases where a diversion is necessary for any reason, including limiting airframe systems and reasons that do not have anything to do with aircraft reliability, such as passenger illness;

(f) Requires the Operator to demonstrate to the applicable authorities that, when considering the impact of increasing diversion time, the operation can be conducted at a level of reliability which maintains an acceptable level of risk. **(GM)**

Note: *Item ii) is a Parallel Conformity Option in effect until 31 December 2016.*

Guidance

Operational flight planning includes a review of the route of flight along with published aeronautical information to ensure the designation of appropriate en route alternates that meet all operational and regulatory requirements.

Applicable authorities as specified in item f) includes 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)**

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.

Performance-based operational variations are only applicable to the calculation of taxi fuel, trip fuel, contingency fuel, destination alternate fuel and additional fuel. Accordingly, a performance-based conformance option is present in the respective provisions of this sub-section that address the aforementioned fuel calculations. Such options may be applied by an operator in accordance with the applicable specifications if approved or accepted by the State.

Guidance on the organizational and operational systems and processes necessary to support both prescriptive and performance-based compliance methods 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)**

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 4.3.3–4.3.4 (Intentionally open)

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 *either* of the following:

(i) 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, *or*

(ii) If the Operator uses a performance-based compliance method in accordance with DSP 4.6.1B, an amount of fuel representative of the actual fuel required for an aircraft to taxi to the point of takeoff. **(GM)**

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.

Operators using performance-based compliance methods in accordance with item ii) have the demonstrable capability, using historical data collection and analysis tools, to adjust taxi times in order to ensure continuous improvement in preflight taxi fuel calculations.

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, are typically addressed by the use of Statistical Taxi Fuel in accordance with item ii), 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).

Guidance on prescriptive and performance-based 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 *either* of the following:

(i) The amount of fuel required to enable the aircraft to fly from takeoff or 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, *or*

(ii) If the Operator uses a performance-based compliance method in accordance with DSP 4.6.1B, an amount of fuel representative of the actual fuel required for an aircraft to fly from takeoff or the point of in-flight re-planning until landing at the destination airport. **(GM)**

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 planned trip fuel burn is greater than or equal to the actual trip fuel burn.

Guidance on prescriptive and performance-based 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 in any case not 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 the Operator uses a performance-based compliance method in accordance with DSP 4.6.1B, an amount of fuel as necessary to compensate for unforeseen factors that could have an influence on the fuel consumption to the destination airport.

Note: *Items ii), iii), iv) and v) are Parallel Conformity Options in effect until 31 December 2016.*

Note: *The specifications in item ii) and iii) are only applicable to an operator if the State and/or the Operator differentiate between domestic and international flights for the purpose of contingency fuel calculations.*

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 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 items i) through iii) of the provision if the pre-flight computation of usable fuel allocates an equivalent or greater amount of fuel to compensate for unforeseen factors that could influence fuel burn to the destination airport.

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 performance-based compliance methods in accordance with item vi) have the demonstrable capability, using historical data collection and analysis tools, to adjust their fuel policy in order to ensure continuous improvement in the accuracy and adequacy of contingency fuel calculations.

Examples of performance-based compliance methods and performance measures related to the computation of contingency fuel are contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976), which addresses, among other things:

- Statistical Contingency Fuel (SCF);
- Contingency fuel calculations based on the advanced use of en route airports such as Reduced Contingency Fuel (RCF), 3% En Route Alternate Aerodrome (ERA) and Re-dispatch or Re-release En Route (B044);
- Special Fuel Reserves in International Operations Reserve (B043) Fuel Planning, Flag and Supplemental Operations (B0343) Reserve Fuel and other specific operational approvals based on the demonstrable operator capabilities and mitigation measures described in FAA OPS Specs, Deviations and Exemptions.

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 *either* of the following (as applicable to the Operator):

(i) The amount of fuel that will enable the aircraft to complete all of the following:

(a) Perform a missed approach at the destination airport;

(b) Climb to the expected cruising altitude;

(c) Fly the expected routing to the destination alternate airport;

(d) Descend to the point where the expected approach is initiated;

(e) Conduct the approach and landing at the destination alternate airport, *or*

(ii) If the Operator uses a performance-based compliance method in accordance with DSP 4.6.1B, an amount of fuel as necessary to mitigate the safety risks associated with the flight conducting a missed approach at the destination and proceeding to 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.*

Guidance

The intent of this provision is 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.

Examples of performance-based compliance and performance measures related to 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 *either* of the following (as applicable to the Operator):

(i) The amount of fuel, as calculated in accordance with DSP 4.3.8 **i)**, that enables the aircraft to proceed to the destination alternate airport requiring the greater amount of fuel, *or*

(ii) If the Operator uses a performance-based compliance method in accordance with DSP 4.6.1B, an amount of fuel as necessary to mitigate the safety risks associated with a flight having to proceed to the most distant 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.*

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.

Examples of performance-based compliance and performance measures related to the computation of alternate fuel are contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

DSP 4.3.10 The Operator shall have a process and/or procedures to ensure, *for flights that do not require a destination alternate airport*, a supplemental amount of fuel is carried to provide for increased fuel consumption during the flight to the destination airport due to unforeseen operational occurrences. Such supplemental fuel is only required under *either* of the following conditions (as applicable to the Operator):

(i) When the contingency fuel calculated in accordance with DSP 4.3.7 is insufficient 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, *or*

(ii) If the Operator uses a performance-based compliance method in accordance with DSP 4.6.1B, when it is determined that an amount of supplemental fuel is necessary to mitigate the safety risks associated with no-alternate airport operations. **(GM)**

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.*

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.

An operator may satisfy the fuel reserve requirements specified in items i) by defining time, speed, altitude, and/or engine power conditions in accordance with requirements of the Authority that yield an equivalent or greater amount of fuel.

Examples of performance-based compliance and performance measures related to 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 any of the following (as applicable to the Operator):

(i) For a turbine engine aircraft, 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.

(ii) For a reciprocating engine aircraft, the amount of fuel required to fly for the lesser of 2 hours or 45 minutes plus 15 percent of the flight time planned to be spent at cruising level, including the final reserve calculated in accordance with DSP 4.3.12.

(iii) If the Operator uses a performance-based compliance method in accordance with DSP 4.6.1B, an amount of fuel as necessary to mitigate the safety risks associated with isolated airport operations and protect the final reserve fuel calculated in accordance with DSP 4.3.12. **(GM)**

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).

Examples of performance-based compliance and performance measures related to 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 any of the following (as applicable to the Operator):

(i) For a turbine engine aircraft, the amount of fuel required to fly for 30 minutes at holding speed at 450 m (1,500 ft) above airport elevation in standard conditions, *or*

(ii) For a turbine engine aircraft, 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, *or*

(iii) For a reciprocating engine aircraft, the amount of fuel required to fly 45 minutes under speed and altitude conditions specified by the Operator and as approved or accepted by the Authority. **(GM)**

Note: *Item ii) is a Parallel Conformity Option in effect until 31 December 2016.*

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 satisfy the final fuel reserve requirements specified in the provision by defining time, speed, altitude, and/or engine power conditions in accordance with requirements of the Authority that yield an equivalent or greater amount of fuel.

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 to complete the following:

(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.

(ii) Allow the aircraft engaged in EDTO to comply with i) and the EDTO critical fuel scenario as established by the State.

(iii) Allow for any additional operational requirements not covered by items i) and ii).

(iv) If the Operator uses a performance-based compliance method in accordance with DSP 4.6.1B, allow for the mitigation of safety risks associated with an engine failure, loss of pressurization, realization of the EDTO critical fuel scenario or any additional operational requirements. **(GM)**

▲ *An operator may conform to DSP 4.3.13* ***i)*** *through Active Implementation as long as the implementation Action Plan (IAP) projects conformance on or before 31 December 2016.*

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) is subject to Active Implementation and is applicable to non-EDTO operations.

The specification in item ii) applies to aircraft engaged in EDTO. It addresses the fuel necessary to comply with the 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).

Examples of additional fuel calculations and critical fuel scenarios are contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

Refer to the guidance material for FLT 4.5.1 located in ISM Section 2 for references to technical guidance for the conduct of EDTO.

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.

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 onboard the aircraft to complete the planned flight safely.

DSP 4.3.15 (Intentionally open)

DSP 4.3.16 The Operator *should* have guidance for use by the flight crew and, if applicable, FOO personnel for the purpose of increasing fuel state awareness and for providing a means for such personnel to easily determine one approximate final reserve fuel value applicable to each aircraft type and variant in the Operator's fleet.

Guidance

The intent of this provision is for an operator to provide the means for operational control personnel and flight crew members to quickly determine an approximate final reserve fuel value (rounded up to an easily-recalled figure) for each aircraft type and variant in its fleet. Fuel values determined in accordance with this provision are not intended to be substitutes for the exact values calculated in accordance with DSP 4.3.12, but rather as a quick reference used to heighten the awareness of operational control personnel and flight crews during fuel planning and in-flight fuel management activities.

The specifications of this provision may be satisfied through the use of tables or charts that represent fuel in the unit of measure appropriate for the operation and based on data derived from the Approved Flight Manuals (AFM) for all types and variants used in operations.

Alternatively, the specifications of this provision can be satisfied by Flight Management Systems that can display the actual final reserve fuel figure.

Examples of final reserve fuel tables or charts are contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

4.4 Oxygen

DSP 4.4.1 The Operator shall have guidance and procedures to ensure a flight in a pressurized or unpressurized aircraft is not commenced unless a sufficient amount of stored breathing oxygen is carried to supply crew members and passengers in accordance with FLT 4.3.4 and FLT 4.3.5. **(GM)**

Guidance

The intent of this provision is to ensure operational control personnel with responsibilities related to flight planning or aircraft scheduling are provided with the necessary information regarding oxygen carriage requirements in order to appropriately match an aircraft to a planned route.

Refer to Guidance associated with FLT 4.3.4 and FLT 4.3.5 located in ISM Section 2.

4.5 Operations Beyond 60 Minutes from En Route Alternate Airport (Including 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 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)**

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, including EDTO. 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, including 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;
- EU-OPS AMC 20-6 rev. 2 Effective: 12/23/2010: 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 EDTO.

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, 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 turbine engines engaged in 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 estimated time of use. **(GM)**

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 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, Amendment 36, Attachment D and the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

DSP 4.5.3 If the Operator utilizes aircraft with two turbine engines in 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;

(ii) The ATS flight plan where required by the State or the ATS system in use. **(GM)**

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 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 EDTO, are specified on the ATS flight when required by the State or other applicable authority.

DSP 4.5.4 The Operator shall have guidance and procedures to ensure, for aircraft engaged in EDTO:

(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 estimated time of use, 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 estimated time of use, an alternative course of action has been determined. **(GM)**

Guidance

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.

4.6 Performance-Based Compliance

DSP 4.6.1A If the Operator uses performance-based methods in accordance with the applicable regulations of the State, and as approved or accepted by the Authority, for the purpose of complying with alternate airport selection regulations, the Operator shall ensure a level of safety in such operations that is acceptable to the State and that takes into consideration its own organizational and operational capabilities as well as, for all applicable operations, the:

(i) Overall capability of each applicable aircraft and its systems;

(ii) Available airport technologies, capabilities and infrastructure;

(iii) Quality and reliability of meteorological information. **(GM)**

Guidance

The intent of this provision is to ensure an operator's safety case in support of performance-based compliance with alternate airport selection regulation(s), as a minimum, takes into account relevant organizational and operational capabilities. Such capabilities must be carefully assessed by operators in order to determine if they possess the requisite knowledge, skills, experience, resources and technologies necessary to support the use of performance-based methods and to reach the target levels of performance necessary to ensure safety.

The organizational and operational capabilities specified in the body of the provision are necessary to support performance-based methods in general, while those specified in items i) through iii) are specific to alternate selection. A description of the typical relevant organizational and operational capabilities specified in the body of the provision can be found in the General Guidance associated with this sub-section.

The considerations specified in item i) typically refer to aircraft capabilities such as:

- Advanced onboard flight management and navigation systems;
- CAT I, CAT II, CAT III approach capability;
- RNAV/RNP APCH LNAV and LNAV/VNAV, RNP AR, LPV, GNSS, GBAS, SBAS approach capability;
- ADS-C/ADS-B aircraft air and runway/taxiway positioning;
- Communications methods such as SATCOM, VHF and HF (with/without SELCAL), ACARS, VHF/HF/Satellite Datalink.

The considerations specified in item ii) typically refer to airport technologies, capabilities and associated infrastructure such as:

- CAT I, CAT II, CAT III approach capability and supporting infrastructure;
- Air Traffic Flow Management (ATFM) and/or availability of ATM collaborative decision making;
- ATC radar data-based real time graphical flight monitoring services;
- Airport and runway condition reporting;
- NOTAM reporting;
- Reporting of other foreseeable airport conditions that may pose a hazard to operations.

The considerations specified in item iii) typically refer to the quality and reliability of meteorological information such as:

- Airport operating minima including reported RVRs;
- SIGMET, METAR/SPECI, TAF;
- Airport Automatic Weather Stations (AWS);
- Volcanic Ash Advisories, earthquake events and tsunamis;
- Tropical cyclone advisories;
- Blowing dust or other advisories related to limited visibility;
- Other reported foreseeable meteorological phenomena that may pose a hazard to operations.

Guidance on performance-based methods and performance-based compliance to regulation, safety risk management and performing safety risk assessments is contained in the Flight Planning and Fuel Management Manual (Doc 9976) and the Safety Management Manual (SMM) (Doc 9859).

DSP 4.6.1B If the Operator uses performance-based methods in accordance with the applicable regulations of the State, and as approved or accepted by the Authority, for the purpose of complying with fuel planning regulations, the Operator shall ensure a level of safety in such operations that is acceptable to the State and that takes into consideration the organizational and operational capabilities of the operator and for all applicable operations, the:

(i) Flight fuel calculations;

(ii) Capabilities of the data-driven method used for determining usable fuel required;

(iii) Capabilities of the fuel consumption monitoring program used for determining hull-specific fuel burn and/or the advanced use of alternate airports, as applicable. **(GM)**

Guidance

The intent of this provision is to ensure an operator's safety case in support of performance-based compliance with fuel planning regulation(s), as a minimum, takes into account relevant organizational and operational capabilities. Such capabilities must be carefully assessed by each operator in order to determine if they possess the specific knowledge, skills, experience, resources and technologies necessary to support the use of performance-based methods and to reach the target levels of performance necessary to ensure safety.

The organizational and operational capabilities specified in the body of the provision are necessary to support performance-based methods in general while those specified in items i) through iii) are specific to fuel planning.

An expanded description of the typical relevant organizational and operational capabilities specified in the body of the provision can be found in the General Guidance associated with this sub-section.

The specification in item i) refers to the calculations used to practically implement the operator's fuel policy. The level of sophistication, accuracy, quality, adaptability and completeness of such calculations is typically assessed in conjunction with performance-based compliance to fuel planning regulation(s).

Guidance on performance-based methods and performance-based compliance to regulation, safety risk management and performing safety risk assessments is contained in the Flight Planning and Fuel Management Manual (Doc 9976) and the Safety Management Manual (SMM) (Doc 9859).

DSP 4.6.1C If the Operator uses performance-based methods in accordance with the applicable regulations of the State, and as approved or accepted by the Authority, for the purpose of conducting EDTO beyond the time limits of the most time-limited system, the Operator shall ensure a level of safety in such operations that is acceptable to the State and that takes its own organizational and operational capabilities as well as for all applicable operations, the:

(i) Overall reliability of the aircraft;

(ii) Reliability of each time limited system;

(iii) Relevant information from the aircraft manufacturer. **(GM)**

Guidance

The intent of this provision is to ensure an operator's safety case in support of performance-based compliance with EDTO regulation(s), as a minimum, takes into account relevant organizational and operational capabilities. Such capabilities must be carefully assessed by each operator in order to determine if they possess the specific knowledge, skills, experience, resources and technologies necessary to support the use of performance-based methods and to reach the target levels of performance necessary to ensure safety.

The organizational and operational capabilities specified in the body of the provision are necessary to support performance-based methods in general while those specified in items i) through iii) are specific to EDTO.

An expanded description of the typical relevant organizational and operational capabilities specified in the body of the provision can be found in the General Guidance associated with this sub-section.

Guidance on performance-based methods and performance-based compliance to regulation, safety risk management and performing safety risk assessments is contained in the Flight Planning and Fuel Management Manual (Doc 9976) and the Safety Management Manual (SMM) (Doc 9859).

DSP 4.6.2 If the Operator uses performance-based methods in accordance with DSP 4.6.1A, 4.6.1B and/or 4.6.1C, the Operator shall ensure the operations or series of operations applicable to such methods are subjected to:

(i) Processes in the flight operations and/or operational control organization that include a combination of reactive and proactive methods for safety data collection and analysis to identify hazards that present existing or potential risks to such operations;

(ii) A safety risk assessment and mitigation program in the flight operations and/or operational control organization that specifies processes to ensure:

(a) Hazards identified in conjunction with such operations are analyzed to determine the existing and potential safety risks;

(b) Safety risks are assessed to determine the requirement for risk control action(s);

(c) When required, risk mitigation actions are developed.

(iii) The operational reporting system in the flight operations and/or operational control organization in accordance with FLT 1.12.3 and/or DSP 1.12.3;

(iv) Processes in the flight operations or operational control organization for setting performance measures as a means to monitor the safety performance of the operational activity and to validate the effectiveness of risk controls. **(GM)**

Guidance

The principal intent of this provision is to ensure operators possess the requisite safety data collection and safety risk management capabilities to support performance-based compliance. Additionally, it ensures the existing organizational and operational capabilities of operators are tailored to address the specific safety risks associated with performance-based compliance as applied to alternate selection, fuel planning and/or EDTO.

It is important to note that although an organizational safety management system (SMS) is not required in order to support performance-based compliance to regulation, an existing SMS can be adapted to manage the specific safety risks associated with alternate selection, fuel planning and EDTO.

DSP 4.6.3 If the Operator uses performance-based methods as specified in DSP 4.6.1A, 4.6.1B or 4.6.1C for the purpose of complying with alternate airport selection, fuel planning and/or EDTO regulations, the Operator *should* ensure the organizational activities specified in DSP 4.6.2 related to performance-based compliance are integrated as a component or sub-system of the Operator's organizational safety management system as specified in ORG 1.1.10A. **(GM)**

Guidance

The intent of this provision is to ensure the "tactical" organizational activities specified in DSP 4.6.2 interface with organizational or "strategic" 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.

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 2.2.1 and 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 nominated 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 2.2.1 and 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 utilized 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 Operations Manual (GOM), 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 and navigation aids;	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;	FLT 4.3.4, 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. 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) Fuel and oil records (obtained in accordance with MNT 3.1.1).

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:				
Competency		**FOO**	**FOA**	FOA Relevancy (examples)
(i)	Contents of the Operations Manual relevant to the operational control of flights;	X[3]	X[3B]	Relevant contents
(ii)	Radio equipment in the aircraft used;	X[3]	X[3B]	As relevant to function
(iii)	Aviation indoctrination;	X[3]	X[3B]	Subjects relevant to function
(iv)	Navigation equipment in the aircraft used, including peculiarities and limitations of that equipment;	X[3]	X[3B]	Navigation Analysts, Flight Planners
(v)	Seasonal meteorological conditions and hazards;	X[3]	X[3B]	Weather Analysts/Meteorologists
(vi)	Source of meteorological information;	X[3]	X[3B]	Weather Analysts/Meteorologists
(vii)	Effects of meteorological conditions on radio reception on the aircraft used;	X[3]	X[3B]	Weather Analyst/Meteorologists
(viii)	Aircraft mass (weight) balance and control;	X[3]	X[3B]	Load Planners
(ix)	Human performance relevant to operations or dispatch duties (CRM/DRM);	X[3]		
(x)	Operational procedures for the carriage dangerous goods;	X[2]	X[2B]	As relevant to function
(xi)	Operational procedures for the carriage of cargo;	X[3B]	X[3B]	As relevant to function
(xii)	Operational emergency and abnormal procedures;	X[2B]	X[2B]	As relevant to function
(xiii)	Security procedures (emergency and abnormal situations);	X[3]	X[3B]	As relevant to function
(xiv)	Civil Air Law and regulations;	X[3]	X[3B]	Air Traffic Managers
(xv)	Aircraft mass (weight) and performance;	X[3]	X[3B]	Load Planners
(xvi)	Navigation, special navigation;	X[3]	X[3B]	Navigation Analysts
(xvii)	Special airports;	X[3A]	X[3AB]	Flight Planners
(xviii)	Air traffic management;	X[3]	X[3B]	Air Traffic Managers
(xix)	Aircraft systems and MEL/CDL;	X[3]	X[3B]	MX Controllers
(xx)	Flight planning;	X[3]	X[3B]	Flight Planners
(xxi)	Flight monitoring;	X[3]	X[3B]	Flight Followers
(xxii)	Communication;	X[3]	X[3B]	Flight Followers
(xxiii)	Fuel supply (aircraft and fuel type requirements);	X[3]	X[3B]	Flight Planners
(xxiv)	De-icing/anti-icing procedures;	X[3A]	X[3AB]	As relevant to function
(xxv)	Procedures for operations beyond 60 minutes including, if applicable, EDTO.	X[3A]	X[3AB]	Flight Planners

Table 3.5–Competencies of Operational Control	
Legend	
X:	Shall be completed during training and evaluation.
1:	Shall be satisfactorily completed during initial training and once every calendar year plus or minus one calendar month from the original qualification anniversary date or base month.
2:	Shall be satisfactorily completed during initial training and once every 24 months.
3:	Shall be satisfactorily completed during initial training and once every three calendar years plus or minus one calendar month from the original qualification tri-annual anniversary date or base month.
A:	If relevant to the operations of the Operator.
B:	If relevant to area of expertise or job function (e.g. Flight Planning, Maintenance Control, Load Planning, Air Traffic Management).
Notes	
FOO personnel that are assigned overall operational control responsibility for specific flights, assigned responsibilities in all competencies of operational control or utilized 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.	

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 provisions or sub-specifications within a provision that:

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

Where an operator outsources the performance of aircraft engineering and maintenance functions to external organizations, the operator retains overall responsibility for such functions, 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).

1 Management and Control

1.1 Management System

MNT 1.1.1 The Operator shall have a management system for maintenance operations that ensures:

(i) Management of safety and quality in maintenance operations;

(ii) Supervision and control of maintenance activities;

(iii) Compliance with applicable regulations and standards of the Operator. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 1.1.1 located in ISM Section 1.

MNT 1.1.2 The Operator shall have a staff of management personnel suitably matched to the scale and scope of maintenance operations to ensure:

(i) Maintenance of all aircraft is performed in accordance with the Maintenance Program;

(ii) All maintenance is carried out in accordance with policies and procedures contained in the Maintenance Management Manual (MMM). **(GM)**

Guidance

Refer to the IRM for the definitions of EDTO (Extended Diversion Time Operations), Maintenance Management Manual (MMM) and Maintenance Program.

The management personnel represent the maintenance management structure of the operator and are responsible for all maintenance functions. Dependent on the size of the operation and the organizational set up, the maintenance functions may be divided among individual managers or combined, as applicable to the airline structure.

The actual number of persons employed and their qualifications are dependent upon the tasks to be performed and thus dependent on the size and complexity of the operation (e.g. route network, line and/or charter operations, EDTO, fleet composition, aircraft complexity and age), number and locations of maintenance facilities and the amount and complexity of maintenance contracts. Consequently, the number of persons needed and their qualifications may differ greatly from one operator to another and a simple formula covering the whole range of possibilities is not feasible.

MNT 1.1.3 The Operator shall have a manager of maintenance operations that is acceptable to the Authority, if required, and is responsible, and thus accountable for ensuring:

(i) The management of safety risks in maintenance operations;

(ii) Maintenance 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. **(GM)** ◄

Guidance

Refer to the IRM for the definitions of Air Operator Certificate (AOC) and Authority.

In certain regulatory jurisdictions the individual that is the manager of an operator's maintenance operations is required to be a nominated official that is acceptable to the Authority.

Refer to ORG 1.1.4 located in ISM Section 1.

1.2 Authorities and Responsibilities

MNT 1.2.1 The Operator shall ensure the management system for maintenance operations defines authorities and responsibilities of management and non-management personnel that perform functions relevant to aircraft maintenance. The management system shall also specify:

(i) The levels of management within maintenance operations with the authority to make decisions that could affect aircraft airworthiness;

(ii) Responsibilities for ensuring maintenance operations are conducted in accordance with conditions and restrictions of the AOC, applicable regulations and standards of the Operator. **[SMS] (GM)** ◄

Guidance

Refer to Guidance associated with ORG 1.3.1 located in ISM Section 1.

MNT 1.2.2 The Operator shall have a process for the delegation of duties within the management system for maintenance operations that ensures managerial continuity is maintained when operational managers, including any nominated post holder(s), are absent from the workplace. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 1.3.2 located in ISM Section 1.

MNT 1.2.3 The Operator shall ensure a delegation of authority and assignment of responsibility within the management system for maintenance operations for liaison with regulatory authorities, original equipment manufacturers (OEMs) and other external entities relevant to maintenance operations. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 1.3.3 located in ISM Section 1.

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 Authority and contains information and data for each aircraft type 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)**

Guidance

Refer to the IRM for the definitions of Approved Maintenance Organization (AMO), State of Design and State of Registry.

An operator's authority holds the operator responsible for the definition of Approved Data and an Approved Maintenance Program for use by the operator and its maintenance organization.

In this context, it is necessary to check what vehicle is being used by the operator to ensure that both the Approved Data and Maintenance Program are known to the approved maintenance organization (AMO) and are approved according to the requirements of the Authority. Additionally, it is necessary to check which vehicle the operator uses to introduce changes to Approved Data and to the Approved Maintenance Program. Does the operator have a Design Organization to perform these activities?

Here it is also proper to ask the question: what subscriptions the operator has in order to be able to define its Approved Data and Approved Maintenance Program? e.g., bi-weekly, TC Holder Data, shared reliability data and others.

The aircraft is maintained to one approved operator's aircraft maintenance program. When an operator wishes to change from one approved operator's aircraft maintenance program to another approved program, a transfer check/Inspection may need to be performed, as agreed with the Authority, in order to implement the change.

The operator's aircraft maintenance program 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.

Some approved operators' aircraft maintenance programs, not developed from the MRB Process, use reliability programs. The purpose of a reliability program is to ensure that 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, addition or deletion of maintenance tasks, as deemed necessary. A reliability program provides an appropriate means of monitoring the effectiveness of the maintenance program.

The maintenance program typically contains the following information:

- 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 utilization of the aircraft and where utilization 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.

A system is in place to analyze the effectiveness of the maintenance program with regard to spares, known defects, malfunctions and damage and to amend the maintenance program, as necessary. The amendment to the maintenance program requires the approval of the Authority unless the operator has been approved to amend the maintenance program without requiring approval of the Authority.

MNT 1.3.2 The Operator shall ensure the design and application of the Maintenance Program observes human factors principles. **(GM)**

Guidance

Refer to the IRM for the definition of Human Factors Principles.

Specifically with respect to observation of human factor principles in design and application of the maintenance program, the following guidance material provides information regarding the development of maintenance schedules/programs, including the development of the associated Task Cards, hereafter referred to as the “Maintenance Item.”

In developing a Maintenance Item, attention is applied to the Human Factors layout of the Maintenance Item that includes, but is not limited to:

- Layout of the Maintenance Item;
- Language used;
- Clear and concise instructions that are as brief and succinct as possible;
- Standardization of all task cards at the beginning to include the appropriate personnel safety warnings and cautions;
- All notes, warnings and cautions are apparent by the suggested use of boxing, bolding, italicizing and underlining text;
- Clear instructions for the mechanic/inspector as to where to sign, certify, initial, date the task;
- Where possible, the use of color to display Maintenance Items and task cards;
- Where a Maintenance Item has important graphic details, the graphics are included;
- Full amplification of some tasks rather than referral to a separate document that may distract the mechanic;
- Referral to the applicable Approved Data.

Guidance material for the application of human factors principles may be found in the ICAO Human Factors Training Manual, Document 9683.

MNT 1.3.3 The Operator shall ensure amendments to the Maintenance Program are furnished to all organizations and/or persons to whom the Maintenance Program has been issued.

1.4 Provision of Resources

MNT 1.4.1 The Operator shall ensure the existence of the facilities, workspace, equipment and supporting services, as well as the work environment, that are necessary to allow all maintenance to be performed in accordance with the Maintenance Program. **(GM)** ◄

Guidance

Conformity with MNT 1.4.1 does not require specifications to be *documented* by an operator.

Refer to Guidance associated with ORG 1.6.1 located in ISM Section 1.

MNT 1.4.2 The Operator shall ensure management and non-management positions within maintenance operations that require the performance of functions relevant to aircraft airworthiness are filled by personnel on the basis of knowledge, skills, training and experience appropriate for the position. **(GM)** ◄

Guidance

A corporate personnel selection policy that applies to all operational areas of the company, including the maintenance organization, will serve to satisfy this specification.

Refer to Guidance associated with ORG 1.6.2 located in ISM Section 1.

MNT 1.4.3 The Operator shall ensure availability of the facilities, personnel, equipment and other resources, as necessary, for the implementation of management and control functions, as specified in Table 4.2.

1.5 Communication

MNT 1.5.1 The Operator shall have a communication system that enables and ensures an effective exchange of information relevant to operations within the management system for maintenance operations and with each maintenance organization that performs maintenance for the Operator. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 1.4.1 located in ISM Section 1.

1.6 Documentation System

MNT 1.6.1 The Operator shall have a system for the management and control of documentation and technical data used directly in the conduct or support of maintenance operations. Such system shall include elements as specified in ORG 2.1.1. **(GM)** ◄

Guidance

Refer to the IRM for the definition of Documentation and Electronic Documentation.

Refer to ORG 2.1.1 and associated Guidance, and Table 1.1, located in ISM Section 1.

MNT 1.6.2 (Intentionally open)

MNT 1.6.3 The Operator shall have processes to ensure the content of documentation used directly in the conduct or support of maintenance operations:

(i) Contains legible and accurate information;

(ii) Is presented in a format appropriate for use in maintenance operations;

(iii) If applicable, is accepted or approved by the Authority. ◄

1.7 Maintenance Management Manual

MNT 1.7.1 The Operator shall have, for the use and guidance of relevant maintenance and operational personnel, a Maintenance Management Manual that is accepted or approved by the Authority. The MMM may be issued in separate parts and shall contain maintenance policies, procedures and information as specified in Table 4.3. The design of the manual shall observe Human Factors principles. **(GM)**

Guidance

An MMM is a document that defines how an operator, through its AMO and all contracted AMOs, accomplishes and controls its aircraft maintenance activities. This document sets out:

- The description of the maintenance management system and its senior personnel;
- Each location where maintenance is carried out;
- The Approved Data for accomplishing aircraft maintenance;
- The procedures by which Engineering and Maintenance is managed.

The MMM provides all Engineering and Maintenance personnel with the necessary information to enable them to accomplish their duties and allow the Authority to understand and approve how the operator and its AMO comply with the applicable Airworthiness Requirements.

The MMM can comprise one manual or a suite of manuals. The MMM may have specific sections extracted to form a customized manual for distribution to maintenance contractors, line stations and others, as applicable.

The MMM can be a generic term for the MCM, QPM, MOM, QM, IPM, MME and others. The purpose of the MMM is to set forth the procedures, means and methods of the operator in fulfilling its maintenance responsibilities. Compliance with its contents assures fulfillment of the operator's maintenance responsibilities.

The management section in the MMM may be produced as a stand-alone document and made available to the key personnel required to be familiar with its contents.

Working procedures between the operator and AMO are established and may be produced as any number of separate procedures manuals and cross-referenced from the management part of the MMM. The list of AMO Certifying Personnel may be produced as a separate document.

Personnel from both the operator and the AMO are expected to be familiar with sections of the manuals that are relevant to the work they carry out.

Responsibilities and procedures for revisions to the management part of the MMM and any associated manuals are to be specified.

The Quality Manager of the operator is responsible for monitoring revisions to the MMM unless otherwise agreed by the Authority.

Unless the Authority has agreed via a procedure stated in the amendment section of the MMM that certain defined classes of amendments may be incorporated without prior Authority approval, this process includes monitoring revisions to the associated procedures manuals.

The MMM normally has at least the following four main parts to cover the items in Table 4.3:

- Organization and management;
- Maintenance procedures;
- Quality system procedures;
- Contracted maintenance procedures and paperwork.

And also contains:

- An organization chart;
- Procedures to ensure:
  - Each aircraft operated is maintained in an airworthy condition;
  - The operational and emergency equipment necessary for an intended flight is serviceable;
  - The Certificate of Airworthiness of each aircraft operated remains valid.

- A description of the quality system;
- A description of the procedure for receiving, amending and distributing all necessary airworthiness data from the type certificate holder or type design organization;
- A statement signed by the operator confirming the MMM and any incorporated documents identified therein reflect the operator's means of compliance with the Authority requirements;
- A description of the MMM amendment control procedure;
- A means of identifying each page of the MMM. This can be in the form of a list of effective pages with each page numbered and either dated or marked with a revision number;
- A description of the system used to distribute the MMM, including a distribution list; for non-scheduled work, temporary copies of the relevant portions of the MMM, or any incorporated reference, may be sent via facsimile transmission;
- A detailed description of the procedures used to ensure that any maintenance tasks required by the maintenance schedule, airworthiness directives or any task required for the rectification of a defect are completed within the required time constraints;
- A description of the evaluation program required by these standards;
- A description of the defect rectification and control procedures, including details of:
  - The methods used to detect and report recurring defects;
  - The procedures for scheduling the rectification of defects whose repair has been deferred, if these procedures have not been incorporated into the MEL preamble.
- The procedures used to report service difficulties in accordance with these standards;
- A description of the technical dispatch procedures, including procedures for ferry-flight authorizations, EDTO (equivalent terms: ETOPS, EROPS, LROPS), all weather operations and/or any other special operations;
- A description of personnel records to be retained;
- A description of the procedure used to ensure the empty weight and balance of each aircraft is recorded in accordance with the applicable State of Registry/Authority requirements;
- Maintenance arrangements and a list of all such arrangements, including the procedure used to communicate to an approved maintenance organization the maintenance requirements for planned and unforeseen maintenance activities, as well as those mandated by airworthiness directives;
- Procedure for revising and maintaining the MMM up to date and current;
- Approval of the Authority through approval of the list of effective pages or, in the case of manuals containing a small number of pages, approval can be identified on each page.

Refer to the Guidance associated with MNT 1.3.2 for information that explains and addresses human factors principles.

MNT 1.7.2 (Intentionally open)

MNT 1.7.3 The Operator shall ensure the MMM is amended as necessary to keep information contained therein up to date and to address:

(i) Changes to maintenance or airworthiness requirements;

(ii) Changes in the organization or activities;

(iii) Inadequacies identified through internal or external audit;

(iv) Conformity with applicable requirements.

MNT 1.7.4 (Intentionally open)

MNT 1.7.5 (Intentionally open)

MNT 1.7.6 The Operator shall ensure a copy of the current version of the MMM, or relevant portions thereof, is promptly made available to:

(i) Applicable authorities;

(ii) Each organization or person that performs or certifies maintenance for the Operator;

(iii) All other organizations or persons to whom the MMM has been issued.

MNT 1.7.7 The Operator shall ensure, when a portion of the MMM is issued in accordance with MNT 1.7.6, policies and procedures contained therein shall be sufficiently comprehensive such that any and all relevant guidance and information is available to any maintenance organization or person that performs maintenance for the Operator under that portion of the manual.

1.8 Maintenance Records System

MNT 1.8.1 The Operator shall have a system for the management and control of maintenance 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) Retention and retrieval;

(v) Protection and security;

(vi) Disposal, transfer, deletion (electronic records) and archiving. **(GM)** ◄

Guidance

Refer to the IRM for the definition of Maintenance Records.

The operator is responsible for the maintenance records of the operator's aircraft irrespective whether the records are retained at the operator's location, at a maintenance organization or any other location.

The operator is required to ensure a complete Certificate of Release to Service is received from the maintenance organization such that the required records can be retained. The system for storing maintenance records is described in the operator's MMM.

Methods of storing maintenance records acceptable to the Authority are in paper form, in a computer database or a combination of both methods. Records stored on microfilm or optical disc form are also acceptable.

For paper systems, use of robust material that can withstand normal handling and filing ensures records can remain legible throughout the required retention period.

Computer systems are required to have at least one back-up system, which is updated within 24 hours of any maintenance. Each terminal is required to contain program safeguards against the ability of unauthorized personnel to alter the database.

Microfilming or optical storage of maintenance records may be carried out at any time, and be as legible as the original record and remain so for the required retention period.

Information on times, dates, cycles referred to as “summary maintenance records” are the records that give an overall picture on the state of maintenance of the aircraft and any life-limited aircraft component. The current status of all life-limited aircraft components indicates the component life limitation, total number of hours, accumulated cycles or calendar time and the number of hours/cycles/time remaining before the required expiry time of the component is reached.

The current status of Airworthiness Directives (AD) identifies the applicable ADs including revision or amendment numbers. Where an AD is generally applicable to the aircraft or component type but is not applicable to the particular aircraft or component, this is identified. The AD status includes the date on which the AD was accomplished. If the AD is controlled by flight hours or flight cycles, it includes the aircraft or engine or component total flight hours or cycles, as appropriate. For repetitive

ADs, only the last application is recorded in the AD status. The status also specifies which part of a multi-part AD has been accomplished and the method, where a choice is available in the AD.

Details of current modifications and repairs require substantiating data supporting compliance with the airworthiness requirements. This can be in the form of a Supplemental Type Certificate, Service Bulletin, Structural Repair Manual or similar approved document. If the airworthiness data for modification and repair is produced by the maintenance organization in accordance with existing national regulations, all detailed documentation necessary to define the change and its approval are to be retained. Scheduled maintenance requirements following STC incorporation are required to be clearly identified as well. The substantiating data may include:

- Compliance program;
- Master drawing or drawing list, production drawings and installation instructions;
- Engineering reports (static strength, fatigue, damage tolerance, fault analysis);
- Ground and flight test program and results;
- Mass and balance change data;
- Maintenance and repair manual supplements;
- Maintenance program changes and instructions for continuing airworthiness;
- Aircraft flight manual supplement.

Maintenance records are required to be stored safely from fire, flood, theft and alteration.

Computer back up discs and cassettes are to be stored in a different location from those containing the current working discs and tape cassettes and in a safe environment.

The operator is required to ensure, when a maintenance organization used by the operator terminates its operation, the maintenance organization returns all retained maintenance records to the operator.

Refer to guidance associated with ORG 2.2.1 located in ISM Section 1.

MNT 1.8.2 If the Operator utilizes an electronic system for the management of records, the Operator shall ensure the system provides for a regularly scheduled generation of back-up files for records associated with maintenance operations. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 2.2.2 located in ISM Section 1.

1.9 (Intentionally Open)

1.10 Quality Assurance Program

MNT 1.10.1 The Operator shall have a quality assurance program that provides for auditing of all functions of maintenance operations to ensure the Operator is:

(i) Complying with applicable regulations and standards;
(ii) Satisfying stated maintenance operations needs;
(iii) Identifying undesirable conditions and areas requiring improvement;
(iv) Identifying hazards in maintenance operations. **[SMS] (GM)** ◄

Guidance

Refer to Guidance associated with ORG 3.4.1 located in ISM Section 1.

MNT 1.10.2 The Operator shall have a process for addressing findings that result from audits of maintenance management system functions, which ensures:

(i) Determination of the root cause(s) of findings;
(ii) Development of corrective action, as appropriate, to address findings;
(iii) Implementation of corrective action in appropriate areas of maintenance operations;
(iv) Evaluation of corrective action to determine effectiveness. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 3.4.3 located in ISM Section 1.

MNT 1.10.3 The Operator shall ensure significant issues arising from the maintenance operations quality assurance program are subject to management review in accordance with ORG 1.5.1 and, as applicable, ORG 1.5.2. **[SMS] (GM)** ◄

Guidance

Refer to ORG 1.5.1 and ORG 1.5.2, as well as guidance associated with ORG 3.4.4, located in ISM Section 1.

MNT 1.10.4 The Operator shall ensure functions related to the maintenance operations quality assurance program are performed by qualified personnel that are either employees of the Operator or independent external quality assurance agents.

MNT 1.10.5 The Operator shall have an audit planning process and sufficient resources to ensure audits of maintenance operations are:

(i) Scheduled at intervals to meet regulatory and management system requirements;

(ii) Completed within a specified time period. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 3.4.10 located in ISM Section 1.

1.11 Outsourcing and Product Quality Control

MNT 1.11.1 The Operator shall ensure a maintenance agreement has been executed with each external maintenance organization that performs maintenance functions for the Operator; such maintenance agreement shall:

(i) Specify all maintenance requirements and define all tasks to be performed;

(ii) Comply with the procedures governing maintenance arrangements, as specified in the MMM. **(GM)** ◄

Guidance

Where an operator is not approved as a maintenance organization or an operator's maintenance organization is an independent organization, a contract is to be agreed between the operator and the Approved Maintenance Organization specifying all work to be performed by the Approved Maintenance Organization.

A clear, unambiguous and sufficiently detailed specification of work and assignment of responsibilities are required to ensure that no misunderstanding can arise between the parties concerned (operator, maintenance organization and the State of Registry/Authority) that could result in a situation where work that has a bearing on the airworthiness or serviceability of aircraft is not, or will not, be properly performed.

Special attention is to be paid to procedures and responsibilities to ensure that all maintenance work is performed, service bulletins are analyzed and decisions taken on accomplishment, airworthiness directives are completed on time and all work, including non-mandatory modifications, is carried out in accordance with approved data and to the latest standards.

MNT 1.11.2 The Operator shall ensure each maintenance agreement with an external maintenance organization that performs maintenance functions for the Operator specifies, either in the agreement or in a service level agreement or equivalent document, measurable maintenance safety and quality standards required to be fulfilled by the respective external maintenance organization. **(GM)** ◄

Guidance

The requirement for a maintenance agreement applies to all functions that are outsourced for substantial maintenance providers such as heavy maintenance and engine overhaul.

If maintenance is expected to be accomplished in accordance with specific industry standards, an acceptable agreement identifies and specifies the standards by exact name.

The following guidance provides information regarding maintenance work related to aircraft and aircraft components carried out for the operator under a formal contract or agreement by external organizations (the contractor).

Note: *The operator carries the ultimate responsibility for airworthiness and ensures before each flight that all required maintenance has been properly carried out. This includes all maintenance carried out by contractors.*

The formal maintenance agreement document is not intended to provide detailed work instructions to the contractor; established procedures are required within the operator and contractor organizations to take care of these functions.

A Maintenance Agreement typically includes, but is not necessarily limited to:

- An approval process for the contractor by the operator and where applicable the contractors and/or the operator's Authority;
- A list of facilities where the maintenance is to be carried out, including a list of satellite facilities that the contractor may use;
- A 'Statement of Work' (SOW) for the Maintenance Agreement that contains the detailed technical requirements, including references to maintenance intervals, manuals, Airworthiness Directives (ADs), Service Bulletins (SBs) and operator special requirements. A clear, unambiguous and sufficiently detailed SOW and assignment of responsibilities are required to ensure no misunderstanding arises between the operator, the contractor and the operator's Authority that could result in a situation where the work, which has a bearing on the airworthiness or the serviceability of operator's aircraft, is not properly performed;
- A requirement for the contractor to produce a suitable quality plan for the project;
- Use and control of parts and materials;
- Process for the approval of deviations from maintenance documents;
- A need for an internal evaluation system by the contractor;
- Access by the operator's quality assurance department staff for the purpose of evaluating ongoing quality;
- A reporting structure that immediately notifies the operator of any significant defects;
- A system of completing, reviewing, retaining maintenance records;
- A system of calibration of tooling and equipment;
- A system of operator supplied product;
- A system of inspecting and testing, i.e., a quality control system;
- A system of handling unsatisfactory product;
- A system of handling, storage, packaging and delivery;
- A system of product identification and traceability;
- A system of training by the contractor of its staff as well as a system of training the contractor by the operator;
- A system of Release To Service of an aircraft or component;
- A system for communication between the operator and the contractor;
- A Service Level Agreement (SLA) that includes clear Key Performance Indicators as agreed between the operator and the contractor for the assessment of achievement of ongoing quality levels (the definition of the specific indicators depends on the policy of the Operator);
- A system of periodic review meetings to include some or all of those below:
  - Contract Review Meeting
  - Workscope Planning Meeting
  - Technical Meeting (ADs/CNs/SBs)
  - Commercial and/or Logistics Meeting

- Quality Meeting
- Reliability Meeting

The IATA Airport Handling Manual contains guidance and examples of a standard ground handling agreement and a service level agreement.

MNT 1.11.3 (Intentionally open)

MNT 1.11.4 (Intentionally open)

MNT 1.11.5 The Operator shall have a process to maintain a listing of external providers of maintenance services and products, to include:

(i) Organizations that are currently approved to perform maintenance on the Operator's aircraft, engines, components and/or parts;

(ii) Vendors that are currently approved to supply parts, components and other materials for use in maintenance of the Operator's aircraft.

MNT 1.11.6 The Operator shall have a process to ensure relevant training and/or training material is provided to each external organization that performs maintenance functions for the Operator. **(GM)**

Guidance

External organization(s) such as contracted line maintenance service providers or MRO organizations are required to be aware of an operator's processes and procedures, as well as their impact on maintenance and/or related systems.

An operator may provide appropriate external organizations with relevant training that covers the operator's paperwork, certification and recording requirements. Alternatively, an operator may provide such training to each external organization that performs maintenance functions for the Operator.

MNT 1.11.7 The Operator shall have monitoring processes to ensure each approved maintenance organization that performs maintenance for the Operator:

(i) Complies with applicable regulations and safety and quality requirements;

(ii) Has procedures that are acceptable to the Authority granting the approval;

(iii) Performs all maintenance in accordance with requirements of the Operator. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 3.5.2 located in ISM Section 1.

MNT 1.11.8 The Operator *should* include auditing as a process for monitoring of each maintenance organization that performs maintenance for the Operator. **(GM)** ◄

Guidance

The operator establishes a plan acceptable to the State of Registry/Authority to specify when and how often the operator's maintenance activities are monitored. Reports are produced at the completion of each monitoring investigation that includes details of discrepancies and non-compliance with procedures or requirements.

The feedback process addresses who is required to rectify discrepancies and non-compliance in each particular case and the procedure to be followed, if rectification is not completed within appropriate timescales. The manager responsible for the maintenance organization is also responsible for monitoring and ensuring action on any outstanding items.

To ensure effective compliance with the operator's maintenance activities, the following elements have proven to work well:

- Product sampling: the part inspection of a representative sample of the aircraft fleet;
- Defect sampling: the monitoring of defect rectification performance;
- Concession sampling: the monitoring of any concession allowing extensions to scheduled maintenance;

- On-time maintenance sampling: the monitoring of maintenance intervals (flying hours, calendar time, flight cycles) for aircraft and their components;
- Sampling reports of un-airworthy conditions and maintenance errors.

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 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 batch control. **(GM)**

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.

1.12 Safety Management

Risk Management

MNT 1.12.1A The Operator *should* have a hazard identification program in maintenance operations that includes:

(i) A combination of reactive and proactive methods for safety data collection;

(ii) Processes for safety data analysis that identify existing hazards and predict future hazards to aircraft operations. [**SMS] (GM)** ◄

Note: *Effective 1 September 2015, this recommended practice will be upgraded to a standard (see MNT 1.12.1B).*

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 identification of hazards generally focuses on the various operations (internal and outsourced) that are conducted in order to ensure aircraft are maintained in an airworthy condition.

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

MNT 1.12.1B Effective 1 September 2015, the Operator shall have a hazard identification program in maintenance operations that includes:

(i) A combination of reactive and proactive methods for safety data collection;

(ii) Processes for safety data analysis that identify existing hazards and predict future hazards to aircraft operations. **[SMS] (GM)** ◄

Guidance

Refer to the Guidance associated with MNT 1.12.1A.

MNT 1.12.2A The Operator *should* 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] (GM)** ◄

Note: *Effective 1 September 2015, this recommended practice will be upgraded to a standard (see MNT 1.12.2B).*

Guidance

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

Safety risks are generally related to 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.

MNT 1.12.2B Effective 1 September 2015, 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 the existing and potential 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] (GM)** ◄

Guidance

Refer to the Guidance associated with MNT 1.12.2A.

Operational Reporting

MNT 1.12.3 The Operator shall have an operational 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)** ◄

Guidance

Operational reporting is considered a *proactive* hazard identification activity in an SMS.

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 3.1.3 located in ISM Section 1.

MNT 1.12.4 The Operator *should* have a confidential safety reporting system in maintenance operations that encourages and facilitates the reporting of events, hazards and/or concerns resulting from or associated with human performance in maintenance operations. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 3.1.4 located in ISM Section 1.

Safety Assurance

MNT 1.12.5A The Operator *should* have processes for setting performance measures as a means to verify the safety performance of maintenance operations and to validate the effectiveness of risk controls. **[SMS] (GM)** ◄

Note: *Effective 1 September 2016, this recommended practice will be upgraded to a standard (see MNT 1.12.5B).*

Guidance

Refer to the IRM for the definition of Safety Assurance.

Setting measurable safety objectives is an element of the Safety Assurance component of the SMS framework.

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

MNT 1.12.5B Effective 1 September 2016, the Operator shall have processes for setting performance measures as a means to verify the safety performance of maintenance operations and to validate the effectiveness of risk controls. **[SMS] (GM)** ◄

Guidance

Refer to the Guidance associated with MNT 1.12.5A.

SMS Training

MNT 1.12.6A The Operator *should* have a program that ensures personnel in maintenance operations are trained and competent to perform SMS duties. The scope of such training *should* be appropriate to each individual's involvement in the SMS. **[SMS] (GM)** ◄

Note: *Effective 1 September 2015, this recommended practice will be upgraded to a standard (see MNT 1.12.6B).*

Guidance

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

Refer to Guidance associated with ORG 1.6.5A located in ISM Section 1.

MNT 1.12.6B Effective 1 September 2015, the Operator shall have a program that ensures personnel in maintenance operations are trained and competent to perform SMS duties. The scope of such training shall be appropriate to each individual's involvement in the SMS. **[SMS] (GM)** ◄

Guidance

Refer to the Guidance associated with MNT 1.12.6A.

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.

2.2 Maintenance Planning

MNT 2.2.1 The Operator shall have a system for forecasting and tracking required maintenance activities.

MNT 2.2.2 The Operator shall have a system for tracking hours, cycles and calendar time for aircraft, engines and life-limited components.

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 the 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 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).

MNT 2.3.2 The Operator shall have a process to ensure that no used part is installed on an aeronautical product unless the part meets the standards of airworthiness applicable to the installation of used parts and is **either**:

(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).

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 the 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.

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.

MNT 2.4.2 The Operator shall have a process to ensure MEL/CDL restricted items are tracked and corrected within the required time intervals. **(GM)**

Guidance

The process ensures all defects affecting the safe operation of the aircraft are rectified within the limits prescribed by the approved MEL or CDL. No postponement of any defect rectification can be permitted without the operator's agreement and in accordance with a procedure approved by the State of Registry/Authority.

MNT 2.4.3 If the Operator has a MEL/CDL short-time escalation approval process, the Operator shall ensure the process is documented and approved by the Authority. **(GM)**

Guidance

An acceptable short-time escalation approval process normally ensures the use of such a process in exceptional circumstances and with sound justification.

2.5 Continuing Airworthiness Information

MNT 2.5.1 The Operator shall have a process to obtain and assess continuing airworthiness information, such as Airworthiness Directives (ADs), Alert Service Bulletins and recommendations from the organizations responsible for the type design, and shall implement the resulting actions considered necessary, in accordance with a procedure acceptable to the Authority.

MNT 2.5.2 The Operator shall have a process to monitor and assess maintenance and operational experience with respect to continuing airworthiness of aircraft of over 5,700 kg (12,566 lb) maximum certificated takeoff mass, as prescribed by the Authority.

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.

2.7 Defect Recording and Control

MNT 2.7.1 The Operator shall have processes for the management of recurring defects, to include:

(i) tracking chronic or repetitive unserviceable items;

(ii) documenting troubleshooting history;

(iii) implementing instructions for corrective action;

(iv) ensuring rectification takes into account the methodology used in previous repair attempts.

2.8 Extended Diversion Time Operations (EDTO)

MNT 2.8.1 If the Operator is approved for EDTO, the Operator shall comply with applicable requirements of the Authority, as well as maintenance specifications provided by the aircraft, engine and component OEMs.

MNT 2.8.2 If the Operator utilizes twin turbine engine aircraft that are approved for EDTO, the Operator shall ensure compliance with maintenance requirements as specified in Table 4.5.

2.9 Aircraft Recorders

MNT 2.9.1 The Operator shall have a Maintenance Program that provides for the periodic conduct of operational checks and evaluations of recordings from the Flight Data Recorder (FDR) and Cockpit Voice Recorder (CVR) to ensure the continued serviceability of the recorders. Such program shall ensure:

(i) If the aircraft fleet is equipped with magnetic tape recorder type, operational checks and evaluations are conducted at least annually;

(ii) If the aircraft fleet is equipped with solid state recorder type, the operator shall have a maintenance program that ensures a periodic conduct of operational checks of the recorders in accordance with the manufacturer's requirements or as required by the local authority.

2.10 Electronic Navigation Data Management

MNT 2.10.1 If the Operator utilizes 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)**

Guidance

The procedure ensures databases for use in aircraft navigation systems are inserted prior to the first flight on the effective date for the new database.

2.11 Reduced Vertical Separation Minima (RVSM)

MNT 2.11.1 If the Operator is authorized for RVSM operations, the Operator shall have procedures that ensure the continued airworthiness (maintenance and repair) of aircraft utilized in RVSM operation. Such procedures shall be in accordance with requirements of the aircraft OEM.

2.12 Reporting to the Authority

MNT 2.12.1 The Operator shall have a procedure to provide the Authority, for aircraft over 5,700 (12,566 lb) kg maximum certificated takeoff mass, with in-service information as prescribed by the Authority.

Guidance

Guidance may be found in ICAO Annex 8, Part II, 4.2.4.

MNT 2.12.2 The Operator shall have a procedure for reporting to the Authority and, if applicable, the Type Certificate Holder, defects or un-airworthy conditions in accordance with requirements contained in Table 4.4.

MNT 2.12.3–2.12.6 (Intentionally open)

MNT 2.12.7 The Operator shall have a procedure to transmit to the Type Certificate Holder information on faults, malfunctions, defects and other occurrences which could affect the continuing airworthiness of aircraft of over 5,700 kg (12,566 lb) maximum certificated takeoff mass.

3 Technical Records

3.1 Aircraft Maintenance Records

MNT 3.1.1 The Operator shall have a program to ensure the following maintenance records are maintained:

(i) Total time in service (hours, calendar time and cycles, as appropriate,) of the aircraft, engines and all life-limited components;

(ii) Current status of compliance with all mandatory continuing airworthiness information;

(iii) Appropriate details of modifications and repairs;

(iv) Time in service (hours, calendar time and cycles, as appropriate,) since last overhaul of the aircraft, engines or its components subject to a mandatory overhaul life;

(v) Current aircraft status of compliance with the Maintenance Program;

(vi) Detailed maintenance records to show that all requirements for signing of a maintenance release have been met. **(GM)**

Guidance

Contracted maintenance organizations are required to maintain detailed records, to include certification documents that support the issuance of a maintenance release. Such requirement is typically specified in contractual arrangements, and implementation verified through oversight by the operator.

MNT 3.1.2 The Operator shall have a procedure to ensure that records specified in MNT 3.1.1 are retained as follows:

(i) Records in sub-paragraphs i) to v) are retained for a minimum period of 90 days after the aircraft, engine and component, to which they refer, has been permanently withdrawn from service;

(ii) Records in sub-paragraph vi) are retained for a minimum period of one year after the signing of the maintenance release. **(GM)**

Guidance

Item i) is applicable to aircraft that an operator has permanently taken out of service for any reason (e.g. scrapping, lease termination, sale).

MNT 3.1.3 The Operator shall have processes to ensure, when an aircraft becomes involved in an accident or incident, the related flight recorder records and, to the extent possible, the associated flight recorders are preserved and retained in safe custody pending disposition in accordance with the appropriate investigation.

MNT 3.1.4 The Operator shall have processes to ensure applicable aircraft maintenance records for aircraft currently listed on the AOC:

(i) In the event of a temporary change of operator, are made available to the new operator;

(ii) In the event of a permanent change of operator, transferred to the new operator.

3.2 Aircraft Technical Log (ATL)

MNT 3.2.1 The Operator shall have a process to ensure all aircraft have an aircraft technical log (ATL) or approved equivalent that comprises elements specified in Table 4.6.

MNT 3.2.2 The Operator shall have processes for the management of the ATL or approved equivalent as specified in MNT 3.2.1 to ensure, with respect to the ATL or approved equivalent:

(i) Entries are current and cannot be erased or deleted;

(ii) Descriptions of errors or discrepancies that have been corrected remain readable and identifiable;

(iii) Completed pages are retained to provide a continuous record of the last six months of operations.

3.3 (Intentionally Open)

3.4 Airworthiness Directives

MNT 3.4.1 The Operator shall maintain records of Airworthiness Directives (ADs) and Service Bulletins (SBs) or equivalents accomplished in accordance with the MMM.

4 Maintenance Organizations

General Guidance

Refer also to Guidance associated with ORG 3.5.2 located in ISM Section 1.

Operators may or may not be approved as maintenance organizations. The following three options are possible:

- An operator is an Approved Maintenance Organization with the scope to carry out all maintenance of the aircraft and components;
- An operator is an Approved Maintenance Organization with the scope to carry out some of the maintenance of the aircraft and components. This, at minimum, could be limited to line maintenance but may be considerably more, but still short, of the first option above;
- An operator is not a Maintenance Organization;

However, irrespective of which option, most operators will always have part of their maintenance performed by external organizations.

The purpose of the IOSA process, with regard to this sub-section four, is to ensure the operator has the required monitoring and control processes, documented and implemented, to ensure its operational requirements are being satisfied by all organizations that perform maintenance on the operator's aircraft.

4.1 Approval

MNT 4.1.1 The Operator shall 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.

MNT 4.1.2 (Intentionally open)

MNT 4.1.3 The Operator shall ensure each maintenance organization that performs maintenance for the Operator has an approval document that contains, as a minimum:

(i) The name and location of the AMO;

(ii) The date of issue and period of validity of the approval;

(iii) The scope of the approval. **(GM)**

Guidance

The specification in item iii) of this provision is satisfied by the operator ensuring that the AMO approval document contains the type and level of work required by the operator.

A repair station or Approved Maintenance Organization certificate is usually delivered with ratings in one or more of the following categories or their equivalents:

- Aircraft;
- Avionics;
- Engine;
- Propeller;
- Structure and Corrosion Protection Control Program;
- Component;
- Welding;
- NDT.

MNT 4.1.4 (Intentionally open)

MNT 4.1.5 If the Operator has maintenance performed outside the State of the Operator by a maintenance organization that does not hold an *approval* document issued by the Authority, the Operator shall ensure such maintenance organization has been *recognized* by the Authority. **(GM)**

Guidance

It is possible for an operator to enter into an arrangement for primary maintenance with an organization that is not an approved/accepted Maintenance Organization within the State of Registry, when the arrangement is in the interest of the operator by simplifying the management of its maintenance. In such a situation, the maintenance organization is approved under the laws of a State that has an agreement with the State of Registry of the operator, and the operator applies its own control processes that ensure the existence of and compliance with the provisions MNT sub-section 4.

4.2 Management

MNT 4.2.1 The Operator shall ensure each maintenance organization that performs maintenance for the Operator has a manager who, if applicable, is acceptable to the relevant authority and has responsibility for the management and supervision of the maintenance organization.

MNT 4.2.2 The Operator shall ensure each maintenance organization that performs maintenance for the Operator has nominated appropriate personnel with responsibilities for ensuring the maintenance organization is in compliance with the requirements for an approved maintenance organization as accepted by the Authority. **(GM)**

Guidance

The person or persons appointed represent the maintenance management structure of the organization and responsible for all functions specified in the maintenance organization. The specified functions may be subdivided under individual managers within smaller maintenance organizations, ensuring that responsibility for all functions is allocated

Dependent upon the extent of approval, maintenance organizations typically have, as a minimum, the following personnel: a base maintenance manager, a line maintenance manager, a workshop

manager and a quality manager, all of whom report to the accountable executive, if applicable. In small maintenance organizations, subject to approval by the State of Registry/Authority, the accountable executive may also carry responsibility for other managerial positions. Deputies are normally appointed for all managerial positions, and procedures make clear who deputizes for any particular manager in the case of lengthy absence of said manager(s). The length of absence to justify deputizing is the period beyond which the organization or department cannot function properly due to such absence.

The accountable executive is responsible for ensuring that all necessary resources are available to accomplish maintenance to support the organization's maintenance organization approval.

Regardless of the size of the maintenance organization, managers appointed for the combination of the identified functions would indirectly report to the accountable executive through the base maintenance manager, line maintenance manager, workshop manager or quality manager, as appropriate.

Certifying personnel may report to any of the managers specified, depending upon which type of control the approved maintenance organization uses: licensed engineers, independent inspection or dual function supervisors. The monitoring of quality compliance remains an independent function.

MNT 4.2.3 The Operator shall 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.

4.3 Quality Assurance

MNT 4.3.1 The Operator shall 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)**

Guidance

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 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.

MNT 4.3.2–4.3.4 (Intentionally open)

MNT 4.3.5 The Operator shall ensure each maintenance organization that performs maintenance for the Operator has a process for periodic review of the quality assurance program by the Quality Manager or the person assigned managerial responsibility for the program for the purpose of ensuring compliance with current requirements of the Maintenance Program and the MMM.

MNT 4.3.6 (Intentionally open)

MNT 4.3.7 The Operator shall ensure each maintenance organization that performs maintenance for the Operator has a process to immediately report to the Operator any defects, un-airworthy conditions, failures or malfunctions specified in MNT 2.12.2.

4.4 Personnel

MNT 4.4.1 The Operator shall ensure each maintenance organization that performs maintenance for the Operator utilizes 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)**

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 required to be assessed for competence by on the job evaluation and/or examination relevant to their particular job 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 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 their particular role in the organization is important, particularly in the case of planners, specialized services personnel, supervisors and certifying personnel.

MNT 4.4.2 The Operator shall ensure each maintenance organization that performs maintenance for the Operator has a means for providing a positive identification of maintenance personnel that are approved to perform and certify maintenance.

Guidance

A database, signature roster or other equivalent mechanisms are typically used to identify such personnel.

4.5 Training Program

MNT 4.5.1 The Operator shall ensure each maintenance organization that performs maintenance for the Operator has a training program that assures all maintenance personnel receive initial and recurrent training that is appropriate to individually assigned tasks and responsibilities, and provides maintenance personnel with:

(i) The knowledge of regulations, standards and procedures in accordance with requirements in the MMM.

(ii) The knowledge and skills related to human performance, including coordination with other maintenance personnel and flight crew.

Guidance

Refer to the IRM for the definition of Human Performance.

Item ii) refers to the knowledge and skills related to human performance in all maintenance activities covered under an operator's maintenance program, including those activities performed by an external AMO.

MNT 4.5.2 (Intentionally open)

MNT 4.5.3 (Intentionally open)

MNT 4.5.4 The Operator shall ensure each maintenance organization that performs maintenance for the Operator has a training program that provides for continuation training on an interval not to exceed 36 months, which may be reduced to a lesser interval based on findings generated by the QA Program. **(GM)**

Guidance

Continuation training is a two-way process to ensure that relevant maintenance personnel remain current in terms of procedures, human factors and technical knowledge, and that the approved maintenance organization receives feedback on the adequacy of its procedures and maintenance instructions. Due to the interactive nature of this training, consideration would be given to the possibility that such training has the involvement of the quality department to ensure feedback is

actioned. Alternatively, there is a procedure to ensure that feedback is formally passed from the training department to the quality department to initiate action.

Continuation training would cover changes in relevant State of Registry/Authority requirements, changes in organization procedures and the modification standard of the products being maintained plus human factor issues identified from any internal or external analysis of incidents. It would also address instances where personnel failed to follow procedures and the reasons why particular procedures are not always followed. In many cases, the continuation training reinforces the need to follow procedures and ensure that incomplete or incorrect procedures are identified so they can be corrected. This does not preclude the possible need to carry out a quality audit of such procedures.

The program for continuation training lists all relevant maintenance personnel and when training will take place, the elements of such training and an indication it was carried out reasonably on time as planned. Such information is subsequently transferred to the certifying personnel record.

The referenced procedure is specified in the MPM.

Continuation training requirements are intended to apply to personnel performing and certifying maintenance, as well as to planners, inspectors of incoming goods and other maintenance personnel that have safety-critical responsibilities.

Refer to the Guidance associated with MNT 1.3.2 for information that explains and addresses human factors principles.

MNT 4.5.5 The Operator shall ensure each maintenance organization that performs maintenance for the Operator has a training and qualification program for auditors used in the QA Program.

MNT 4.5.6 The Operator shall ensure each maintenance organization that performs maintenance for the Operator has a training program that provides for initial and continuation training for receiving inspectors.

MNT 4.5.7 If the Operator utilizes a maintenance organization that has maintenance personnel taxi the Operator's aircraft on the movement area of an airport, the Operator shall ensure such maintenance personnel are authorized, competent and qualified to conduct aircraft taxi operations.

4.6 Facilities and Physical Resources

MNT 4.6.1 The Operator shall ensure each maintenance organization that performs maintenance for the Operator has the basic facilities and work environment, appropriate for the maintenance tasks to be performed for the Operator, to include:

(i) A place of business, with a fixed address;

(ii) Communications equipment/software, such as telephones, facsimile machines, email and others;

(iii) Any devices used to establish when a particular aircraft requires maintenance. This may include planning bulletin boards, card files or a computer system;

(iv) A secure, dry storage area to retain aircraft technical records. **(GM)** ◄

Guidance

For base maintenance of aircraft, aircraft hangars or equivalent facilities are available, large enough to accommodate aircraft on planned base maintenance. If the maintenance organization does not own the hangar, it may be necessary to establish proof of tenancy. In addition, sufficient hangar space to carry out planned base maintenance will need to be demonstrated by the preparation of a projected aircraft hangar visit plan, relative to the maintenance program. The aircraft hangar visit plan is updated on a regular basis. For aircraft component maintenance, aircraft component workshops are large enough to accommodate the components on planned maintenance.

Aircraft hangar and aircraft component workshop structures would need to be to a standard that prevents the ingress of rain, hail, ice, snow, wind and dust, and aircraft hangar and aircraft component workshop floors are sealed to minimize dust generation. Basically, the aircraft hangar and aircraft component workshop provides protection from the normal prevailing local weather elements that are expected throughout any 12-month period

For line maintenance of aircraft, hangars are not essential but access to hangar accommodation is necessary during inclement weather for minor scheduled work and lengthy defect rectification.

Office accommodation allows incumbents, whether they are management, planning, technical records, quality or certifying personnel, to carry out their designated tasks in a manner that contributes to good aircraft maintenance standards. In addition, aircraft maintenance personnel are provided with an area where they may study maintenance instructions and complete maintenance records in a proper manner.

Note: *It is acceptable to combine any or all of the above requirements into one office subject to the personnel having sufficient room to carry out assigned tasks.*

Hangars used to house aircraft together with office accommodation would be such that the working environment permits personnel to carry out work tasks in an effective manner.

Temperatures are such that personnel can carry out required tasks without undue discomfort.

Dust and any other airborne contamination are kept to a minimum and not be permitted to reach a level in the work task area where visible aircraft/component surface contamination is evident.

An adequate level of lighting ensures each inspection and maintenance task can be carried out.

Noise levels are not permitted to rise to the point of distracting personnel from carrying out inspection tasks. Where it is impractical to control the noise source, such personnel would be provided with the necessary personal equipment to stop excessive noise causing distraction during inspection tasks.

Where a particular maintenance task requires the application of specific environmental conditions different to the foregoing, then such conditions would be observed. Such specific conditions are identified in the approved maintenance instructions.

The working environment for line maintenance is such that the particular maintenance or inspection task can be carried out without undue distraction. If the working environment deteriorates to an unacceptable level due to temperature, moisture, hail, ice, snow, wind, light, dust or other airborne contamination, then the particular maintenance or inspection tasks is suspended until satisfactory conditions are re-established.

For both base and line maintenance where dust or other airborne contamination results in visible surface contamination, all susceptible systems are sealed until acceptable conditions are re-established.

MNT 4.6.2 The Operator shall 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 and in accordance with service level agreements. **(GM)**

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 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, to include:

(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)**

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 ensure each maintenance organization that performs maintenance for the Operator has a shelf-life program for applicable stored items, which includes a requirement for the shelf-life limit to be controlled and displayed.

MNT 4.6.5 The Operator shall ensure each maintenance organization that performs maintenance for the Operator has a receiving inspection process 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.

4.7 Material Handling

MNT 4.7.1 The Operator shall ensure each maintenance organization that performs maintenance for the Operator has a secure quarantine area for rejected parts and materials awaiting disposition.

MNT 4.7.2 The Operator shall 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.

MNT 4.7.3 The Operator shall ensure each maintenance organization that performs maintenance for the Operator has an Electrostatic Sensitive Devices (ESD) Program, as specified in Table 4.8. **(GM)**

Guidance

Consideration is to be given to the scope of work of the AMO in determining applicability of specific handling and/or storage requirements.

MNT 4.7.4 The Operator shall ensure each maintenance organization that performs maintenance for the Operator has a method of storage that assures sensitive parts and equipment, such as 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)**

Guidance

The storage recommendations from the manufacturers are followed, 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.

MNT 4.7.5 The Operator shall ensure each maintenance organization that performs maintenance for the Operator has a process that assures aircraft components and parts are shipped in suitable containers that provide protection from damage and, when specified by the OEM, ATA-300 or equivalent containers shall be used.

4.8 (Intentionally Open)

4.9 Procedures Manual

MNT 4.9.1 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 information, as specified in Table 4.9. **(GM)**

Guidance

The MPM is a document that defines how an Approved Maintenance Organization accomplishes and controls its aircraft maintenance activities.

The MPM provides all personnel of the AMO with the necessary information to enable them to accomplish their duties and allows the Authority to understand and approve how the AMO complies with the applicable Airworthiness Requirements.

The MPM can comprise one manual or a suite of manuals. The MPM may have specific sections extracted to form a customized manual for distribution to maintenance contractors, line stations and others as applicable.

The purpose of the MPM is to set forth the procedures, means and methods for the AMO to accomplish maintenance. Compliance with its contents assures fulfillment of the AMO's responsibilities.

The management section in the MPM may be produced as a stand-alone document and made available to the key personnel who need to be familiar with its contents. The list of AMO Certifying Personnel may be produced as a separate document.

Responsibilities and procedures for revisions to the management part of the MPM and any associated manuals are to be specified.

The Quality Manager of the AMO is responsible for monitoring revisions of the MPM, unless otherwise agreed by the Authority.

Unless the Authority has agreed via a procedure stated in the amendment section of the MPM that certain defined classes of amendments may be incorporated without prior Authority approval, this process includes monitoring revisions to the associated procedures manuals.

The MPM also normally contains the following information:

- A brief description of the organization that includes:
  - The approximate size of the organization;
  - The geographic location of the office facilities and/or the base of operations, when not co-located;
  - Where necessary to ensure comprehension, a chart depicting the distribution of the functions.
- A statement signed by the maintenance organization confirming the MPM and any incorporated documents identified therein reflect the Organization's means of compliance with the Authority requirements;

- 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;
- A description of the procedures for monitoring, assessing and reporting maintenance and operational experience;
- A description of procedures for assessing continuing airworthiness information and implementing any resulting actions;
- A description of the procedures for implementing action resulting from mandatory continuing airworthiness information;
- A description of procedures for ensuring that unserviceable items affecting airworthiness are recorded and rectified;
- A description of the procedures for advising the State of Registry/Authority/operator of significant in-service occurrences;
- A table of contents;
- A description of the MPM amendment control procedure;
- A means of identifying each page of the MPM. This can be in the form of a list of effective pages, with each page numbered and either dated or marked with a revision number;
- A description of the system used to distribute the MPM, including a distribution list; for non-scheduled work, temporary copies of the relevant portions of the MPM or any incorporated reference;
- Where the organization uses standards for the performance of elementary work or servicing different from those recommended by the manufacturer, the identification of those standards;
- Procedures to ensure regulatory information and technical data appropriate to the work performed are used in respect of elementary work and servicing;
- Details of the methods used to record the maintenance, elementary work or servicing performed, including the method of recording of defects in the technical record required by these standards;
- A detailed description of the procedures used to ensure that any maintenance tasks required by the maintenance schedule, airworthiness directives or any task required for the rectification of a defect are completed within the required time constraints;
- A description of the evaluation program required by these standards;
- A description of the defect rectification and control procedures, including details of:
  - The methods used to detect and report recurring defects;
  - The procedures for scheduling the rectification of defects whose repair has been deferred.
- The procedures used to report service difficulties in accordance with these standards;
- A description of the technical dispatch procedures, including procedures for ferry-flight authorizations, EDTO (equivalent terms: ETOPS, EROPS, LROPS), all-weather operation or any other special operation;
- Procedures to ensure that only parts and materials that meet the requirements of the State of Registry/Authority/operator are used in the performance of elementary work or servicing, including details of any spare part pool arrangements that have been entered into;
- A description of the methods used to ensure that the personnel authorized to perform elementary work or servicing are trained as required by the Authority and qualified in accordance with these requirements, as applicable;
- A description of personnel records to be retained;
- Details of the procedures applicable to maintenance arrangements and a list of all such arrangements, including the procedure used to communicate to an approved maintenance organization the maintenance requirements for planned and unforeseen maintenance activities, as well as those mandated by airworthiness directives;

- Procedure for revising and maintaining the MPM up to date and current;
- Approval of the Authority through approval of the list of effective pages or, in the case of manuals containing a small number of pages, approval can be identified on each page;
- Procedures used for the storage and control of petroleum, oil and other lubricants, as required by national regulations.

MNT 4.9.2 The Operator shall ensure each maintenance organization that performs maintenance for the Operator has a process to amend the MPM as necessary to keep the information contained therein up to date.

MNT 4.9.3 The Operator shall ensure each maintenance organization that performs maintenance for the Operator has a process to furnish copies of all amendments to the MPM promptly to all organizations or persons to whom the manual has been issued.

4.10 Maintenance Release

MNT 4.10.1 The Operator shall 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;
(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)**

Guidance

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 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)**

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 standards authority (i.e., 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 utilization of the aircraft; (ii) 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 (CMRs)); (iii) When applicable, a continuing structural integrity program; (iv) Procedures for changing or deviating from (i), (ii) and (iii) above; (v) When applicable, condition monitoring and reliability program descriptions for aircraft systems, components and powerplants.

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 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 back-up 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 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–EDTO Maintenance Requirements for Twin Turbine Engine Aircraft
The Operator shall ensure the maintenance program for twin turbine engine aircraft that are utilized for EDTO (equivalent terms: ETOPS, EROPS, LROPS) includes the following: (i) The titles and numbers of all airworthiness modifications, additions and changes that were made to qualify aircraft systems for EDTO are provided to the Authority; (ii) Any changes to maintenance and training procedures, practices or limitations established in the qualification for 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 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 EDTO; (vii) A process for monitoring in-flight shutdowns; (viii) A procedure to minimize scheduled or unscheduled maintenance during the same maintenance visit on more than one parallel or similar 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 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 and identity of the person recording the defect; (xi) Signature and identity of the person signing the release following maintenance.

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 performs maintenance for the Operator has an Electrostatic Sensitive Devices (ESD) Program, which comprises the following: (i) Ensures that, where ESDs are handled, shop floor grids are grounded; (ii) Ensures all ESDs are only handled using approved “earthing” (grounding) wrist straps and conductive desk mats; (iii) Devices are contained in ESD-approved conductive packaging sealed with conductive tape; (iv) ESDs are not to be stored on shelving covered with carpet, foam, vinyl or any other material that can store or produce an electrical charge; (v) Appropriate warning and caution signs and decals are placed in areas where ESDs are handled; (vi) Wrist straps and earthing 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 organization procedures and quality or inspection system; (iii) Names and duties of the responsible personnel; (iv) Names and duties of the person or persons whose responsibilities are to ensure that maintenance is carried out in accordance with the MPM; (v) A description of the procedures used to establish the competence of maintenance personnel; (vi) A description of the methods used for the completion and retention of the Operator's maintenance records, including procedures for retaining back-up records; (vii) A description of the procedure for preparing the maintenance release and the circumstances under which the release is to be signed; (viii) The process for authorizing personnel to sign the maintenance release and the scope of their authorization; (ix) A description of any additional procedures for complying with the Operator's maintenance procedures and requirements; (x) A description of the procedures for complying with the service information reporting requirements; (xi) A description of the procedure for receiving, amending and distributing within the maintenance organization, all necessary airworthiness data from the type certificate holder or type design organization.

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.

Section 5 — Cabin Operations (CAB)

Applicability

Section 5 addresses the safety and security requirements associated with the passenger cabin. This section is only applicable to an operator that conducts passenger flights with or without cabin crew. Specifications applicable to the carriage of supernumeraries are located in Section 2 (FLT) of this manual.

Individual provisions in this section all begin with a conditional phrase ("If the Operator"...) and are applicable to an operator that meets the condition(s) stated in the phrase.

Where an operator outsources the performance of cabin operations functions to external service providers, the operator retains overall responsibility for such functions, and must demonstrate processes for monitoring applicable external service providers in accordance with CAB 1.10.2.

Additional specifications applicable to passenger flights without cabin crew are located in Section 2 (FLT) of this manual.

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).

1 Management and Control

1.1 Management System

CAB 1.1.1 If the Operator conducts passenger flights with cabin crew, the Operator shall have a management system for the cabin operations organization that ensures control of cabin crew operations in the passenger cabin and the management of safety and security outcomes. **(GM)** ◄

Guidance

Refer to the IRM for the definitions of Cabin Crew, Operations and Operator.

Refer to Guidance associated with ORG 1.1.1 located in ISM Section 1.

CAB 1.1.2 If the Operator conducts passenger flights with cabin crew, the Operator shall have a manager for cabin operations that:

(i) If required, is a nominated official acceptable to the Authority;

(ii) Has the authority and is responsible for the management and supervision of all cabin operations activities;

(iii) Is accountable to senior management for ensuring the safety and security of cabin operations. **(GM)** ◄

Guidance

Refer to the IRM for the definition of Post Holder.

The term "manager" is generic; the actual title associated with this position will vary with each operator.

In certain regulatory jurisdictions the individual that fills the position of manager of cabin operations may require nomination as a director or post holder as specified in ORG 1.1.4.

1.2 Authorities and Responsibilities

CAB 1.2.1 If the Operator conducts passenger flights with cabin crew, the Operator shall ensure the cabin operations management system defines the authorities and responsibilities of management and non-management personnel throughout the cabin operations organization that perform functions relevant to the safety or security of cabin operations. The management system shall also specify:

(i) The levels of management with the authority to make decisions that affect the safety and/or security of cabin operations;

(ii) Responsibilities for ensuring cabin operations are conducted in accordance with applicable regulations and standards of the Operator. **[SMS] (GM)** ◄

Guidance

Refer to Guidance associated with ORG 1.3.1 located in ISM Section 1.

CAB 1.2.2 If the Operator conducts passenger flights with cabin crew, the Operator shall have a process for the delegation of duties within the cabin operations management system that ensures managerial continuity is maintained when operational managers, including nominated post holders, if applicable, are absent from the workplace. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 1.3.2 located in ISM Section 1.

CAB 1.2.3 If the Operator conducts passenger flights with cabin crew, the Operator shall ensure a delegation of authority and assignment of responsibility within the management system for liaison with regulatory authorities, original equipment manufacturers and other external entities relevant to cabin operations. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 1.3.3 located in ISM Section 1.

CAB 1.2.4 If the Operator conducts passenger flights with cabin crew, the Operator shall ensure the duties and responsibilities of cabin crew members are defined and described in the Operations Manual (OM). **(GM)**

Guidance

Refer to the IRM for the definitions of Cabin Crew Member and Operations Manual.

As a minimum, OM documentation describes:

- Duties and responsibilities for cabin crew members, including cabin crew leader, if applicable;
- Chain (succession) of command on board the aircraft.

CAB 1.2.5 If the Operator conducts passenger flights with cabin crew, the Operator shall ensure cabin crew members maintain familiarity with laws, regulations and procedures pertinent to the performance of their duties. **(GM)**

Guidance

An operator might utilize 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.

CAB 1.2.6 If the Operator conducts passenger flights with cabin crew, the Operator shall have a policy that addresses the use of psychoactive substances by cabin crew members, which, as a minimum:

(i) Prohibits the exercise of duties while under the influence of psychoactive substances unless properly prescribed by a physician and accepted by either the Operator or a physician designated by the Operator;

(ii) Prohibits the problematic use of psychoactive substances;

(iii) Requires personnel who are identified as engaging in any kind of problematic use of psychoactive substances to be removed from cabin crew operational functions;

(iv) Conforms to the requirements of the Authority. **(GM)**

Guidance

Refer to the IRM for the definitions of Biochemical Testing, Psychoactive Substances, Problematic Use of Substances and State.

Operators subject to laws or regulations of the State of the Operator (hereinafter, the State) that preclude the publication of a psychoactive substance prohibition policy as specified in this provision may demonstrate an equivalent method of ensuring that personnel engaging in any kind of problematic use of psychoactive substance abuse do not exercise their duties and are removed from safety-critical functions

Re-instatement to safety-critical duties could be possible after cessation of the problematic use and upon determination that continued performance of such duties is unlikely to jeopardize safety.

Some of the specifications of this provision may be addressed through implementation of a scheduling policy as specified in CAB 3.1.7.

Examples of other subjects that might be addressed in a comprehensive and proactive policy include:

- Education regarding the use of psychoactive substances;
- Identification, treatment and rehabilitation;
- Employment consequences of problematic use of psychoactive substances;
- Biochemical testing;
- Requirements of ICAO and the Authority.

Additional guidance may be found in the *ICAO Manual on Prevention of Problematic use of Substances in the Aviation Workplace* (Doc 9654-AN/945).

1.3 Communication

CAB 1.3.1 If the Operator conducts passenger flights with cabin crew, the Operator shall have a communication system that enables and ensures an exchange of information relevant to the conduct of cabin operations throughout the cabin operations management system and in all areas where operations are conducted. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 1.4.1 located in ISM Section 1.

Specific means of communication between management and cabin crew members typically include:

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

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

CAB 1.3.2 If the Operator conducts passenger flights with cabin crew, 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)**

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 cabin crew operations manual, 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

CAB 1.4.1 If the Operator conducts passenger flights with cabin crew, the Operator shall have the necessary facilities, workspace, equipment and supporting services, as well as work environment, to satisfy cabin operations safety and security requirements. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 1.6.1 located in ISM Section 1.

CAB 1.4.2 If the Operator conducts passenger flights with cabin crew, the Operator shall ensure management and non-management positions within the cabin operations organization that require the performance of functions relevant to the safety or security of cabin operations are filled by personnel on the basis of knowledge, skills, training and experience appropriate for the position. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 1.6.2 located in ISM Section 1.

The operational positions subject to the specifications of this provision typically include those management personnel required to ensure control and supervision of cabin operations in accordance with CAB 1.1.1, as defined by the operator or Authority.

1.5 Documentation System

CAB 1.5.1 If the Operator conducts passenger flights with cabin crew, the Operator shall have a system for the management and control of cabin operations documentation and/or data used directly in the conduct or support of operations. Such system shall include elements as specified in ORG 2.1.1. **(GM)** ◄

Guidance

Refer to the IRM for the definition of Documentation and Electronic Documentation.

Refer to ORG 2.1.1 and associated Guidance, and Table 1.1, located in ISM Section 1.

CAB 1.5.2 (Intentionally open)

CAB 1.5.3 If the Operator conducts passenger flights with cabin crew, the Operator shall ensure documentation used in the conduct or support of cabin operations:

(i) Contains legible and accurate information;

(ii) Is written in language(s) understood by cabin operations personnel;

(iii) Is presented in a format appropriate for use by cabin operations personnel;

(iv) If applicable, is accepted or approved by the Authority. **(GM)** ◄

Guidance

The intent of this provision is for an operator to provide operational documentation in a format that is acceptable to the Authority and useable by all relevant personnel.

Documentation used in the support of cabin operations may:

- Exist in electronic form;
- Be issued in more than one language.

1.6 Operations Manual

CAB 1.6.1 If the Operator conducts passenger flights with cabin crew, the Operator shall have an Operations Manual (OM), which may be issued in separate parts, that contains the policies, procedures and other guidance or information necessary for cabin crew members to perform their duties and be in compliance with applicable regulations, laws, rules and Operator standards. The content of the OM shall be in accordance with specifications in Table 5.1. **(GM)**

Guidance

Refer to the IRM for the definition of Practical Manual.

The complete content of the OM for cabin operations may be issued in more than one document or manual. For example, an operator might choose to issue a practical manual, which would be a controlled document and considered part of the OM. A practical manual, which might be referred to as a quick reference handbook (QRH), typically comprises checklists and other selected information and material taken directly from the OM, and is utilized by cabin crew members in performing onboard duties and procedures during normal, abnormal and/or emergency operations.

Likewise, whereas the operational and training areas of cabin operations specified in Table 5.1 are all included in the OM, they are typically issued in separate documents. For example, the cabin crew training program (item viii) might be outlined in a training document, while policies, procedures, checklists are specified in operational documents.

CAB 1.6.2 If the Operator conducts passenger flights with cabin crew, and 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)**

Guidance

To display approval, the Operations Manual 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 1.6.3 If the Operator conducts passenger flights with cabin crew, the Operator shall have a process to ensure cabin crew members are issued or have direct access to, as a minimum, those parts of the OM that address duties and responsibilities relevant to the safety and security of cabin operations. **(GM)**

Guidance

The specifications in this provision are applicable to the OM whether issued or accessible in paper or electronic form.

CAB 1.6.4 If the Operator conducts passenger flights with cabin crew, the Operator shall have a process to ensure holders of the OM enter the most current amendments or revisions into the manual and maintain the manual in an up-to-date condition. **(GM)**

Guidance

When the OM is issued in paper form, a process (checking or other methods) is designed to ensure the manual is kept up to date by individual cabin crew members. For example, a process could be established whereby a periodic check of the operations manual of each cabin crew member is conducted on a scheduled basis (e.g., during recurrent training, line evaluation or preflight briefing).

When the OM is made accessible in electronic form, a process (checking or other method) is designed to ensure the electronically accessed manual is up to date.

The operator is responsible for amending onboard paper or electronic manuals. The cabin crew can cross check updates to either type of manual during their preflight check to ensure it contains the most recent updates, revisions and information.

CAB 1.6.5 If the Operator conducts passenger flights with cabin crew, 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 utilized as a reference document only, unobstructed access by the cabin crew. **(GM)**

Guidance

The number of complete OMs onboard the aircraft would be determined by the way the manual is to be utilized by the cabin crew. If the complete version of the OM is used directly for the conduct of cabin operations, it might be necessary to have more than one copy on board, depending on the size of the aircraft and the number of cabin crew members.

If a practical manual (or QRH) is used by the cabin crew for the conduct of cabin operations, a minimum of one complete version of the OM would typically be onboard the aircraft for use as a reference document. The flight deck is an acceptable location for the OM as a reference document if measures are in place that provide for unobstructed access by the cabin crew.

If electronically accessed manuals are provided onboard the aircraft, one or more access terminals or devices would be located so the cabin crew has immediate or unobstructed access, as applicable to the way the manual is utilized, the size of the aircraft, and the number of cabin crew members. In addition, it is recommended that operators give consideration to providing applicable back-up physical (paper) manuals in case of electronic manual malfunction.

CAB 1.6.6 If the Operator conducts passenger flights with cabin crew, the Operator shall ensure information in the OM pertaining to cabin crew duties and responsibilities is published in the designated common language(s) of the Operator, as specified in CAB 3.1.3.

CAB 1.6.7 If the Operator conducts passenger flights with cabin crew, and 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 onboard the aircraft for passenger flights and located in a manner that provides for immediate access by each cabin crew member. **(GM)**

Guidance

Refer to the IRM for the definition of Practical Manual.

A practical manual (or QRH) is typically required to be in the possession of each individual cabin crew member, available at each cabin crew station, or otherwise located to ensure immediate access by each cabin crew member.

1.7 Records System

CAB 1.7.1 If the Operator conducts passenger flights with cabin crew, the Operator shall have a system for the management and control of cabin operations 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) Retention and retrieval;
(v) Protection and security;
(vi) Disposal or deletion (electronic records). **(GM)** ◄

Guidance

Refer to guidance associated with ORG 2.2.1 located in ISM Section 1.

CAB 1.7.2 If the Operator conducts passenger flights with cabin crew, and utilizes an electronic system for the management and control of cabin operations records, the Operator shall ensure the system provides for a scheduled generation of back-up record files. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 2.2.2 located in ISM Section 1.

1.8 (Intentionally Open)

1.9 Quality Assurance Program

CAB 1.9.1 If the Operator conducts passenger flights with cabin crew, the Operator shall have a quality assurance program that provides for the auditing and evaluation of the cabin operations management system and operational functions at planned intervals to ensure the organization is:

(i) Complying with applicable regulations and standards;
(ii) Satisfying stated operational needs;
(iii) Identifying undesirable conditions and areas requiring improvement;
(iv) Identifying hazards to operations. **[SMS] (GM)** ◄

Guidance

Refer to the IRM for the definition of Quality Assurance.

Refer to Guidance associated with ORG 3.4.1 located in ISM Section 1 for typical audit program requirements.

The specifications of this provision would typically apply to periodic audits of the training program, whether training is conducted by the operator or outsourced to an external service provider.

Audits are conducted at intervals that meet the requirements of the operator and/or the Authority.

CAB 1.9.2 If the Operator conducts passenger flights with cabin crew, the Operator shall have a process to ensure significant issues arising from audits of cabin operations functions are subject to management review in accordance with ORG 1.5.1 and, as applicable, ORG 1.5.2. **[SMS] (GM)** ◄

Guidance

Refer to ORG 1.5.1, 1.5.2, 3.4.4 and associated Guidance located in ISM Section 1.

Significant issues are typically defined by the individual operator, and are regarded as those issues that could impact the safety, security and/or quality of cabin operations.

CAB 1.9.3 If the Operator conducts passenger flights with cabin crew, the Operator shall have a process for addressing findings that result from audits of cabin operations functions, 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)** ◄

Guidance

Refer to Guidance associated with ORG 3.4.3 located in ISM Section 1.

CAB 1.9.4 If the Operator conducts passenger flights with cabin crew, the Operator shall have an audit planning process and sufficient resources to ensure audits of cabin operations are:

(i) Scheduled at intervals to meet regulatory and management system requirements;
(ii) Completed within a specified time period. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 3.4.10 located in ISM Section 1.

1.10 Outsourcing and Product Quality Control

CAB 1.10.1 If the Operator conducts passenger flights with cabin crew, and has external service providers conduct outsourced cabin operations functions, the Operator shall have a process to ensure a contract or agreement is executed with such external service providers. Contracts or agreements shall identify measurable specifications that can be monitored by the Operator to ensure requirements that affect the safety and/or security of cabin operations are being fulfilled by the service provider. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 3.5.1 located in ISM Section 1.

Refer to the IRM for the definition of Outsourcing.

This provision only addresses cabin operations functions that are voluntarily outsourced to external service providers. An example of such a function would be the training of cabin crew members conducted by an external training organization.

Functions that are associated with the aircraft cabin, but would not normally be conducted by the cabin operations organization (e.g. aircraft catering) are not addressed by this provision.

CAB 1.10.2 If the Operator conducts passenger flights with cabin crew, and has external service providers conduct outsourced cabin operations functions, the Operator shall have a process to monitor such external service providers to ensure requirements that affect the safety and/or security of cabin operations are being fulfilled. **(GM)** ◄

Guidance

Monitoring and control of external organizations typically includes random sampling, product audits, supplier audits, or other similar methods.

Refer to Guidance associated with ORG 3.5.2 located in ISM Section 1.

If an operator outsources any cabin operations function(s) to external service providers as specified in CAB 1.10.1, then the operator would be required to meet the specifications of this CAB 1.10.2.

CAB 1.10.3 If the Operator conducts passenger flights with cabin crew, and has external service providers conduct outsourced cabin operations functions, the Operator *should* include auditing as a process for the monitoring of external service providers in accordance with CAB 1.10.2. ◄

CAB 1.10.4 If the Operator conducts passenger flights with cabin crew, the Operator *should* have a process to ensure equipment or other operational products relevant to the safety of aircraft operations that are purchased or otherwise acquired from an external vendor or supplier meet the

product technical requirements specified by the Operator prior to being used in the conduct of operations. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 3.6.1 located in ISM Section 1.

Examples of products addressed by this provision could include:

- Operational manuals produced by external suppliers;
- Cabin door or passenger service unit training devices;
- Video training programs.

1.11 Safety Management

Risk Management

CAB 1.11.1A If the Operator conducts passenger flights with cabin crew, the Operator *should* have a hazard identification program in cabin operations that includes:

(i) A combination of reactive and proactive methods for safety data collection;

(ii) Processes for safety data analysis that identify existing hazards and predict future hazards to aircraft operations. **[SMS] (GM)** ◄

***Note:** Effective 1 September 2015, this recommended practice will be upgraded to a standard (see CAB 1.11.1B).*

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 3.1.1A located in ISM Section 1.

CAB 1.11.1B Effective 1 September 2015, if the Operator conducts passenger flights with cabin crew, the Operator shall have a hazard identification program in cabin operations that includes:

(i) A combination of reactive and proactive methods for safety data collection;

(ii) Processes for safety data analysis that identify existing hazards and predict future hazards to aircraft operations. **[SMS] (GM)** ◄

Guidance

Refer to Guidance associated with CAB 1.11.1A.

CAB 1.11.2A If the Operator conducts passenger flights with cabin crew, the Operator *should* 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] (GM)** ◄

***Note:** Effective 1 September 2015, this recommended practice will be upgraded to a standard (see CAB 1.11.2B).*

Guidance

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

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

CAB 1.11.2B Effective 1 September 2015, if the Operator conducts passenger flights with cabin crew, 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 control action(s);

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

Guidance

Refer to Guidance associated with CAB 1.11.2A.

Operational Reporting

CAB 1.11.3 If the Operator conducts passenger flights with cabin crew, the Operator shall have an operational 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)** ◄

Guidance

Operational reporting is considered a *proactive* hazard identification activity in an SMS.

Refer to Guidance associated with ORG 3.1.3 located in ISM Section 1.

CAB 1.11.4 If the Operator conducts passenger flights with cabin crew, the Operator *should* have a confidential safety reporting system in the cabin operations organization that encourages and facilitates the reporting of events, hazards and/or concerns resulting from or associated with human performance in operations. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 3.1.4 located in ISM Section 1.

Safety Performance Monitoring and Management

CAB 1.11.5A If the Operator conducts passenger flights with cabin crew, the Operator *should* have processes in the cabin operations organization for setting performance measures as a means to monitor the safety performance of the organization and to validate the effectiveness of risk controls. **[SMS] (GM)** ◄

Note: *Effective 1 September 2016, this recommended practice will be upgraded to a standard (see CAB 1.11.5B).*

Guidance

Refer to the IRM for the definition of Safety Assurance.

Setting measurable safety objectives is an element of the Safety Assurance component of the SMS framework.

By setting performance measures, an operator is able to track and compare its operational performance against a target (i.e. the performance objective, typically expressed as a rate or number reduction) over a period of time (e.g. one year). Achievement of the target (or objective) would represent an improvement in the operational performance. The use of performance measures is an effective method to determine if desired safety outcomes are being achieved, and to focus attention on the performance of the organization in managing operational risks and maintaining compliance with relevant regulatory requirements.

Performance measures in cabin operations might address, for example, inadvertent slide deployments, turbulence-related injuries in the cabin, fumes or fires, and rapid deplaning/emergency evacuation events.

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

CAB 1.11.5B Effective 1 September 2016, if the Operator conducts passenger flights with cabin crew, the Operator shall have processes in the cabin operations organization for setting performance measures as a means to monitor the safety performance of the organization and to validate the effectiveness of risk controls. **[SMS] (GM)** ◄

Guidance

Refer to Guidance associated with CAB 1.11.5A.

2 Training and Qualification

2.1 Training Program

CAB 2.1.1 If the Operator conducts passenger flights with cabin crew, the Operator shall have a cabin crew training program, approved or accepted by the Authority 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 include initial, recurrent, requalification and aircraft type training courses.

CAB 2.1.2 If the Operator conducts passenger flights with cabin crew, 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.

CAB 2.1.3 If the Operator conducts passenger flights with cabin crew, the Operator shall ensure all cabin crew members complete a recurrent training course once every 12 months in order to remain qualified to perform duties as a cabin crew member. **(GM)**

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.

CAB 2.1.4 If the Operator conducts passenger flights with cabin crew, 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.

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.

CAB 2.1.5 If the Operator conducts passenger flights with cabin crew, 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)**

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 utilized 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 If the Operator conducts passenger flights with cabin crew, the Operator shall require instructors that deliver training to cabin crew members to successfully complete an instructor training course that ensures such instructors have an adequate level of knowledge and standardization to provide instruction in the cabin crew training program. **(GM)**

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.

CAB 2.1.7 If the Operator conducts passenger flights with cabin crew, the Operator shall ensure cabin crew training courses include testing or evaluation by written, oral or practical means to satisfy requirements for cabin crew members to demonstrate adequate knowledge, competency and proficiency to perform duties, execute procedures and operate emergency and lifesaving equipment. **(GM)**

Guidance

Testing or evaluation, which may be accomplished using oral, written or practical means, ensures a thorough knowledge of and the ability to perform duty assignments and execute functions in the cabin.

Written tests and practical drills would be sufficiently thorough to ensure adequate coverage of all safety duties and functions to be performed in an emergency.

Written tests need not be lengthy (e.g., 10 multiple choice questions) provided they are randomly drawn from a large pool of questions that address a broad range of subjects. If tests include

commercial questions (e.g., procedures associated with food and beverage services), then testing methods would ensure a sufficient number of test questions to adequately evaluate knowledge of safety aspects.

Grading as part of evaluation would be calibrated such that high scores on non-safety issues do not override or mask low scores on important safety-related material.

Typically the process includes grading standards that define the minimum passing score for all testing to measure and indicate the level of safety competency. Similarly, grading standards are needed when evaluating the performance of cabin crew members during practical training exercises.

CAB 2.1.8 If the Operator conducts passenger flights with cabin crew, the Operator shall ensure the completion of required training by cabin crew members is recorded and such records are retained in accordance with CAB 1.7.1.

2.2 Program Elements

CAB 2.2.1 If the Operator conducts passenger flights with cabin crew, the Operator shall ensure cabin crew members receive training or orientation to provide familiarity with basic aviation subjects relevant to cabin operations and cabin crew duties. Such training or orientation shall be part of the cabin crew *initial training course* and, as a minimum, address the following subject areas:

(i) Applicable regulations;
(ii) Aviation terminology;
(iii) Basic theory of flight;
(iv) Relevant aircraft systems;
(v) Altitude physiology;
(vi) Standard operating procedures for cabin operations on the ground and all phases of flight. **(GM)**

Guidance

Training or orientation in aviation subjects typically would address, on a basic level:

- State, international and company-specific regulations;
- Aviation terminology and theory of flight necessary in the performance of cabin duties;
- Basic flight subjects such as major aircraft components, critical surfaces (including contamination), pressurization system, weight and balance, meteorology, turbulence, communications equipment and air traffic control;
- Subjects associated with altitude physiology, such as effects of altitude, hypoxia, the aircraft oxygen system and operation, gas expansion, depressurization and decompression sickness;
- Philosophy, structure and application of standard operating procedures.

CAB 2.2.2 If the Operator conducts passenger flights with cabin crew, 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. Such training shall be included in the cabin crew initial and requalification training courses, and in the recurrent training course on a frequency in accordance with requirements of the Authority, but not less than once during every 24-month period. **(GM)**

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 If the Operator conducts passenger flights with cabin crew, the Operator shall ensure cabin crew members receive training that provides the knowledge required to execute emergency procedures. Such training shall be included in the cabin crew initial and requalification training courses, and in the recurrent training course on a frequency in accordance with requirements of the Authority, but not less than once during every 24-month period. As a minimum, training shall 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.

CAB 2.2.4 If the Operator conducts passenger flights with cabin crew, 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. Such training shall be included in the cabin crew initial and requalification training courses and in the recurrent training course, on a frequency in accordance with requirements of the Authority, but not less than once during every 24-month period. **(GM)**

Guidance

Some emergency equipment, including slides, rafts, slide/rafts and ramp slide/rafts, might actually be included in an aircraft type-training course.

CAB 2.2.5 If the Operator conducts passenger flights with cabin crew, the Operator shall ensure cabin crew members complete practical training exercises consisting of cabin drills and hands-on operation of cabin equipment. Practical training exercises shall be included in the cabin crew initial and requalification training courses, and in the recurrent training course on a frequency in accordance with requirements of the Authority. All focus areas within the scope of practical training exercises shall be addressed in recurrent training not less than once during every 36-month period. As a minimum, focus areas within the scope of practical training exercises include:

(i) Cabin exit operations (normal and emergency) for each aircraft and exit type;
(ii) Cabin emergency evacuation;
(iii) If the operator utilizes 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) Fire fighting;
(v) Oxygen administration;
(vi) If required, ditching. **(GM)**

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).

Hands-on practical training exercises might involve the use of actual aircraft emergency and lifesaving equipment, or 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 board a raft in the water directly from an aircraft exit (with cabin crew members not going into the water).

When utilizing 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 utilized to the extent possible. If cabin exit simulators or training mock-ups are not available, practical hands-on drills are performed onboard actual aircraft, which, to preclude disruption of training, would necessitate a documented program and aircraft schedule.

CAB 2.2.6 If the Operator conducts passenger flights with cabin crew, and utilizes pressurized aircraft, the Operator shall ensure cabin crew members receive training in high altitude depressurization. Such training shall be included in the cabin crew initial and re-qualification training courses, and in the recurrent training course, once during every 24-month period. Training in high altitude depressurization shall provide:

(i) An understanding of the effects on crew and passengers;

(ii) The knowledge necessary to execute associated emergency procedures. **(GM)**

Guidance

Training in depressurization may be conducted in the classroom or as a practical exercise.

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 If the Operator conducts passenger flights with cabin crew, the Operator shall ensure cabin crew members receive training in dangerous goods awareness, recognition and emergency action. Such training shall be included in the cabin crew initial and re-qualification training courses and in the recurrent training course on a frequency in accordance with requirements of the Authority, but all subjects within the scope of dangerous goods training shall be addressed not less than once during every 24-month period. As a minimum, subjects within the scope of dangerous goods training include:

(i) General philosophy;

(ii) Limitations;

(iii) Labeling and marking;

(iv) Recognition of undeclared dangerous goods;

(v) Provisions for passengers and crew;

(vi) Emergency procedures. **(GM)**

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.

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.

CAB 2.2.8 If the Operator conducts passenger flights with cabin crew, 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. Such training shall be included in the cabin crew initial and re-qualification training courses, and in the recurrent training course, on a frequency in accordance with requirements of the Authority, but not less than once during every 24-month period. **(GM)**

Guidance

Training in human performance includes basic human factors concepts and crew resource management (CRM).

CAB 2.2.9 If the Operator conducts passenger flights with cabin crew, and utilizes 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. Such training shall be included in the cabin crew initial and re-qualification training courses and in the recurrent training course, on a frequency in accordance with requirements of the Authority, but not less than once during every 24-month period.

CAB 2.2.10 If the Operator conducts passenger flights with cabin crew, the Operator *should* ensure cabin crew members participate in joint training activities or exercises with flight crew members for the purpose of enhancing onboard coordination and mutual understanding of the human factors involved in addressing emergency situations and security threats. **(GM)**

Guidance

Joint training provides a forum to focus on the coordination and communication necessary between the flight and cabin crews and the subjects associated with emergency procedures, security procedures and human factors. To the extent possible, such training would include joint practical training exercises. If such exercises are not possible, joint interactive discussion in the subject areas is an acceptable alternative.

The intent of this provision is that the specified training is delivered jointly to cabin and flight crew members together in a common location. However, under certain specific conditions, conformity with this provision may be accomplished through training delivered independently to cabin and flight crew members:

- When approved by the Authority under an Advanced Qualification Program (AQP) or an Alternative Training and Qualification Program (ATQP), or
- When the cabin crew training and flight crew training occurs at different geographical locations.

When training is delivered independently under the above conditions, learning objectives are determined jointly through interdepartmental coordination and subsequently incorporated into the respective cabin crew and flight crew training curricula. It is possible that, although the learning objectives are determined jointly, the development of curricula and administration of the training occurs independently within each department.

CAB 2.2.11 If the Operator conducts passenger flights with cabin crew, the Operator shall ensure cabin crew members receive training that provides knowledge in first aid. Such training shall be included in the initial and re-qualification training courses and in the recurrent training course, on a frequency in accordance with requirements of the Authority, but all subjects within the scope of first aid training shall be addressed not less than once during every 36 month period. 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)**

Guidance

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 would then be addressed during the next recurrent training.

The procedures, resources and first aid subject areas would 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.

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 If the Operator conducts passenger flights with cabin crew, the Operator shall ensure cabin crew members receive training in aviation security subjects that address appropriate crew communication, coordination and action in response to acts of unlawful interference. Such training

shall be included in the initial and re-qualification training courses and in the recurrent training course, on a frequency in accordance with the civil aviation security program of the State and requirements of the Authority, but not less than once during every 24-month period, with all subject areas within the scope of aviation security training addressed not less than once during every 48-month period. As a minimum, subject areas within the scope of aviation security include:

(i) Understanding of terrorist behaviors;
(ii) Threat evaluation;
(iii) Determination of the seriousness of an occurrence;
(iv) Crew coordination and communication;
(v) Security of the flight deck;
(vi) Appropriate self-defense responses;
(vii) Use of non-lethal protective devices;
(viii) Aircraft search procedures;
(ix) Least-risk bomb locations;
(x) Sabotage, hijacking;
(xi) Unruly passengers;
(xii) Other acts of unlawful interference. **(GM)**

Guidance

When developing the syllabus for a recurrent training course, all aviation security subject areas are considered to ensure inclusion of subjects that have been identified through an analysis of actual or likely trends experienced during line operations.

Training for cabin crew members as specified in item vi) typically focuses on conflict management and the level of response (e.g. passive, non-passive) to acts of unlawful interference that is appropriate for the operator. Such 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.

CAB 2.2.13 If the Operator conducts passenger flights with cabin crew, and utilizes aircraft that require more than one cabin crew member, the Operator shall ensure applicable cabin crew members receive leadership training prior to being assigned to duties as a designated cabin crew leader, in accordance with CAB 3.1.2.

2.3 Line Qualification

CAB 2.3.1 If the Operator conducts passenger flights with cabin crew, the Operator shall ensure cabin crew members complete supervised line flight experience as part of the cabin crew initial qualification process and prior to being assigned unsupervised duties as a cabin crew member. Supervised line flight experience shall be completed during one or more actual line flight segments and shall require a cabin crew member to demonstrate an understanding of all responsibilities and competency to perform the duties and execute the procedures associated with cabin operations. **(GM)**

Guidance

Supervised line flight experience is typically referred to as a familiarization flight.

Where an operator utilizes more than one aircraft type, such supervised line experience may be accomplished on any one type.

Line flight experience (or familiarization flights) for cabin crew members, as part of the initial qualification process, may be conducted under the supervision of cabin crew members assigned cabin leadership responsibilities in normal line operations (e.g., purser, cabin leader, lead flight attendant, onboard leader or other similar positions) or specially qualified to conduct these particular supervisory responsibilities. This activity does not require the presence of a cabin crew instructor or evaluator to provide the necessary supervision; however, it is important the person conducting the

supervision has received training and understands the responsibilities for the cabin crew position(s) being observed.

Line flight experience is normally conducted using a checklist that contains the duties and procedures that are being observed. The results of the observation would be recorded on the checklist, which is then retained with other cabin crew training records.

If permitted by the Authority, a group line indoctrination training flight conducted in the aircraft is an acceptable means of conforming to this provision if:

- The conduct of such training flight is defined by the Authority, including the training objectives that must be satisfied by cabin crew members;
- The operator conducts the training flight in accordance with all requirements defined by the Authority.

CAB 2.3.2 If the Operator conducts passenger flights with cabin crew, and utilizes aircraft that require only one cabin crew member, the Operator shall ensure cabin crew members complete supervised line flight experience on such aircraft as part of the cabin crew qualification or re-qualification process, and prior to being assigned to perform unsupervised duties on an aircraft as the sole operating cabin crew member. **(GM)**

Guidance

Supervised line flight experience might be referred to as a familiarization flight.

Because there is no backup or support from other cabin crew members on an aircraft requiring only one cabin crew member, it is important that each cabin crew member has some line experience on such aircraft under supervision prior to being assigned to duties in line operations as the sole cabin crew member on an aircraft.

Line flight experience for cabin crew members may be conducted under the supervision of cabin crew members assigned cabin leadership responsibilities in normal line operations (e.g., purser, cabin leader, lead flight attendant, onboard leader or other similar positions) or specially qualified to conduct these particular supervisory responsibilities. This activity does not necessarily require the presence of a cabin crew instructor or evaluator to provide the supervision.

CAB 2.3.3 If the Operator conducts passenger flights with cabin crew, the Operator *should* ensure cabin crew members complete supervised line flight experience as part of the cabin crew re-qualification process and prior to being assigned unsupervised duties on any aircraft requiring more than one cabin crew member. **(GM)**

Guidance

Supervised line flight experience is typically referred to as a familiarization flight.

This provision would be applicable to an operator that has aircraft in its fleet that require *two or more cabin crew members*.

Line flight experience for cabin crew members as part of the re-qualification training course may be conducted under the supervision of cabin crew members assigned cabin leadership responsibilities in normal line operations (e.g., purser, cabin leader, lead flight attendant, onboard leader or other similar positions) or specially qualified to conduct these particular supervisory responsibilities. This activity does not necessarily require the presence of a cabin crew instructor or evaluator to provide the necessary supervision.

CAB 2.3.4 If the Operator conducts passenger flights with cabin crew, the Operator *should* ensure cabin crew members receive a periodic line evaluation or check while performing their duties during line operations. **(GM)**

Guidance

The line evaluation check of cabin crew members is typically conducted by a cabin crew member who has been specially qualified and designated to conduct dedicated supervisory activities (e.g., evaluator, instructor, purser or other similar supervisory position).

The periodic line evaluation or check of cabin crew members is normally conducted using a checklist that contains the standards for performance that are being evaluated. The results of the evaluation or check would be recorded on the checklist, which is retained with other cabin crew qualification records.

2.4 SMS Training

CAB 2.4.1A If the Operator conducts passenger flights with cabin crew, the Operator *should* have a program that ensures personnel throughout the cabin operations organization are trained and competent to perform SMS duties. The scope of such training *should* be appropriate to each individual's involvement in the SMS. **[SMS] (GM)** ◄

Note: *Effective 1 September 2015, this recommended practice will be upgraded to a standard (see CAB 2.4.1B).*

Guidance

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

Refer to Guidance associated with ORG 1.6.5A located in ISM Section 1.

CAB 2.4.1B Effective 1 September 2015, if the Operator conducts passenger flights with cabin crew, the Operator shall have a program that ensures personnel throughout the cabin operations organization are trained and competent to perform SMS duties. The scope of such training shall be appropriate to each individual's involvement in the SMS. **[SMS] (GM)** ◄

Guidance

Refer to Guidance associated with CAB 2.4.1A.

3 Line Operations

3.1 Cabin Crew Requirements

CAB 3.1.1 If the Operator conducts passenger flights with cabin crew, the Operator shall specify and require a minimum number of cabin crew members for each aircraft type that is utilized in passenger operations. Such minimum cabin crew specification 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) Ensure the minimum number of cabin crew members necessary to effect a safe and expeditious evacuation of the aircraft.

CAB 3.1.2 If the Operator conducts passenger flights with cabin crew, and utilizes aircraft that require more than one cabin crew member, the Operator shall ensure designation of a cabin crew leader who has overall responsibility for the conduct and coordination of normal and emergency cabin procedures for flights with more than one cabin crew member. **(GM)**

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).

The use of selection prerequisites ensures designated cabin crew leaders have a defined amount of experience as a cabin crew member (e.g., minimum one year of experience) before being assigned to a leadership position. New operators could be required to establish alternative minimum experience requirements.

Once selected, cabin crew leaders would receive specialized leadership training in accordance with applicable regulations and standards of the operator before being assigned to operations.

A replacement plan, approved by the Authority, if applicable, would be necessary to ensure the leader position is filled when the primary cabin crew leader becomes incapacitated or is otherwise unable to carry out assigned duties.

CAB 3.1.3 If the Operator conducts passenger flights with cabin crew, the Operator shall have procedures to ensure communication between the cabin crew and flight crew during line operations is conducted in the designated common language(s) of the Operator, as specified in FLT 3.1.1. **(GM)**

Guidance

The specifications contained in FLT 3.1.1 require an operator to designate a common language that is used by flight crew members for communication with the cabin crew during line operations.

In cases when the cabin crew includes members who do not all speak the common language, cabin crew members would normally be assigned to work positions throughout the cabin to ensure any communication with the flight crew is conducted by members who speak the common language.

During long haul operations, the crew rest schedule is typically structured so a sufficient number of cabin crew members who speak the common language are available and in a position to communicate with the flight crew when necessary.

Refer to FLT 3.1.1 in Section 2 (FLT) of this manual.

CAB 3.1.4A If the Operator conducts passenger flights with cabin crew, 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 and rest period limitations that are be 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)**

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) alone or in combination with prescriptive flight time, flight duty period, duty period and rest period limitations in accordance with CAB 3.1.4B as the means for managing fatigue-related risks.

Guidance for the implementation of an FRMS is contained in the IATA Fatigue Risk Management System (FRMS) Implementation Guide for Operators, 1st Edition, July 2011, or an equivalent document approved or accepted by the State.

CAB 3.1.4B If the Operator utilizes an FRMS to manage fatigue-related safety risks, the Operator shall incorporate scientific principles and knowledge within the FRMS, comply with any applicable requirements for managing 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;

(iii) Develop and maintain effective FRMS safety assurance processes;

(iv) Establish and implement effective FRMS promotion processes. **(GM)**

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 Risk Management System (FRMS) Implementation Guide for Operators, 1st Edition, July 2011, or an equivalent document approved or accepted by the State.

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 and rest period limitations 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 identification • Safety risk(s) assessment • Safety risk(s) 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, flight and cabin crew, and all other involved personnel under the FRMS • Communication plan (explains FRMS policies, procedures and responsibilities to all relevant stakeholders)

CAB 3.1.4C If the Operator utilizes an FRMS to manage fatigue-related safety risks, the Operator *should* ensure the organizational activities specified in CAB 3.1.4B related to the management of fatigue-related risks are integrated with the Operator's organizational safety management system (SMS) as specified in ORG 1.1.10. **(GM)**

Guidance

The intent of this provision is to ensure the "tactical" organizational activities specified in CAB 3.1.4B 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 Fatigue Risk Management System (FRMS) Implementation Guide for Operators, 1st Edition, July 2011.

Guidance for the integration of FRMS and SMS is described in the IATA Fatigue Risk Management System (FRMS) Implementation Guide for Operators, 1st Edition, July 2011.

CAB 3.1.5 If the Operator conducts passenger flights with cabin crew, 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)**

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 If the Operator conducts passenger flights with cabin crew, 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) Pre-operating deadhead time;

(ii) Training period(s) prior to a flight;

(iii) Administrative or office time prior to a flight (for cabin crew members that serve in a management function). **(GM)**

Guidance

The term *deadhead* as specified in item i) refers to the transportation of non-operating crew members, typically for positioning purposes, before or after an operational duty assignment.

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.

CAB 3.1.7 If the Operator conducts passenger flights with cabin crew, the Operator shall have a policy that ensures cabin crew members, prior to being assigned to duty, will not be affected by factors that could impair human performance. Such factors include, as a minimum:

(i) Pregnancy;

(ii) Illness, surgery or use of medication(s);

(iii) Blood donation;

(iv) Deep underwater diving.

Guidance

The intent of this provision is to ensure an operator's policies address the "fitness for duty" of cabin crew members. Such policy typically assigns responsibility to the individual cabin crew member to report and remain "fit for duty" in accordance with the specifications.

3.2 Cabin Crew Policies and Procedures

CAB 3.2.1 If the Operator conducts passenger flights with cabin crew, 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.

CAB 3.2.2 If the Operator conducts passenger flights with cabin crew, 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 in a position to monitor passenger safety and personnel that have responsibility for fueling operations. **(GM)**

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 utilized 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 onboard);
- 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 onboard) 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 If the Operator conducts passenger flights with cabin crew, the Operator shall have a procedure to ensure the cabin crew verifies that passenger and crew baggage in the passenger cabin is securely stowed.

CAB 3.2.4 If the Operator conducts passenger flights with cabin crew, and utilizes 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)**

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 If the Operator conducts passenger flights with cabin crew, 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 so directs. **(GM)**

Guidance

The safety harness consists of the seat belt and shoulder straps.

CAB 3.2.6 If the Operator conducts passenger flights with cabin crew, the Operator *should* require cabin crew members to be seated with their safety harnesses fastened when the aircraft is taxiing, except to perform safety-related duties.

CAB 3.2.7 If the Operator conducts passenger flights with cabin crew, the Operator shall have procedures for preparation of the cabin prior to takeoff and landing. **(GM)**

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 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.

CAB 3.2.8 If the Operator conducts passenger flights with cabin crew, the Operator shall have cabin crew procedures for providing passengers with instructions for appropriate action in the case of an in-flight emergency situation.

CAB 3.2.9 If the Operator conducts passenger flights with cabin crew, and utilizes movable carts or trolleys for passenger service in the aircraft cabin, the Operator shall:

(i) Ensure such carts or trolleys are equipped with braking devices;

(ii) Have a process to ensure braking devices are operative;

(iii) Have procedures to ensure unserviceable carts or trolleys are withdrawn for repair or replacement. **(GM)**

Guidance

Braking devices on service carts or trolleys would typically be checked prior to the first flight of the day. If an operator uses external service providers for catering, the operator may delegate the serviceability of trolleys and service carts to the caterer(s). Under such circumstances, provisions under CAB 1.10, Outsourcing and Product Control, would be applicable.

Should a defective braking device be discovered during flight, the trolley or cart is stowed and not utilized for cabin service. Additionally, tagging or labeling procedures would be implemented to ensure an unserviceable trolley or cart is easily identified and will be withdrawn for repair or replacement.

CAB 3.2.10 If the Operator conducts passenger flights with cabin crew, and utilizes movable carts or trolleys for passenger service in the aircraft cabin, the Operator shall have procedures to ensure such carts or trolleys are:

(i) Stowed during the takeoff and landing phases of flight;

(ii) Stowed if feasible, or secured, during an emergency situation;

(iii) Stowed if feasible, or secured, prior to or during turbulence. **(GM)**

Guidance

The term *stowed* means service carts or trolleys are moved into dedicated compartments (or sleeves) that are designed to lock such equipment in place and prevent any movement within the cabin.

The term *secured* means service carts or trolleys are positioned in the cabin, typically with brakes locked, in a manner that inhibits movement. Such action would be taken only when time constraints or cabin conditions are such that normal stowage is not feasible.

CAB 3.2.11 If the Operator conducts passenger flights with cabin crew, and utilizes movable carts or trolleys for passenger service in the aircraft cabin, the Operator shall ensure cabin crew members do not leave such carts or trolleys unattended in the aircraft aisles unless the braking devices are engaged.

CAB 3.2.12 If the Operator conducts passenger flights with cabin crew, and utilizes 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)**

Guidance

Procedures and limitations with respect to resetting circuit breakers include:

- Authority to reset (normally from the pilot-in-command);
- Applicable type of equipment;
- Applicable conditions;
- Number of resets permitted.

3.3 Flight Deck Coordination

CAB 3.3.1 If the Operator conducts passenger flights with cabin crew, 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)**

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.

CAB 3.3.2 If the Operator conducts passenger flights with cabin crew, and utilizes aircraft equipped with a flight deck entry door in accordance with FLT 4.5.1, FLT 4.5.2 or FLT 4.5.3, 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 entry door must remain locked;

(ii) The way the cabin crew notifies the flight crew in the event of suspicious activity or security breaches in the cabin;

(iii) The way cabin crew members gain entry to the flight deck. **(GM)**

Guidance

Refer to FLT 4.5.1, 4.5.2 and 4.5.3 located in ISM Section 2.

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.

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 If the Operator conducts passenger flights with cabin crew, 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 entry 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)**

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.

A process would be necessary to ensure 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 entry door slides or slide rafts are armed prior to first movement of the aircraft.

CAB 3.3.4 If the Operator conducts passenger flights with cabin crew, 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)**

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 3.3.5 If the Operator conducts passenger flights with cabin crew, the Operator *should* have a policy and procedures that define and specify the requirements for standard wording, terminology, signals and/or verbal commands used for communication between cabin crew and flight crew during normal, abnormal and emergency situations. **(GM)**

Guidance

The intent of this provision is to ensure communication between cabin crew and flight crew during abnormal and emergency situations is conducted using standardized methods of communication identified and defined in documentation available to applicable crew members.

Examples of such situations include:

- Cabin depressurization;
- Severe turbulence;
- Emergency evacuation;
- "Before impact" notification (forced/emergency landing or ditching);
- Crew member incapacitation;
- Unlawful interference.

CAB 3.3.6 (Intentionally open)

CAB 3.3.7 If the Operator conducts passenger flights with cabin crew, the Operator shall have procedures that ensure the cabin crew is notified:

(i) When to prepare for takeoff;
(ii) When the flight is in the descent phase;
(iii) When to prepare for landing.

3.4 Cabin Operations Policies and Procedures

CAB 3.4.1 If the Operator conducts passenger flights with cabin crew, and transports passengers that require special handling, the Operator shall have a policy and associated procedures for the acceptance and onboard handling of such passengers by the cabin crew. Such policy and procedures shall be in accordance with applicable regulations and, as a minimum, address:

(i) Intoxicated and/or abusive 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)**

Guidance

A policy and associated procedures typically address the acceptance and onboard handling of passengers that require special handling, or perhaps the refusal to board certain categories of passengers. For example, such policy and procedures might specify:

- For intoxicated and/or abusive passengers: Pilot-in-command would have 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.
- For passengers with disabilities: Refusal or limitations in accordance with requirements of the Authority; specialized equipment that would need to be available (e.g., onboard wheelchair); onboard safety briefing as applicable to the particular passenger's disability.

- If unaccompanied children are accepted: Maximum number, minimum age, any special arrangement while on board, specific seat allocation,
- If stretchers are accepted: Maximum number, escort requirement, associated equipment that would need to be available.
- If passengers in custodies are accepted: Maximum number, number of escort officers, specific seat allocation.

CAB 3.4.2 If the Operator conducts passenger flights with or without cabin crew, 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 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 disruptive behavior

(ii) Conditions under which passengers may be denied boarding, disembarked or restrained in accordance with the authority of the commander

(iii) Reporting of instances of disruptive behavior. **(GM)**

Guidance

Procedure 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.

CAB 3.4.3 If the Operator conducts passenger flights with cabin crew, the Operator shall have cabin crew procedures that ensure all passengers have ready access to emergency oxygen.

CAB 3.4.4 If the Operator conducts passenger flights with cabin crew, the Operator shall have cabin crew procedures that ensure all passengers are seated with their seat belts (or harness or other restraint provided) fastened:

(i) During the taxi phases of a flight;

(ii) During the takeoff and landing phases of flight;

(iii) Prior to and/or during turbulence;

(iv) During an emergency situation, if considered necessary.

CAB 3.4.5 If the Operator conducts passenger flights with or without cabin crew, the Operator shall have procedures to ensure the secure restraint of infants during the phases of flight and conditions specified in CAB 3.4.4. **(GM)**

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 utilized 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 3.4.6 If the Operator conducts passenger flights with or without cabin crew, and utilizes aircraft that have passenger seats adjacent to cabin emergency exits, the Operator shall have guidance and procedures to ensure passengers seated in such seats meet any applicable requirements and restrictions.

CAB 3.4.7 (Intentionally open)

CAB 3.4.8 If the Operator conducts passenger flights with or without cabin crew, the Operator shall have guidelines and associated procedures to ensure control of the use of portable electronic devices in the passenger cabin. **(GM)**

Guidance

Some portable electronic devices might adversely affect the performance of aircraft systems or equipment. An operator would typically have published guidelines that define relevant electronic devices, as well as associated procedures to ensure the use of such devices is controlled.

CAB 3.4.9 (Intentionally open)

CAB 3.4.10 If the Operator conducts passenger flights with cabin crew, the Operator shall have cabin crew procedures that ensure an announcement is made to passengers for matters related to safety, including turbulence, normal, abnormal and emergency situations.

CAB 3.4.11 If the Operator conducts passenger flights with cabin crew, 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.

CAB 3.4.12 If the Operator conducts passenger flights with cabin crew, 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;

(v) Other emergency equipment provided for individual use, including safety briefing cards. **(GM)**

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 If the Operator conducts passenger flights with cabin crew, the Operator shall have a policy and cabin crew procedures for the administration of oxygen, as applicable to aircraft type and configuration. **(GM)**

Guidance

On certain aircraft, oxygen is made available in the cabin during a depressurization through automatically deployed oxygen masks, and passengers, as instructed, are expected to self-administer oxygen using the masks. Oxygen is also administered to those with medical problems, typically using aircraft portable oxygen bottles or other oxygen supplying equipment, as applicable for the type of aircraft.

CAB 3.4.14 If the Operator conducts passenger flights with cabin crew, the Operator shall have a policy that defines the acceptance of passengers that have the potential need for supplementary oxygen and, if such passengers are accepted, procedures for the administration and stowing of supplementary oxygen. **(GM)**

Guidance

A policy would typically define whether the operator does or does not accept passengers with a pre-existing medical condition that requires the potential need for oxygen. If such passengers are accepted, it would be necessary to have a process that permits arranging for and boarding an adequate oxygen supply prior to a flight. Additionally, procedures would be required to ensure:

- The proper administration of such oxygen by crew members when needed;
- Oxygen equipment is properly stowed when not in use or when the seat belt sign is illuminated.

In some circumstances, if approved by the operator and the Authority, passengers may be allowed to carry aboard and utilize their own oxygen equipment.

If an operator does not accept passengers who have the need for supplementary oxygen, a policy would be necessary that specifies the prohibition in order to ensure awareness among all applicable personnel.

CAB 3.4.15 If the Operator conducts passenger flights with cabin crew, 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)**

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

CAB 4.1.1 If the Operator conducts passenger flights with cabin crew, 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;

(ii) After an aircraft has been left unattended by a flight crew or cabin crew for any period of time. **(GM)**

Guidance

An operator typically has published guidance to ensure cabin crews take appropriate action to address a condition where equipment is discovered as missing or does not satisfy operational requirements. Such guidance normally ensures the pilot-in-command is notified prior to departure of the flight and maintenance personnel are also notified, as applicable.

Discrepancies involving cabin systems and equipment are typically documented in a cabin log book or equivalent recording medium.

CAB 4.1.2 If the Operator conducts passenger flights with cabin crew, the Operator shall have a process that permits the cabin crew to report the existence of malfunctioning aircraft equipment prior to and after the completion of a flight.

4.2 Systems and Equipment Requirements

CAB 4.2.1 If the Operator conducts passenger flights with or without cabin crew, the Operator shall ensure all passenger aircraft in its fleet are equipped with one or more first aid kits that are distributed as evenly as practicable throughout the passenger cabin(s) and are readily accessible for use by crew members. **(GM)**

Guidance

Refer to the IRM for the definition of Passenger Aircraft.

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 the typical minimum numbers of first aid kits based on aircraft passenger seats:

- One kit for aircraft with 100 or fewer passenger seats;
- Two kits for aircraft with 101 to 200 passenger seats;
- Three kits for aircraft with 201 to 300 passenger seats;
- Four kits for aircraft with 301 to 400 passenger seats;
- Five kits for aircraft with 401 to 500 passenger seats;
- Six kits for aircraft with 501 and more passenger seats.

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.

The medications contained in first-aid kits would typically include, if permitted by applicable regulations:

- Mild to moderate analgesic;
- Antiemetic;
- Nasal decongestant;
- Antacid;
- Antihistaminic;
- Antidiarrhoeal.

CAB 4.2.2 If the Operator conducts passenger flights with cabin crew, and utilizes aircraft with more than 100 passenger seats on flight sector lengths of more than two hours, the Operator *should* ensure all such passenger aircraft in its fleet are equipped with a minimum of one medical kit, stored in a secure location, for use by medical doctors or individuals with appropriate qualifications or training. **(GM)**

Guidance

The equipment contents of an aircraft medical kit 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);
- Antiseptic wipes;
- Gloves (disposable);
- Sharps disposal box;
- Urinary catheter;
- System for delivering intravenous fluids;
- Venous tourniquet;
- Sponge gauze;
- Tape adhesive;
- Surgical mask;
- Emergency tracheal catheter (or large gauge intravenous cannula);
- Umbilical cord clamp;
- Thermometers (non-mercury);
- Basic or advanced 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 account the particular nature of the operation.

The drug contents of an aircraft medical kit would typically include:

- Epinephrine 1:1000;
- Antihistaminic injectable;

- Dextrose 50% inj. 50 ml (or equivalent);
- Nitro-glycerine tablet or spray;
- Major analgesic;
- Sedative anticonvulsant injectable;
- Antiemetic injectable;
- Bronchial dilator inhaler;
- Atropine injectable;
- Adrenocortical steroid injectable;
- Diuretic injectable;
- Medication for postpartum bleeding;
- Sodium chloride 0.9% (minimum 250 ml);
- Acetyl salicylic acid (aspirin) for oral use;
- Oral beta blocker;

If a cardiac monitor is available, (with or without an AED), the following would normally be added to the above list:

- Epinephrine 1:10000 (can be a dilution of epinephrine 1:1000);
- Advanced life support cards, if not already included.

CAB 4.2.3 If the Operator conducts passenger flights with cabin crew, the Operator *should* ensure all passenger aircraft in its fleet are equipped with one or more universal precaution kits for use by cabin crew members in managing:

(i) Episodes of ill health associated with a case of suspected communicable disease;

(ii) Cases of illness involving contact with body fluids. **(GM)**

Guidance

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);
- Protective apron;
- Large absorbent towel;
- Pick-up scoop with scraper;
- Bio-hazard disposal waste bag;
- Instructions.

CAB 4.2.4 (Intentionally open)

CAB 4.2.5 If the Operator conducts passenger flights with or without cabin crew, the Operator shall ensure all passenger aircraft in its fleet are equipped with hand-held fire extinguishers uniformly distributed throughout the passenger cabin (when two or more extinguishers are required), readily accessible at each galley not located on a main passenger deck, and if applicable, available for use in each cargo compartment that is accessible to the crew. Fire extinguishers shall be of a type that will minimize the hazard of toxic gas concentration within the aircraft. **(GM)**

Guidance

The requirements for hand-held fire extinguishers in this provision are applicable only to areas of the aircraft other than the flight deck. Specific requirements for the flight deck are contained in ISM Section 2 (FLT).

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:

- One extinguisher for aircraft with 7 to 30 passenger seats;
- Two extinguishers for aircraft with 31 to 60 passenger seats;
- Three extinguishers for aircraft with 61 to 200 passenger seats;
- Four extinguishers for aircraft with 201 to 300 passenger seats;
- Five extinguishers for aircraft with 301 to 400 passenger seats;
- Six extinguishers for aircraft with 401 to 500 passenger seats;
- Seven extinguishers for aircraft with 501 to 600 passenger seats;
- Eight extinguishers for aircraft with 601 or more passenger seats. **(GM)**

CAB 4.2.6 If the Operator conducts passenger flights with or without cabin crew, the Operator shall ensure all unpressurized passenger aircraft in its fleet with a maximum certificated takeoff mass exceeding 5,700 kg (12,566 lb) or having more than 19 passenger seats, as well as all pressurized passenger aircraft in its fleet, are equipped with a portable unit of protective breathing equipment (PBE) installed:

(i) Adjacent to each hand-held fire extinguisher as specified in CAB 4.2.5, or adjacent to each required cabin crew station, whichever is fewer;

(ii) Where a hand-held fire extinguisher is located in a cargo compartment, outside but adjacent to that cargo compartment. **(GM)**

Guidance

Refer to the IRM for the definition of Cabin Crew Station and Protective Breathing Equipment (PBE).

PBE specifications for the flight crew are contained in FLT 4.3.6 in ISM Section 2 (FLT).

PBE units would typically be installed within approximately one meter (three feet) of each hand-held fire extinguisher.

Portable PBE units are designed to provide breathing gas for 15 minutes at a pressure altitude of 8,000 feet.

CAB 4.2.7 If the Operator conducts over-water passenger flights with or without cabin crew, the Operator shall ensure all passenger aircraft in its fleet utilized for such flights are equipped with a minimum of one life jacket or equivalent individual flotation device for each person on board, with each life jacket or flotation device stowed for easy accessibility from individual seating positions. **(GM)**

Guidance

Refer to the IRM for the definition of Over-water Flights.

Seat cushions that are designed to float are considered individual flotation devices.

State regulations might permit baby survival cots or infant life jackets to be stowed together in one or more common locations (e.g. in a bustle or doghouse). Under such circumstances, an operator would typically have procedures to ensure such items are handed to the parents of infants when required.

CAB 4.2.8 If the Operator conducts long-range over-water passenger flights with or without cabin crew, the Operator shall ensure all passenger aircraft in its fleet utilized for such flights are equipped with a minimum of one life jacket for each person on board. **(GM)**

Guidance

Refer to the IRM for the definition of Long-range Over-water Flights.

CAB 4.2.9 If the Operator conducts long-range over-water passenger flights with or without cabin crew, the Operator shall ensure life jackets or individual flotation devices on board all aircraft in its fleet utilized for such flights in accordance with CAB 4.2.7 and CAB 4.2.8 have a means for electric illumination, except electric illumination is not required where the requirement of CAB 4.2.7 is fulfilled by individual flotation devices *other than life jackets* on aircraft that only operate over-water flights when taking off or landing at an airport where the takeoff or approach path is so disposed over water that in the event of a mishap there would be a likelihood of a ditching. **(GM)**

Guidance

Flotation devices other than life jackets (e.g., seat cushions), when used in lieu of life jackets on aircraft that operate over-water flights at a distance of more than 93 km (50 nm) away from the shore, would be subject to the requirement for electric illumination.

CAB 4.2.10 If the Operator conducts long-range over-water passenger flights with or without cabin crew, the Operator shall ensure all aircraft in its fleet utilized for such flights are equipped with 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 shall contain:

(i) Life-sustaining equipment as appropriate to the flight to be undertaken;

(ii) Equipment for making pyrotechnical distress signals.

CAB 4.2.11 If the Operator conducts passenger flights with or without cabin crew, the Operator shall ensure all passenger aircraft in its fleet with more than 9 passenger seats for which the individual certificate of airworthiness was first issued after 1 January 1958 are equipped with a cabin emergency escape path lighting system. **(GM)**

Guidance

Refer to the IRM for the definitions of Emergency Escape Path Lighting System and Emergency Lighting System.

CAB 4.2.12 If the Operator conducts passenger flights with cabin crew, the Operator shall ensure all passenger aircraft in its fleet are equipped with a flashlight (torch) at each required cabin crew station. **(GM)**

Guidance

If the operator requires individual cabin crew members to carry flashlights, to ensure compliance, a process could be in place that verifies such carriage, ensures flashlights are in working order and defines the location(s) for stowage during flight.

CAB 4.2.13 If the Operator conducts passenger flights with or without cabin crew, the Operator shall ensure all passenger aircraft in its fleet are equipped with 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.

CAB 4.2.14 If the Operator conducts passenger flights with cabin crew, the Operator shall ensure all passenger aircraft in its fleet are equipped with forward or rearward facing seats at each emergency evacuation station for use by cabin crew members as specified in CAB 3.1.1. Such seats shall be located near floor level exits and fitted with a safety harness. **(GM)**

Guidance

The safety harness consists of the seat belt and shoulder straps.

Aircraft are equipped with the specified seats to accommodate the required minimum number of cabin crew members at the emergency evacuation stations.

Under certain circumstances, additional cabin crew members (above the required minimum number) may sit in passenger seats (with lap belts only) provided qualified cabin crew members occupy all seats at the emergency evacuation stations.

CAB 4.2.15 If the Operator conducts passenger flights with cabin crew, and utilizes pressurized passenger aircraft at flight altitudes above 10,000 feet, the Operator shall ensure all such aircraft in its fleet are equipped with oxygen storage and dispensing apparatus that can be used by cabin crew members when administering supplemental oxygen.

CAB 4.2.16 If the Operator conducts passenger flights with or without cabin crew, the Operator shall ensure all passenger aircraft in its fleet are provisioned with a safety information card accessible to each passenger, which contains appropriate information, instructions, restrictions or locations relevant to:

(i) Seat belts;
(ii) Emergency exits;
(iii) If applicable, emergency escape path lighting;
(iv) Life jackets (personal flotation devices), if required;
(v) Passenger oxygen masks;
(vi) Smoking restrictions.

CAB 4.2.17 If the Operator conducts passenger flights with cabin crew, the Operator shall ensure all passenger aircraft in its fleet are equipped with portable battery-operated megaphones, stowed in a manner to be readily accessible for use by crew members during an emergency. Aircraft shall be equipped with:

(i) One megaphone for aircraft with 60 to 100 passenger seats;
(ii) Two megaphones for aircraft with more than 100 passenger seats. **(GM)**

Guidance

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.

CAB 4.2.18 If the Operator conducts passenger flights with or without cabin crew, and conducts flights across land areas that have been designated by the state(s) concerned as areas in which search and rescue would be especially difficult, the Operator shall ensure all passenger aircraft in its fleet utilized for such flights are equipped with signaling devices and lifesaving equipment (including, means of sustaining life) in accordance with requirements of the applicable state(s). **(GM)**

Guidance

An Emergency Locator Transmitter (ELT) is considered an appropriate signaling device.

CAB 4.2.19–4.2.22 (Intentionally open)

CAB 4.2.23 If the Operator conducts passenger flights with or without cabin crew, the Operator shall ensure lavatories on all passenger aircraft in its fleet are equipped with a smoke detection system and a built-in fire extinguisher for each lavatory receptacle intended for the disposal of towels, paper or waste.

Table 5.1–Operations Manual Content Specifications
The content of the Operations Manual 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 smoke, fumes and fire; (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.

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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 provisions or sub-specifications within a provision that:

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

Functions within the scope of ground handling operations include:

- Passenger handling;
- Baggage handling;
- Aircraft 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.

Where an operator outsources the performance of functions within the scope of ground handling operations to external service providers, the operator retains overall responsibility for such functions and must demonstrate processes for monitoring the 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).

Procedures used in ground operations are defined in the IATA Ground Operations Manual (IGOM), which is a supplement to the IATA Airport Handling Manual (AHM).

1 Management and Control

1.1 Management System

GRH 1.1.1 The Operator shall have a management system that ensures control of ground handling operations and the management of safety and security outcomes. **(GM)** ◄

Guidance

Refer to the IRM for the definitions of Ground Handling, Operations and Operator.

Refer to Guidance associated with ORG 1.1.1 located in ISM Section 1.

GRH 1.1.2 The Operator shall have a manager for ground handling operations that:

(i) Has the authority and is responsible for the management and supervision of functions and activities within the scope of ground handling operations;

(ii) Is accountable to senior management for ensuring the safety of ground handling operations. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 1.1.4 located in ISM Section 1.

1.2 Authorities and Responsibilities

GRH 1.2.1 The Operator shall ensure the management system defines the authorities and responsibilities of management and non-management personnel that perform functions relevant to the safety or security of ground handling operations. The management system shall also specify:

(i) The levels of management with the authority to make decisions that affect the safety and/or security of ground handling operations;

(ii) Responsibilities for ensuring ground handling operations are conducted in accordance with applicable regulations and standards of the Operator. **[SMS] (GM)** ◄

Guidance

Refer to Guidance associated with ORG 1.3.1 located in ISM Section 1.

GRH 1.2.2 The Operator shall have a process for the delegation of duties within the management system for ground handling operations that ensures managerial continuity is maintained when operational managers are absent from the workplace. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 1.3.2 located in ISM Section 1.

1.3 Communication

GRH 1.3.1 The Operator shall have a communication system that enables an effective exchange of information relevant to the conduct of ground handling operations throughout the management system for ground handling operations and in areas where ground handling operations are conducted. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 1.4.1 located in ISM Section 1.

Specific means of communication between management and operational ground handling personnel might include:

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

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

1.4 Provision of Resources

GRH 1.4.1 The Operator shall ensure the existence of the necessary facilities, workspace, equipment and supporting services, as well as work environment, to satisfy ground handling operational safety requirements. **(GM)** ◄

Guidance

Conformity with GRH 1.4.1 does not require specifications to be *documented* by an operator.

Refer to Guidance associated with ORG 1.6.1 located in ISM Section 1.

GRH 1.4.2 The Operator shall ensure operational positions within the scope of ground handling operations are filled by personnel on the basis of knowledge, skills, training and experience appropriate for the position. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 1.6.2 located in ISM Section 1.

To ensure the inclusion of all ground handling operations, an operator would typically have a process that ensures specifications in this provision are applied to external ground handling service providers.

A corporate personnel selection policy that applies to all operational areas of the company serves to satisfy specifications in this provision.

1.5 Documentation System

GRH 1.5.1 The Operator shall have a system for the management and control of documentation and/or data used directly in the conduct or support of ground handling operations. Such system shall include elements as specified in ORG 2.1.1. **(GM)** ◄

Guidance

Refer to the IRM for the definition of Documentation and Electronic Documentation.

An operator might utilize the documents and/or data of another operator (usually a parent or subsidiary) in the conduct or support of its own ground operations. In such cases, in order to maintain the currency of information contained in documents (and/or data), an operator would typically have a process to provide operational input to the operator that produces the documents (and/or data) that are utilized in ground handling operations.

Refer to IGOM Chapters 1 and 5 for guidance that addresses management and control of ground operations documentation and data.

Refer to ORG 2.1.1 and associated Guidance, and Table 1.1, located in ISM Section 1.

GRH 1.5.2 (Intentionally open)

GRH 1.5.3 The Operator shall ensure documentation used in the conduct or support of ground handling operations:

(i) Contains legible and accurate information;

(ii) Is presented in a format that is appropriate for use by ground handling personnel;

(iii) If applicable, is accepted or approved by the Authority. **(GM)** ◄

Guidance

Refer to the IRM for the definition of Authority.

Refer to IGOM Chapters 1 and 5 for guidance that addresses management and control of ground operations documentation and data.

1.6 Operational Manuals

GRH 1.6.1 The Operator shall have an Operations Manual, which may be issued in separate parts, that contains the operational policies, processes, procedures and other information necessary for ground handling personnel to perform their duties and be in compliance with applicable regulations, laws, rules and standards of the Operator. **(GM)**

Guidance

Refer to the IRM for the definition of Operations Manual (OM).

An operations manual typically includes guidance that addresses areas generic to all functions within the scope of ground handling operations, as well as parts of the manual that are specific to individual operational functions.

Because the scope of ground handling operations is broad and varies by operator, rather than publishing one OM just for ground handling, a smaller operator might choose to incorporate the relevant information into a larger, comprehensive OM.

An operator could also choose to issue the information in separate documents that are each specific to the various ground handling operational functions (e.g. passenger handling, baggage handling, aircraft handling). Each individual document would typically contain generic guidance that is applicable to all ground handling operational functions (e.g., organizational policies, general definitions), as well as guidance that is specific to the particular ground handling function or office location (e.g., process descriptions, standard operating procedures, references to the appropriate regulations and IATA manuals).

The IGOM contains a core set of operations procedures that may be used by operators in the conduct of ground handling operations.

If an operator has external organizations conduct ground handling operations functions, such operator would then be expected to have a monitoring and control process to ensure each external organization either uses the OM of the operator or has its own published OM that fulfills operational safety, security and quality requirements of the operator.

GRH 1.6.2 The Operator shall ensure the current edition of the Operations Manual is available in a usable format at each location where ground handling operations are conducted. **(GM)**

Guidance

To achieve system-wide standardization, an operator would normally have a control process that ensures external service providers have operationally relevant parts of the OM available at applicable locations.

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)**

Guidance

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)**

Guidance

Refer to IGOM Chapter 6 for guidance that addresses response to dangerous goods events.

Guidance may be found in DGR 9.5 and 10.9.

GRH 1.6.5 If the Operator does *not* transport dangerous goods, 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)**

Guidance

For a dangerous goods “no-carry” operator, guidance in the OM typically addresses vigilance with respect to hidden or inconspicuous dangerous goods, and includes an indicative list of items that could contain dangerous goods. Such guidance also addresses dangerous goods permitted in passenger baggage in accordance with operator policy and procedures.

GRH 1.6.6 If the Operator conducts passenger flights, 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 locations where passenger check-in and/or boarding operations are conducted. **(GM)**

Guidance

Most dangerous goods are typically transported as cargo. However, certain types of dangerous goods are permitted for transport in passenger or crew baggage.

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. For example, at the passenger check-in and aircraft boarding areas, appropriate company documentation might describe dangerous goods permitted in passenger and crew baggage. Documentation may also include actions required by passenger agents with respect to items specifically not permitted in passenger baggage, and contain examples of dangerous goods hazard labels and procedures for addressing spills and/or leaks of unidentified substances.

To ensure system-wide standardization, an operator would normally have a control process to ensure external service providers have the DGR or equivalent documentation available at applicable locations.

GRH 1.6.7 If the Operator conducts passenger flights, 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. As a minimum, such information shall include procedures for passenger handling personnel to alert passengers that certain items of dangerous goods:

(i) Are specifically prohibited in hold baggage (e.g. spare lithium batteries);

(ii) Must be removed from cabin baggage when cabin baggage cannot be accommodated in the passenger cabin.

GRH 1.6.8 If the Operator conducts passenger flights, the Operator *should* ensure the OM or an equivalent operational manual contains information with respect to dangerous goods permitted in passenger and crew baggage. **(GM)**

Guidance

Certain items of dangerous goods are permitted in passenger or crew baggage if approved by the operator. Information contained in the operations manual (or equivalent) should address the following:

- Approval process

  It is recommended that a single company policy be set out that identifies the items that have been approved and the person(s) or department(s) responsible for determining how dangerous goods in passenger baggage may be approved.

- Communication

  It is recommended that the operator define how approvals for dangerous goods requiring operator approval are communicated to the airport(s) of departure. It is recommended that operators consider a process where such approval is included in the passenger electronic record.

- Limitations

  The operator manuals should specify any limitations or procedural requirements that may apply to particular commodities (e.g. inspection at check-in by passenger service agents and/or security).

- Codeshare

  Where the operator has interline agreements with code share and/or alliance partners the operator should identify what the procedure is for obtaining the approval of the other airline(s) involved (e.g. by advising the passenger that they must obtain approval from the other operator).

- Awareness

  The operator should ensure that all staff who have an interaction with passengers, (i.e. reservations agents, passenger service agents, cabin crew and flight crew) are made aware of the process employed to ensure that the operator approval process remains effective.

Refer to DGR 2.3, which addresses dangerous goods permitted in passenger and crew checked and cabin baggage.

Refer to IGOM Chapter 2 for guidance that addresses the carriage of dangerous goods by passengers.

1.7 Records System

GRH 1.7.1 The Operator shall have a system for the management and control of ground handling 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 and security;
(vi) Disposal or deletion (electronic records). **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 2.2.1 located in ISM Section 1.

GRH 1.7.2 If the Operator utilizes an electronic system for the management and control of operational ground handling records, the Operator shall ensure the system provides for a scheduled generation of back-up record files. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 2.2.2 located in ISM Section 1.

1.8 (Intentionally Open)

1.9 Quality Assurance Program

GRH 1.9.1 The Operator shall have a quality assurance program that provides for the auditing and evaluation of the management system and operational functions within the scope of ground handling operations at planned intervals to ensure the Operator is:

(i) Complying with applicable regulations and standards;
(ii) Satisfying stated operational needs;
(iii) Identifying undesirable conditions and areas requiring improvement;
(iv) Identifying hazards to operations. **[SMS] (GM)** ◄

Guidance

Refer to the IRM for the definition of Quality Assurance.

Refer to Guidance associated with ORG 3.4.1 located in ISM Section 1 for typical audit program requirements.

Ideally, the specifications of this provision would also apply to external service providers that conduct outsourced operational functions.

A corporate quality assurance program that is applied to all operational areas of the company, including all functions within the scope of ground handling operations, satisfies this requirement.

Refer to the IATA Airport Handling Manual (AHM) 60 and 612, which contain guidance that addresses auditing of ground handling functions.

GRH 1.9.2 The Operator shall have a process for addressing findings resulting from audits of functions within ground handling operations, which ensures:

(i) Identification of root cause;
(ii) Development of corrective action, as appropriate, to address finding(s);
(iii) Implementation of corrective action in appropriate operational areas;
(iv) Evaluation of corrective action to determine effectiveness. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 3.4.3 located in ISM Section 1.

GRH 1.9.3 The Operator shall have a process to ensure significant issues arising from audits of functions within the scope of ground handling operations are subject to management review in accordance with ORG 1.5.1 and, as applicable, ORG 1.5.2. **[SMS] (GM)** ◄

Guidance

Refer to Guidance associated with ORG 3.4.4 located in ISM Section 1.

GRH 1.9.4 The Operator shall have an audit planning process and sufficient resources to ensure audits of ground handling operations are:

(i) Scheduled at intervals to meet regulatory and management system requirements;
(ii) Completed within a specified time period. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 3.4.10 located in ISM Section 1.

1.10 Outsourcing and Product Quality Control

GRH 1.10.1 If the Operator has external service providers conduct outsourced operational functions within the scope of ground handling operations, the Operator shall have a process to ensure a contract or agreement is executed with such external service providers. Contracts or agreements shall identify measurable specifications that can be monitored by the Operator to ensure requirements that affect the safety and/or security of ground handling operations are being fulfilled by the service provider. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 3.5.1 located in ISM Section 1.

The requirement for a contract or agreement applies to outsourced functions within the scope of ground handling operations that affect the safety and security of operations, including routine aircraft servicing (e.g. potable water) and special functions such as aircraft fueling and de-/anti-icing.

If a ground handling function is expected to be accomplished in accordance with specific industry standards, the agreement identifies and specifies the standards by exact name (e.g., aircraft fuel shall be delivered in accordance with the published standards of the IATA Fuel Quality Pool).

The AHM contains detailed guidance and examples of a standard ground handling agreement and a service level agreement. Additionally, IATA publishes a standard contract for the delivery of aircraft fuel.

GRH 1.10.2 If the Operator has external service providers conduct outsourced operational functions within the scope of ground handling operations, the Operator shall have processes to monitor such external service providers to ensure ground handling safety and security requirements are being fulfilled. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 3.5.2 located in ISM Section 1.

An external service provider that is on the ISAGO (IATA Safety Audit of Ground Operations) Registry for a particular station indicates such provider has been audited and is in conformity with ISAGO standards. The use of the ISAGO program is an acceptable method for certain elements of the monitoring processes. These elements must be within the scope of the ISAGO Standards Manual (GOSM).

Other inspection programs that might be considered for use as part of the monitoring of service providers include, as applicable, the IATA De-Icing/Anti-Icing Quality Control Pool (DAQCP), the IATA Fuel Quality Pool (IFQP) and the IATA Drinking-Water Quality Pool (IDQP).

GRH 1.10.3 If the Operator has external service providers conduct outsourced operational functions within the scope of ground handling operations, the Operator *should* include auditing as a process for the monitoring of external service providers in accordance with GRH 1.10.2. ◄

GRH 1.10.4 The Operator *should* have a process to ensure products purchased or otherwise acquired from an external vendor or supplier, which directly affect operational safety or security, meet the product technical requirements specified by the Operator prior to being used in the conduct of ground handling operations. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 3.6.1 located in ISM Section 1.

1.11 Safety Management

Risk Management

GRH 1.11.1A The Operator *should* have processes in the ground handling operations organization, to include:

(i) A combination of reactive and proactive methods for safety data collection;

(ii) Processes for safety data analysis that identify existing hazards and predict future hazards to aircraft operations. **[SMS] (GM)** ◄

Note: *Effective 1 September 2015, this recommended practice will be upgraded to a standard (see GRH 1.11.1B).*

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 3.1.1A located in ISM Section 1.

GRH 1.11.1B Effective 1 September 2015, the Operator shall have processes in the ground handling operations organization, to include:

(i) A combination of reactive and proactive methods for safety data collection;

(ii) Processes for safety data analysis that identify existing hazards and predict future hazards to aircraft operations. **[SMS] (GM)** ◄

Guidance

Refer to Guidance associated with GRH 1.11.1A.

GRH 1.11.2A The Operator *should* have a safety risk assessment and mitigation program in the ground handling operations organization 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] (GM)** ◄

Note: *Effective 1 September 2015, this recommended practice will be upgraded to a standard (see GRH 1.11.2B).*

Guidance

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

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

GRH 1.11.2B Effective 1 September 2015, the Operator shall have a safety risk assessment and mitigation program in the ground handling operations organization 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] (GM)** ◄

Guidance

Refer to Guidance associated with GRH 1.11.2A.

Operational Reporting

GRH 1.11.3 The Operator shall have an operational reporting system in the ground handling operations organization that:

(i) Encourages and facilitates ground 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 operations management action to address operational deficiencies, hazards, incidents and concerns identified through the reporting system. **[SMS] (GM)** ◄

Guidance

Operational reporting is considered a *proactive* hazard identification activity in an SMS.

To enhance industry data usability, it is recommended that ground damage events are reported in accordance with a formal reporting structure (see GRH 1.11.6).

Refer to IGOM Chapter 6 for guidance that addresses aircraft damage reporting.

Refer to Guidance associated with ORG 3.1.3 located in ISM Section 1.

GRH 1.11.4 The Operator *should* have a confidential safety reporting system in the ground handling operations organization that encourages and facilitates the reporting of events, hazards and/or concerns resulting from or associated with human performance in operations. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 3.1.4 located in ISM Section 1.

Safety Performance Monitoring and Management

GRH 1.11.5A The Operator *should* have processes in the ground handling operations organization for setting performance measures as a means to monitor the safety performance of the organization and to validate the effectiveness of risk controls. **[SMS] (GM)** ◄

Note: *Effective 1 September 2016, this recommended practice will be upgraded to a standard (see GRH 1.11.5B).*

Guidance

Refer to the IRM for the definition of Safety Assurance.

Setting measurable safety objectives is an element of the Safety Assurance component of the SMS framework.

By setting performance measures, an operator is able to track and compare its operational performance against a target (i.e. the performance objective, typically expressed as a rate or number reduction) over a period of time (e.g. one year). Achievement of the target (or objective) would represent an improvement in the operational performance. The use of performance measures is an effective method to determine if desired safety outcomes are being achieved, and to focus attention on the performance of the organization in managing operational risks and maintaining compliance with relevant regulatory requirements.

Performance measures in ground handling operations might address, for example, different types of aircraft ground damage.

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

GRH 1.11.5B Effective 1 September 2016, the Operator shall have processes in the ground handling operations organization for setting performance measures as a means to monitor the safety performance of the organization and to validate the effectiveness of risk controls. **[SMS] (GM)** ◄

Guidance

Refer to Guidance associated with GRH 1.11.5A.

GRH 1.11.6 The Operator *should* have a process to ensure aircraft ground damages are reported to IATA for inclusion in the Ground Damage Database (GDDB). Such reports *should* be submitted in accordance with the formal IATA ground damage reporting structure. **(GM)**

Guidance

Refer to the IRM for the definition of IATA Ground Damage Database (GDDB).

The IATA GDDB has been established as a quality source of defensible data that will support a performance-based approach to the management of ground operations. Data submitted to IATA for the GDDB is assembled and integrated in a manner that permits, through statistical analysis, the identification of trends and contributing factors associated with aircraft ground damages.

Participants that submit data for the GDDB benefit from having access to the analytical results. As a key component of IATA's Integrated Solution for Ground Operations, such results are used by various IATA working groups and task forces associated with the Ground Operations and ISAGO programs, and form the basis for the development of damage prevention strategies and success measurement metrics.

The assurance of data quality and overall database integrity requires that data is submitted by participants in a uniform and consistent manner. Therefore, the GDDB includes strict reporting protocols, including associated definitions and assumptions.

Reporting guidelines and other information can be found online at the IATA Ground Damage Database page (http://www.iata.org/gddb).

2 Training and Qualification

2.1 Training Program

GRH 2.1.1 The Operator shall have a process to ensure personnel who 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*, except recurrent training in dangerous goods as specified in GRH 2.2.1 or GRH 2.2.2, on a frequency in accordance with requirements of the regulatory authority, but *not less than once during every 36-month period.* **(GM)**

Guidance

Requirements for initial and recurrent training apply to all operational ground handling personnel who perform duties within the scope of ground handling operations.

GRH 2.1.2 The Operator shall have a process to ensure the content of training completed by ground handling operations personnel in accordance with GRH 2.1.1 is reviewed and updated to remain relevant, and provides the knowledge necessary to perform duties, execute procedures and operate equipment associated with specific ground handling functions and responsibilities, to 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)**

Guidance

Refer to the IRM for the definition of Human Factors Principles.

The AHM contains guidance for the training of ground handling personnel.

Refer to AHM 590, 591 and DGR 1.5, which address training for personnel that perform load control functions.

Refer to AHM 611, which addresses training for personnel that:

- Perform aircraft handling functions, to include aircraft loading;
- Operate a vehicle in the performance of duties in airside operations.

GRH 2.1.3 The Operator shall have a process to ensure training for personnel who perform operational duties in functions within the scope of ground handling operations for the Operator includes testing or evaluation by written, oral or practical means, as applicable, to satisfy the requirement for operational personnel to demonstrate adequate knowledge, competency or proficiency to perform duties, execute procedures or operate equipment.

GRH 2.1.4 The Operator shall ensure completion of required training by personnel who 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.

2.2 Program Elements

GRH 2.2.1 If the Operator transports dangerous goods, the Operator shall have a process to ensure ground handling personnel receive dangerous goods training, to include *initial training* and *recurrent training*, on a frequency in accordance with requirements of the regulatory authority, but *not less than once 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)**

Guidance

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.

The curriculum for dangerous goods training for ground handling personnel will vary depending on specific responsibilities and duty function(s), but will typically address:

- General philosophy;
- Limitations;
- List of dangerous goods;
- Labeling and marking;
- Recognition of undeclared dangerous goods;
- Storage and loading procedures;
- Flight crew notification;
- Provisions for passengers and crew;
- Emergency procedures.

Refer to DGR 1.5 (Table 1.5.A, Minimum Requirements for Training Curricula) for detailed guidance that addresses dangerous goods training and subjects applicable to specific ground handling functions.

GRH 2.2.2 If the Operator does *not* transport dangerous goods, the Operator shall have a process to ensure ground handling personnel receive dangerous goods training, to include *initial training* and *recurrent training* on a frequency as specified in GRH 2.2.1. 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)**

Guidance

When an operator does not transport dangerous goods (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 for ground handling personnel will typically address:

- General philosophy;
- Limitations;
- Labeling and marking;
- Recognition of undeclared dangerous goods;
- Provisions for passengers and crew;
- Emergency procedures.

Refer to DGR 1.5 (Table 1.5.B, Minimum Requirements for Training Curricula for “No-carry” Operators), for detailed guidance that addresses dangerous goods training and subjects applicable to specific ground handling functions.

GRH 2.2.3 The Operator shall have a process to ensure ground handling personnel assigned to perform ground handling duties in airside operations for the Operator, to include the operation of ground support equipment, complete initial and recurrent airside safety training in accordance with GRH 2.1.1. **(GM)**

Guidance

Refer to the IRM for the definition of Ground Support Equipment (GSE).

Refer to AHM 611, which addresses training applicable to airside operations and safety.

GRH 2.2.4 The Operator shall have a process to ensure ground handling personnel assigned to perform aircraft fueling operations for the Operator complete initial and recurrent training in accordance with GRH 2.1.1.

GRH 2.2.5 The Operator shall have a process to ensure personnel assigned to perform aircraft ground de-/anti-icing operations complete initial and recurrent training in accordance with GRH 2.1.1. **(GM)**

Guidance

Refer to ICAO Doc 9640-AN/940, Chapter 13, which addresses training for personnel that conduct aircraft de-/anti-icing operations.

2.3 SMS Training

GRH 2.3.1A The Operator *should* have a program that ensures personnel that perform functions within the scope of ground handling operations are trained and competent to perform SMS duties. The scope of such training *should* be appropriate to each individual's involvement in the SMS. **[SMS] (GM)** ◄

Note: *Effective 1 September 2015, this recommended practice will be upgraded to a standard (see GRH 2.3.1B).*

Guidance

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

Refer to Guidance associated with ORG 1.6.5A located in ISM Section 1.

GRH 2.3.1B Effective 1 September 2015, the Operator shall have a program that ensures personnel that perform functions within the scope of ground handling operations are trained and competent to perform SMS duties. The scope of such training shall be appropriate to each individual's involvement in the SMS. **[SMS] (GM)** ◄

Guidance

Refer to Guidance associated with GRH 2.3.1A.

3 Ground Handling Operations

3.1 Passenger and Baggage Handling

GRH 3.1.1 If the Operator conducts passenger flights, the Operator shall ensure notices are displayed that warn passengers of the type of dangerous goods forbidden for transport aboard an aircraft. Such notices shall include visual examples and be displayed:

(i) Prominently and in sufficient number at each of the places at an airport where passengers are processed, to include ticket issue, passenger check-in and aircraft boarding areas;

(ii) Clearly at any other location where passengers are checked in. **(GM)**

Guidance

Dangerous goods notices, sufficient in number, are typically also prominently displayed where passenger check-in is permitted at non-airport locations (e.g. hotel lobby/reception areas, railway stations).

Notices, sufficient in number, would be prominently displayed at places at an airport where passengers are processed, such as:

- Ticketing areas;
- Check-in areas;
- Boarding areas;
- Baggage claim areas (recommended only).

Additionally, if passenger ticketing or check-in is accomplished using electronic means, dangerous goods information is presented in the appropriate electronic medium.

Guidance may be found in DGR 1.4.3.

GRH 3.1.2 If the Operator conducts passenger flights, the Operator shall ensure a process is in place that requires, when dangerous goods not permitted for carriage on board the aircraft are discovered on the person of or in the baggage of a passenger, a report is made to the appropriate authority of the state of occurrence. **(GM)**

Guidance

Specifications of this provision are applicable to operators that do and do not transport dangerous goods.

Guidance may be found in DGR 2.3 and 9.6.

GRH 3.1.3 If the Operator conducts passenger flights and provides a capability for the passenger check-in process to be completed remotely (e.g. via the Internet), the Operator shall ensure passengers are provided information that:

(i) Describes the types of dangerous goods that are forbidden for transport aboard an aircraft;

(ii) Is presented in a manner that does not allow completion of the check-in process until the passenger, or a person acting on behalf of the passenger, has acknowledged that they understand the restrictions on dangerous goods in baggage. **(GM)**

Guidance

Dangerous goods information in pictorial form is the preferred method of presentation to passengers.

Guidance may be found in DGR 1.4.3.

GRH 3.1.4 If the Operator conducts passenger flights and provides a capability for the passenger check-in process to be completed at the airport by the passenger, but without the involvement of any other person (e.g. automated check-in facility), the Operator shall ensure passengers are provided information that:

(i) Describes the types of dangerous goods that are forbidden for transport aboard an aircraft;

(ii) Is presented in a manner that does not allow completion of the check-in process until the passenger has acknowledged that they understand the restrictions on dangerous goods in baggage. **(GM)**

Guidance

Dangerous goods information in pictorial form is the preferred method of presentation to passengers.

Guidance may be found in DGR 1.4.3.

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 and 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 and/or abusive 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)**

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 and/or abusive 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.

3.2 Airside Operations

GRH 3.2.1 The Operator shall have processes that ensure an assignment of responsibility for the supervision of all of its airside operational activities.

GRH 3.2.2 The Operator shall have safety procedures that are implemented during the conduct of all of its airside operational activities. **(GM)**

Guidance

Safety procedures typically address:

- The use of internationally recognized marshalling signals for communication among ground personnel for the movement of ground support equipment;
- If applicable, protection of passengers moving between the aircraft and the terminal building where the apron is utilized for passenger embarkation and disembarkation;
- Foreign object damage (FOD) prevention for apron areas that have aircraft parking or movement operations;
- Airside fire safety;
- The spillage of fluids and other materials in airside areas;
- An airside severe weather plan.

Refer to the IGOM for guidance that addresses safety procedures used in ground operations. Additional guidance may be found in AHM 630, 631 and 635.

GRH 3.2.3 The Operator shall have safety procedures that are implemented during all of its arrival and departure aircraft ground movement operations. **(GM)**

Guidance

Aircraft ground movement safety procedures typically address:

- Signals used between ground personnel and the flight crew;
- Verbal phraseology used between ground personnel and the flight crew;
- Standard operating procedures in accordance with recommendations of the aircraft manufacturer(s) for aircraft pushback, power back, power out and/or tow-out, as applicable, for departure from the parking position, and for aircraft power-in and/or tow-in, as applicable, for arrival into the parking position.

Refer to IGOM Chapter 4 for safety procedures used in aircraft ground movement operations. Additional guidance may be found in AHM 631.

GRH 3.2.4 The Operator shall ensure procedures are in place for an inspection of the aircraft exterior and adjacent airside areas as appropriate prior to aircraft arrival and departure ground movement operations. **(GM)**

Guidance

Inspection procedures typically ensure:

- Surface condition of the apron is adequate to conduct aircraft movement operations;
- The apron is clear of items that might cause aircraft FOD;
- Aircraft servicing doors and panels are closed and secure (departure);
- Power cables and loading bridge are detached (departure);
- Equipment and vehicles are positioned clear of the aircraft movement path;
- Adequate clearance exists between the aircraft and facilities or fixed obstacles along the aircraft movement path;
- Chocks are removed from all wheels (departure).

Refer to IGOM Chapter 4 for aircraft ground inspection procedures. Additional guidance may be found in AHM 631.

GRH 3.2.5 The Operator shall ensure procedures are in place for an inspection of the aircraft immediately prior to departure for the purpose of identifying, documenting and, as applicable, reporting external aircraft damage. **(GM)**

Guidance

To enhance the possibility of identifying all aircraft ground damage, such inspection typically takes place after most ground handling activities have been completed and at a point just prior to the time aircraft movement will commence for departure.

External damage deemed to have the potential to compromise the airworthiness of an aircraft would be reported to appropriately qualified maintenance personnel for evaluation and action, as appropriate.

Refer to IGOM Chapter 4 for aircraft pre-departure ground inspection procedures.

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 loadsheet. **(GM)**

Guidance

Refer to the IRM for the definitions of Load, Load Control, Special Load and Weight and Balance Manual (W&BM).

Load planning is important for ensuring accurate aircraft weight and balance. Such process 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 affecting aircraft fuel consumption.

Guidance may be found in AHM 590.

GRH 3.3.2 The Operator shall have a process to ensure weight and balance calculations:

(i) Are based on current aircraft weight and balance data;

(ii) Take into account limitations of the manufacturer and Operator. **(GM)**

Guidance

Guidance may be found in AHM 590.

GRH 3.3.3 If the Operator conducts passenger flights, the Operator *should* ensure procedures are in place within the Load Control system to identify and address passenger loads that do not comply with conventional aircraft loading weight allowances. **(GM)**

Guidance

Certain passenger groups may fall outside weight allowances (e.g., sports teams, children) normally applied for weight and balance calculation. Adequate procedures within the system identify and account for such load situations to ensure accuracy in aircraft load calculations.

Refer to IGOM Chapter 1 for guidance that addresses non-standard passenger loads. Additional guidance may be found in AHM 510 and 514.

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, and where required, technical name(s).

(iii) Class or division, and subsidiary risk(s) corresponding to the label(s) applied, and for Class 1, the compatibility group.

(iv) 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) If applicable, ULD identification number(s);

(xi) 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)**

Guidance

Refer to the IRM for the definitions of NOTOC (Notification to Captain) and State.

Such information 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.

The NOTOC also contains information:

- For use in 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 3.3.5 The Operator shall ensure weight and balance records are retained for a period in accordance with requirements of the regulatory authority, but no less than three months.

GRH 3.3.6 If the Operator conducts passenger flights, the Operator *should* ensure procedures are in place for identification and communication to Load Control of:

(i) Hold baggage, individual or cumulative weights, that exceed normal allowances;

(ii) Gate delivery items, including individual or cumulative weights that exceed normal allowances;

(iii) Other non-normal items that must be considered in the load control process. **(GM)**

Guidance

Refer to IGOM Chapters 1 and 2 for guidance that addresses non-normal loads.

GRH 3.3.7 If the Operator transports dangerous goods as cargo, the Operator shall have a process to ensure a legible copy of the dangerous goods information provided to the PIC in accordance with GRH 3.3.4:

(i) Is retained on the ground;

(ii) Includes an indication that the PIC has received the information. **(GM)**

Guidance

The intent of item ii) is that either the NOTOC or all information that must be included in the NOTOC is readily accessible at the specified airports.

An indication of receipt by the PIC is typically the PIC's signature.

Refer to IGOM Chapter 5 for guidance that addresses the notification to the PIC of on-board dangerous goods. Additional guidance may be found in DGR 9.5.

GRH 3.3.8 If the Operator transports dangerous goods as cargo, the Operator shall have a process to ensure the dangerous goods information provided to the PIC in accordance with GRH 3.3.4 is also made readily available to FOO, FOA or other specifically identified operational control personnel until the aircraft transporting the dangerous goods has arrived at the destination airport. Operational control personnel that are provided with such information shall be specifically identified by job title or function.

Guidance

As specified in DSP 3.7.3, designated operational control personnel provide information about onboard dangerous goods as a way to assist emergency services that respond to an accident or serious incident involving the operator's aircraft. The intent of this provision is to ensure operational control personnel have ready access to such information so it can be reported without delay in the event an accident or serious incident should occur.

Operational control personnel that must have access to such dangerous goods information are typically identified in the appropriate manual by job position or function.

Refer to DSP 3.7.3 and DSP 3.7.4 located in ISM Section 3.

3.4 Aircraft Loading

GRH 3.4.1 The Operator shall have procedures that ensure aircraft are loaded:

(i) In accordance with written loading instructions;

(ii) In a manner that satisfies weight and balance requirements. **(GM)**

Guidance

Refer to IGOM Chapter 5 for guidance that addresses the notification to the PIC of on-board dangerous goods. Additional guidance may be found in AHM 514, 590 and 630.

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.

GRH 3.4.3 If the Operator transports dangerous goods as cargo, the Operator shall ensure procedures are in place for the loading and securing of dangerous goods on an aircraft in a manner that:

(i) Prevents damage to packages and containers during aircraft loading and unloading;

(ii) Provides for separation and segregation in accordance with applicable requirements;

(iii) Prevents any movement in the aircraft. **(GM)**

Guidance

Refer to DGR 9.3, which contains guidance that addresses the loading and 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)**

Guidance

Refer to DGR 9.2, 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.

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 occurrence. **(GM)**

Guidance

Specifications of this provision are applicable to operators that do and do not transport dangerous goods.

Refer to IGOM Chapter 6 for guidance that addresses dangerous goods reporting. Additional guidance may be found in DGR 9.6.

GRH 3.4.7 (Intentionally open)

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.

GRH 3.4.9 (Intentionally open)

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)**

Guidance

In general, dangerous goods are prohibited from being transported in an aircraft cabin occupied by passengers. Limitations and exceptions are specified in DGR Section 2.

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)**

Guidance

In general, dangerous goods are prohibited from being transported on the flight deck of an aircraft. Limitations and exceptions are specified in DGR Section 2.

GRH 3.4.12 If the Operator conducts passenger flights and transports revenue or non-revenue cargo and/or mail in the passenger seats of the aircraft cabin, the Operator shall ensure aircraft loading procedures are in place that assure such packages or shipments:

(i) Are 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) Are packaged or covered in a manner to avoid possible injury to passengers and cabin crew members;

(iii) Do not impose any load on the seats that exceeds the load limitation for the seats;

(iv) Do not restrict access to or use of any required emergency or regular exit, or aisle(s) in the cabin;

(v) Do not obscure any passenger's view of the seat belt sign, no smoking sign or required exit sign.

GRH 3.4.13 If the Operator conducts passenger flights, but does *not* transport revenue cargo, non-revenue cargo and/or mail, the Operator shall ensure procedures are in place to identify items of cargo or mail that are not permitted for transport and prevent such items from being loaded onto an aircraft for a passenger flight.

3.5 Ground Support Equipment

GRH 3.5.1 The Operator *should* ensure practices and procedures are in place for the operation of ground support equipment used in aircraft handling operations that assure such equipment is operated in a manner that prevents damage to the aircraft and injury to personnel. **(GM)**

Guidance

Operating practices and procedures are designed to ensure:

- Standard operating procedures, applicable to specific location, are followed by drivers (or operators) of each type of ground support equipment;
- Personnel do not operate vehicles or equipment while using hand-held portable electronic devices unless a suitable “hands free” capability exists and is utilized;
- Equipment is used only for its intended purpose;
- Unserviceable equipment is clearly identified and removed from operations;

- Equipment is never moved across the path of taxiing aircraft or passengers walking between an aircraft and the terminal;
- Safety cones are placed on the apron to mark hazard areas;
- An equipment restraint line is marked or displayed on the apron;
- Equipment is positioned behind the equipment restraint line with parking brakes applied prior to any aircraft movement (departure and arrival on the apron);
- The parking brake is always applied, with gear selector in park or neutral, when equipment is parked away from or positioned at the aircraft;
- The passenger loading bridge is in the fully retracted position prior to aircraft arrival and departure;
- Equipment (including the loading bridge) is not moved toward an arriving aircraft until it has come to a complete stop, chocks are positioned, engines are shut down, anti-collision beacons are switched off and, if applicable, ground-to-flight deck communication has been established (exception: external power may be connected to the aircraft, if necessary);
- Prior to equipment movement, a guide person, visible to the driver (or operator), is in position to accurately judge clearances and communicate guidance using hand signals;
- Equipment movement does not commence or is halted, if the driver (or operator) does not have or loses visual contact with a guide person;
- Equipment or vehicles are not moved into hazard areas associated with the aircraft type;
- A brake check is accomplished prior to entering an equipment restraint area;
- Motorized equipment make a full stop as a brake check before entering the equipment restraint area and again before reaching the aircraft side;
- Equipment, when approaching or leaving an aircraft, is not driven faster than walking speed;
- Stabilizers, when fitted on equipment, are deployed when equipment is positioned at the aircraft;
- Equipment with elevating devices is not driven in the elevated position, except for final positioning at the aircraft;
- Equipment is not removed from an aircraft cabin access door unless the driver (or operator) has advised appropriate persons on the aircraft and on the ramp;
- Equipment is not removed from a position at an aircraft cabin access door until the door has been closed and secured by an authorized person or a highly visible safety device has been placed across an open door.

Refer to IGOM Chapter 4 for guidance that addresses safe operation of ground support equipment. Additional guidance may be found in AHM 630.

GRH 3.5.2 The Operator *should* ensure a process is in place that assures only qualified and authorized personnel are permitted to operate ground support equipment**. (GM)**

Guidance

Refer to IGOM Chapter 4 for guidance that addresses safe operation of ground support equipment. Additional guidance may be found in AHM 630.

GRH 3.5.3 The Operator shall ensure a program is in place for the maintenance of ground support equipment, which assures:

(i) Such equipment remains serviceable and in good mechanical condition;

(ii) Maintenance completed on such equipment is recorded. **(GM)**

Guidance

Guidance may be found in AHM 630.

3.6 Airside Event Response and Reporting

GRH 3.6.1 The Operator shall ensure an emergency management plan is in place for responding to accidents or other emergencies that may occur during aircraft ground handling operations. **(GM)**

Guidance

An emergency management plan may also be known as a crisis or contingency management plan. It is a control mechanism to manage response procedures to a very serious situation (i.e., crisis) prior to that situation becoming a disaster. Control is achieved through preparation and the capability to implement emergency actions in a timely manner.

Typical elements of an emergency management plan include ownership, crisis management team, communication and a control center.

To ensure continuing effectiveness, testing of an emergency management plan is undertaken periodically against various crisis scenarios.

Refer to IGOM Chapter 6 for guidance that addresses ground handling event response and reporting. Additional Guidance may be found in AHM 620.

GRH 3.6.2 The Operator shall ensure procedures are in place for responding to emergencies that require the evacuation of an aircraft during the conduct of ground handling operations. **(GM)**

Guidance

Refer to IGOM Chapter 6 for guidance that addresses ground handling event response and reporting. Additional guidance may be found in AHM 633.

GRH 3.6.3 The Operator shall ensure procedures are in place for response to ground handling incidents.

Guidance

Refer to IGOM Chapter 6 for guidance that addresses ground handling event response and reporting.

GRH 3.6.4 The Operator *should* ensure a process is in place for the retention of records of accidents and incidents associated with aircraft ground handling operations.

Guidance

Refer to IGOM Chapter 6 for guidance that addresses ground handling event records retention.

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 of the Operator (hereinafter, 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)**

Guidance

Refer to the IRM for the definition of State.

Specifications of this provision are applicable to operators that do and do not transport dangerous goods.

Guidance may be found in DGR 9.6.

3.7 Security

GRH 3.7.1 The Operator shall, as appropriate with the assessed security risk, ensure procedures are in place for securing an aircraft prior to and during overnight or layover parking. **(GM)**

Guidance

Securing procedures typically ensure aircraft:

- Are searched prior to parking to ensure no persons are on board;
- Are parked only in secure areas within an airport operating area;

- Are parked under conditions that permit maximum security and protection;
- Doors are closed and locked and steps are removed while parked.

Guidance that addresses aircraft security may be found in AHM 051.

GRH 3.7.2 If the Operator conducts international flights, and if required by the relevant national authority, the Operator shall ensure procedures are in place for the conduct of an aircraft security check or an aircraft security search at the originating location of an international flight to ensure no prohibited items are introduced in the aircraft prior to the departure of an international flight. **(GM)**

Guidance

Refer to the IRM for the definition of International Flights.

The requirement for the conduct of, and the need for, a security check or a security search is based upon a security risk assessment accomplished by the Operator and/or the relevant national authorities.

Trained and competent security personnel, aircraft crew members or other qualified personnel typically conduct searches and checks of aircraft.

Guidance material is available by the operator for aircraft preflight checks and searches under normal circumstances, higher threat situations, and emergency situations.

As a general rule, the security checks would include:

- An inspection of the exterior of the aircraft, with special attention to wheel bays and technical areas;
- A comprehensive inspection of the interior of the aircraft, including the passenger cabin area, seats, overhead luggage lockers, toilets, galleys and other technical areas such as the flight deck. The focus is on areas that are readily accessible without the use of common tools. To facilitate the search, panels that can be sealed are sealed, to show their integrity has not been compromised.

A security search is a more thorough than a security check, and includes an in-depth inspection of the interior and exterior of the aircraft.

To promote competent security searches, it is recommended that aircraft security search checklists be made available for each type and configuration of aircraft. When the checklist is completed, it is verified by the person responsible for conducting the inspection and is retained on file at the station where the inspection took place.

To be effective, aircraft checks and searches are typically carried out in good lighting conditions, or personnel performing such activities are provided with lighting sufficient for the purpose.

Aircraft access control is typically imposed prior to commencing a search, and the search is normally conducted with the minimum number of persons on board. Such measures would be taken to ensure devices are not introduced into the aircraft once it has been cleared. Control of access is then typically maintained until the aircraft doors are closed prior to flight departure.

GRH 3.7.3 If the Operator conducts passenger flights, the Operator shall ensure procedures are in place to ensure any items left behind by disembarking passengers from transit flights are removed from the aircraft or otherwise addressed appropriately before the departure of the aircraft for an *international* passenger flight at an airport that is deemed by the Operator or the appropriate authority to be under an increased security threat. **(GM)**

Guidance

The operator or the State of the Operator, through a threat assessment, will determine which airports are considered at a higher security threat and require the removal of cabin articles, including carry-on baggage, at transit stops.

At airports assessed to be under increased threat, measures are implemented to search the cabin during the aircraft transit period to prevent disembarking passengers from leaving any article on board.

The operator may allow passengers to disembark during the transit period and then have the cabin searched.

If the operator opts to have transit passengers remain on board the aircraft during the transit stop, such passengers remaining on board should be asked to positively identify their belongings, perhaps by placing them on their laps, while the security check or search is performed.

Any articles found are treated as suspect and appropriate measures are taken to remove them from the aircraft.

4 Special Aircraft Ground Handling Operations

4.1 Aircraft Fueling

GRH 4.1.1 The Operator shall have a process to ensure fuel suppliers are maintaining standards of fuel safety and quality acceptable to the Operator and fuel delivered and loaded onto aircraft is:

(i) Free from contamination;

(ii) Of the correct grade and specification for each aircraft type. **(GM)**

Guidance

The process ensures fuel is stored, handled and serviced in accordance with accepted standards.

Approved fuel specifications are contained in each aircraft manual.

To ensure fuel corresponds to the specifications and grade of product necessary for the applicable aircraft type(s), a control process at each location where the operator has aircraft fueling operations is necessary. Such process ensures the existence of periodic inspections of critical aspects of the fuel supply system at each applicable location, to include, as a minimum:

- Fuel facilities;
- Safety and quality procedures;
- Performance levels of personnel.

Additional guidance may be found in the IFQP (IATA Fuel Quality Pool) Quality and Safety Procedures and in the ICAO Manual on Civil Aviation Jet Fuel Supply (Doc 9977).

GRH 4.1.2 The Operator shall ensure, during fueling operations with passengers or crew on board the aircraft, procedures are in place that provide for the designation of a person with responsibility for fueling operations and specify the method(s) by which that responsible person:

(i) Communicates with the flight crew or other qualified persons on board the aircraft;

(ii) Provides notification to the flight crew or other qualified personnel on board the aircraft and/or other appropriate personnel engaged in aircraft ground handling activities when fueling is about to begin and has been completed unless an equivalent procedural means has been established to ensure the flight and/or cabin crew are aware of fueling operations and are in a position to effect an expeditious evacuation of the aircraft, if necessary;

(iii) Provides notification to the flight crew or other qualified personnel on board the aircraft when a hazardous condition or situation has been determined to exist. **(GM)**

Guidance

Ground handling personnel, including those who provide aircraft fuel servicing, are to be properly trained and have a clear understanding of all required communication procedures and have the ability to execute such procedures in an expeditious manner should a dangerous situation develop.

The specification in item ii) may be satisfied by *either*:

- Equivalent procedural means, acceptable to the State and applicable authorities, that would permit the flight crew or other qualified persons to be aware of the start and completion of fueling operations, *or*
- Procedures established by the operator that would ensure authorized personnel on board the aircraft are continuously in a position to effect an expeditious evacuation of the aircraft for any reason, including a fuel spill or fire.

A suitable method of communication with the flight crew or other qualified persons on board the aircraft includes use of the aircraft inter-communication system, direct person-to-person contact or other methods that ensure direct and timely communication. Use of the aircraft inter-communication system to maintain continuous two-way communication during fueling operations is not a requirement.

Additional guidance may be found in AHM 175 and 631, as well as the ICAO Airport Services Manual, Document 9137 (ASM), Part 1.

GRH 4.1.3 The Operator shall ensure procedures are in place for fueling operations with passengers or crew on board the aircraft that provide for, in the event of a fuel spill, immediate and follow-up actions to assure:

(i) Fueling is stopped;

(ii) Appropriate ground response personnel or airport fire service is summoned, as applicable;

(iii) Notification of the flight crew or other qualified persons on board the aircraft. **(GM)**

Guidance

Refer to IGOM Chapter 4 for guidance that addresses fuel spillage.

GRH 4.1.4 The Operator *should* ensure, during fueling operations with passengers or crew on board the aircraft, procedures are in place that establish a fueling safety zone and specify restrictions and limitations for the use of devices, conduct of activities and operation of vehicles and ground support equipment within the safety zone. **(GM)**

Guidance

Procedures typically specify the fueling safety zone as the area within a radius of at least three meters (ten feet), or as specified by local regulations, from filling and venting points of the aircraft, hydrant pits, fuelling vehicle and its hoses in use.

Limitations and restrictions in a fueling safety zone typically preclude the use or activation of:

- Items that could be sources of ignition or fire (e.g., matches, welding equipment, flashbulbs);
- Portable electronic devices with proper separation distance from aircraft fuel vents and/or fueling equipment (e.g., mobile telephones, portable radios, pagers).

Refer to IGOM Chapter 4 for guidance that addresses fueling safety zone. Additional guidance may be found in AHM 175 and 630, as well as the ICAO ASM, Part 1.

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 or crew 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)**

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 Chapter 4 for guidance that addresses fueling safety zone. Additional guidance may be found in AHM 175 and 630, as well as the ICAO ASM, Part 1.

GRH 4.1.6 The Operator *should* ensure safety procedures associated with aircraft fueling operations are in place that assure, during fueling operations with passengers or crew on board the aircraft:

(i) Establishment of a bonding connection between the fueling vehicle and aircraft to provide for dissipation of electrical energy that may develop;

(ii) A prohibition from connecting or disconnecting electrical equipment to the aircraft;

(iii) Provisions for operation of the aircraft APU;

(iv) Prevention of damage to the fuel hose;

(v) A requirement for the cessation of aircraft fueling when it is determined lightning is a threat. **(GM)**

Guidance

Guidance may be found in AHM 175 and 630.

GRH 4.1.7 The Operator shall ensure, during aircraft fueling operations:

(i) Fire extinguishing equipment suitable for at least initial intervention in the event of a fuel fire is readily available, and personnel have been trained in the use of such equipment;

(ii) Procedures are in place for quickly summoning the rescue and fire fighting service in the event of a fire or major fuel spill. **(GM)**

Guidance

Guidance may be found in AHM 175 and 630.

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.*

Guidance

Refer to the IRM for the definitions of De-/Anti-icing Program and Clean Aircraft Concept.

A de-/anti-icing program covers all locations where flights might be conducted and that have the potential for ground icing conditions, and defines all areas of responsibility pertaining to aircraft de-icing and anti-icing, including functions conducted by external ground handling service providers.

If the operator has a regional route network that does not include any airports that have the potential for ground icing conditions, the Operations Manual would have a statement that specifically prohibit flights to any airports where there is a possibility of ground icing conditions.

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, delivery 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.

The program requires all persons involved in ground de-icing and anti-icing activities to be trained and qualified in the procedures, communications and limitations of each area of responsibility.

If any de-/anti-icing functions will be conducted by external ground handling agents or service providers, the program would then describe and define specific control processes that ensure all de-icing and anti-icing requirements of the operator are fulfilled by external service providers. For example, a service level agreement (SLA) might typically include, as a minimum, requirements that address items i), v) and vi) in this provision.

Additional guidance may be found in ICAO Doc 9640-AN/940, Manual of Aircraft Ground De-icing/ Anti-icing Operations, Chapter 7, and in the AEA Recommendations for De-icing/Anti-icing of Aircraft on the Ground. The latter are 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)**

Guidance

Policies and procedures define equipment for and methods of applying de-icing and anti-icing fluid to produce an aircraft free of contamination (clean aircraft).

Procedures specify a sequence for fluid application to the applicable aircraft surfaces and define specific methods and techniques for applying fluid to each individual surface.

Procedures 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.

GRH 4.2.3 If the Operator has a De-/Anti-icing Program, the Operator *should* have a process to ensure the availability and use of adequate facilities and equipment for aircraft de-/anti-icing operations at applicable locations.

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 ISO specifications. **(GM)**

Guidance

To be effective, fluids used in the de-/anti-icing process are required to meet use criteria established by the operator, fluid manufacturer and aircraft manufacturer. Additionally, fluids are to be manufactured in accordance with ISO specifications.

There is a means for ensuring the appropriate types of fluids (Types I, II, III or IV) are utilized 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.

Procedures ensure 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)**

Guidance

Procedures define all communication necessary between ground handling personnel and the flight crew prior to and after completion of the de-/anti-icing process.

Communication procedures require ground handling personnel to provide the flight crew with final information about the process 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.

Section 7 — Cargo Operations (CGO)

Applicability

Section 7 addresses functions within the scope of cargo handling 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 and mail are addressed in the same way as revenue cargo for the purposes of handling, loading, securing and transporting.

Individual provisions in this section begin with a conditional phrase ("If the Operator...") and are applicable to an operator that meets the condition(s) stated in the phrase.

Functions within the scope of cargo handling operations include:

- Cargo and mail acceptance;
- Cargo and mail handling;
- ULD loading/build-up;
- Application of required security measures.

The loading of cargo into the aircraft is addressed in Section 6, Ground Handling Operations (GRH).

Where an operator outsources the performance of functions within the scope of cargo operations to external service providers, the operator retains overall responsibility for such functions, 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

CGO 1.1.1 If the Operator transports revenue cargo, the Operator shall have a management system that ensures control of cargo operations and the management of safety and security outcomes. **(GM)** ◄

Guidance

Refer to the IRM for the definitions of Cargo, Operations, Operator and State. The definition of Cargo includes definitions for revenue cargo and non-revenue cargo.

Refer to Guidance associated with ORG 1.1.1 located in ISM Section 1.

CGO 1.1.2 If the Operator transports revenue cargo, the Operator shall have a manager with appropriate qualifications and authority who:

(i) Has the authority and responsibility for the management and supervision of functions and activities within the scope of cargo operations;

(ii) Is accountable to senior management for ensuring the safety and security of cargo operations.

1.2 Authorities and Responsibilities

CGO 1.2.1 If the Operator transports revenue cargo, the Operator shall ensure the management system defines the authorities and responsibilities of management and non-management personnel that perform functions relevant to the safety or security of cargo operations. The management system shall also specify:

(i) The levels of management with the authority to make decisions that affect the safety and/or security of cargo operations;

(ii) Responsibilities for ensuring cargo operations are conducted in accordance with applicable regulations and standards of the Operator. **[SMS] (GM)** ◄

Guidance

Refer to Guidance associated with ORG 1.3.1 located in ISM Section 1.

CGO 1.2.2 If the Operator transports revenue cargo, the Operator shall have a process for the delegation of duties within the management system for cargo operations that ensures managerial continuity is maintained when operational managers, including nominated post holders, if applicable, are absent from the workplace. **(GM)** ◄

Guidance

Refer to the IRM for the definition of Post Holder.

Refer to Guidance associated with ORG 1.3.2 located in ISM Section 1.

1.3 Communication

CGO 1.3.1 If the Operator transports revenue cargo, the Operator shall have a communication system that enables an effective exchange of information relevant to the conduct of cargo operations throughout the management system for cargo operations and in areas where cargo handling operations are conducted. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 1.4.1 located in ISM Section 1.

Specific means of communication between management and operational cargo handling personnel may include:

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

1.4 Provision of Resources

CGO 1.4.1 If the Operator transports revenue cargo, the Operator shall ensure the existence of the necessary facilities, workspace, equipment and supporting services, as well as work environment, to satisfy cargo operations safety and security requirements. **(GM)** ◄

Guidance

Conformity with CGO 1.4.1 does not require specifications to be *documented* by an operator.

Refer to Guidance associated with ORG 1.6.1 located in ISM Section 1.

The Operator would typically have a monitoring and control process to ensure each external cargo operations service provider meets the specifications of this provision.

CGO 1.4.2 If the Operator transports revenue cargo, the Operator shall ensure positions within the cargo operations organization that affect safety or security of operations are filled by personnel on the basis of knowledge, skills, training and experience appropriate for the position. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 1.6.2 located in ISM Section 1.

A corporate personnel selection policy that applies to all operational areas of the company, including cargo operations, serves to satisfy this requirement.

An operator would typically have a monitoring and control process to ensure each external cargo operations service provider meets the specifications of this provision.

1.5 Documentation System

CGO 1.5.1 If the Operator transports revenue cargo, the Operator shall have a system for the management and control of documentation and/or data used directly in the conduct or support of cargo operations. Such system shall include elements as specified in ORG 2.1.1. **(GM)** ◄

Guidance

Refer to the IRM for the definition of Documentation and Electronic Documentation.

Refer to ORG 2.1.1 and associated Guidance, and Table 1.1, located in ISM Section 1.

CGO 1.5.2 (Intentionally open)

CGO 1.5.3 If the Operator transports revenue cargo, the Operator shall have a process to ensure documentation used in the conduct or support of cargo operations:

(i) Contains legible and accurate information;

(ii) Is presented in a format that is appropriate for use by cargo operations personnel;

(iii) If applicable, is accepted or approved by the Authority. ◄

1.6 Operational Manuals

CGO 1.6.1 If the Operator transports revenue or non-revenue cargo, the Operator shall have an Operations Manual (OM), which may be issued in separate parts, that contains the operational policies, processes, procedures and other information necessary to ensure compliance with applicable regulations, laws, rules and standards of the Operator. The content of the OM shall contain standards and guidance that addresses the acceptance, handling, loading, securing and transporting of cargo as specified in Table 7.1. **(GM)**

Guidance

This provision is applicable to an operator that transports non-revenue cargo. COMAT is non-revenue cargo.

An OM may include guidance that addresses areas generic to all functions within the scope of cargo operations; other parts of the manual may be specific to individual operational functions.

Because the scope of cargo operations is broad and varies by operator, rather than publishing a separate OM dedicated to cargo operations (e.g. a Cargo Operations Manual), an operator might choose to publish all guidance for cargo operations in a section of an OM that addresses other types of operations (e.g. maintenance management manual for an operator that transports only COMAT).

An operator could also choose to issue the information in separate documents that are each specific to the various cargo operations functions (e.g., safety and security, acceptance, physical handling, documentation, identification, storage and stowage, preparation for flight). Each individual document would typically contain generic guidance that is applicable to all cargo operations functions (e.g., organizational policies, general definitions), as well as guidance that is specific to the particular function or office location (e.g., process descriptions, standard operating procedures, references to the appropriate regulations and IATA manuals).

If an operator has external organizations conduct cargo operations functions, such an operator would then be expected to have a monitoring and control process to ensure each external organization either uses the OM of the operator or has its own published operations manual that fulfills operational safety, security and quality requirements of the operator.

CGO 1.6.2 If the Operator transports revenue or non-revenue cargo, and also transports dangerous goods, the Operator shall ensure a copy of the current edition of the IATA Dangerous Goods Regulations (DGR) or the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air (Technical Instructions), including addenda as appropriate, is available at each location where revenue or non-revenue cargo operations are conducted and dangerous goods are accepted. **(GM)**

Guidance

Cargo operations would include acceptance of any cargo, to include small packages that would be shipped as cargo.

A monitoring process is typically in place to ensure each external cargo operations service provider has a copy of the DGR or ICAO Technical Instructions available as specified.

Other relevant manuals, to include the IATA Live Animals Regulations (LAR), IATA Airport Handling Manual (AHM), IATA Perishable Cargo Regulations (PCR) and IATA ULD Regulations (ULDR), may also be available.

The DGR is based on the ICAO Technical Instructions and is designed for ease of use in operations. However, in some jurisdictions it may be a requirement to have the ICAO Technical Instructions available in accordance with local regulations.

When required, DGR addenda are issued to notify of any amendments or corrections to the current edition of the Dangerous Goods Regulations. It may include any corrigenda issued by ICAO to the current edition of the Technical Instructions.

CGO 1.6.3 If the Operator transports revenue or non-revenue cargo, but does *not* transport dangerous goods, the Operator shall ensure the OM contains the policies and associated guidance necessary to prevent dangerous goods from being inadvertently accepted for transport and loaded onto the aircraft. **(GM)**

Guidance

For a dangerous goods “no-carry” operator, guidance in the OM typically addresses vigilance with respect to hidden or inconspicuous dangerous goods, and includes an indicative list of items that could contain dangerous goods.

CGO 1.6.4 If the Operator transports revenue or non-revenue cargo using Unit Load Devices (ULDs), the Operator *should* ensure a copy of the current edition of IATA ULD Regulations (ULDR), or the OM containing equivalent ULD related content, is available or accessible at each location where revenue or non-revenue cargo operations are conducted and ULDs are utilized.

Guidance

Refer to the IRM for the definitions of Unit Load Device (ULD) and Weight and Balance Manual (W&BM).

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 IATA ULD Regulations (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.

1.7 Records System

CGO 1.7.1 If the Operator transports revenue cargo, 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) Retention and retrieval;
(v) Protection and security;
(vi) Disposal or deletion (electronic records). **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 2.2.1 located in ISM Section 1.

CGO 1.7.2 If the Operator transports revenue cargo and utilizes an electronic system for the management of records, the Operator shall ensure the system provides for a scheduled generation of back-up record files. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 2.2.2 located in ISM Section 1.

1.8 (Intentionally Open)

1.9 Quality Assurance Program

CGO 1.9.1 If the Operator transports revenue or non-revenue cargo, the Operator shall have a quality assurance program that provides for the auditing and evaluation of the management system and functions within the scope of cargo operations at planned intervals to ensure the Operator is:

(i) Complying with applicable regulations and standards;
(ii) Satisfying stated operational needs;
(iii) Identifying undesirable conditions and areas requiring improvement;
(iv) Identifying hazards to operations. **[SMS] (GM)** ◄

Guidance

Refer to the IRM for the definition of Quality Assurance.

Refer to Guidance associated with ORG 3.4.1 located in ISM Section 1.

A corporate quality assurance program that is applied to all areas of the company associated with the conduct of revenue and/or non-revenue cargo operations will also satisfy this requirement.

CGO 1.9.2 If the Operator transports revenue or non-revenue cargo, the Operator shall have a process for addressing findings resulting from audits of functions within the scope of cargo operations, which ensures:

(i) Identification of root cause(s);
(ii) Development of corrective action, as appropriate to address finding(s);
(iii) Implementation of corrective action in appropriate operational areas;
(iv) Evaluation of corrective action to determine effectiveness. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 3.4.3 located in ISM Section 1.

CGO 1.9.3 If the Operator transports revenue or non-revenue cargo, the Operator shall have a process to ensure significant issues arising from audits of functions within the scope of cargo operations are subject to management review in accordance with ORG 1.5.1 and, as applicable, ORG 1.5.2. **[SMS] (GM)** ◄

Guidance

Refer to Guidance associated with ORG 3.4.4 located in ISM Section 1.

CGO 1.9.4 If the Operator transports revenue or non-revenue cargo, the Operator shall have an audit planning process and sufficient resources to ensure audits of cargo operations are:

(i) Scheduled at intervals to meet regulatory and management system requirements;
(ii) Completed within a specified time period. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 3.4.10 located in ISM Section 1.

1.10 Outsourcing and Product Quality Control

CGO 1.10.1 If the Operator transports revenue or non-revenue cargo, and has external service providers conduct outsourced operational functions within the scope of cargo handling operations, the Operator shall have processes to ensure a contract or agreement is executed with such external service providers. Contracts or agreements shall identify measurable specifications that can be monitored by the Operator to ensure cargo requirements that affect the safety and/or security of aircraft operations are being fulfilled by the service provider. **(GM)** ◄

Guidance

Refer to the IRM for the definition of Outsourcing.

COMAT is non-revenue cargo.

Refer to the Applicability box at the beginning of this section for the functions within the scope of cargo handling operations.

The requirement for a cargo handling contract or agreement applies to *all* operational functions within the scope of cargo handling operations that are outsourced.

The AHM contains detailed guidance and examples of a standard ground handling agreement and a service level agreement, both of which may be utilized in whole or in part to cover cargo operations.

CGO 1.10.2 If the Operator transports revenue or non-revenue cargo, and has external service providers conduct outsourced operational functions within the scope of cargo handling operations, the Operator shall have a process to monitor such external service providers to ensure cargo requirements that affect the safety and security of aircraft operations are being fulfilled. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 3.5.2 located in ISM Section 1.

CGO 1.10.3 If the Operator transports revenue or non-revenue cargo, and has external service providers conduct outsourced operational functions within the scope of cargo handling operations, the Operator *should* include auditing as a process for the monitoring of external service providers in accordance with CGO 1.10.2. ◄

1.11 Safety Management

Risk Management

CGO 1.11.1A If the Operator transports revenue cargo, the Operator *should* have a hazard identification program in cargo operations that includes:

(i) A combination of reactive and proactive methods for safety data collection;

(ii) Processes for safety data analysis that identify existing hazards as well as provide the capability to predict future hazards to aircraft operations. **[SMS] (GM)** ◄

Note: *Effective 1 September 2015, this recommended practice will be upgraded to a standard (see CGO 1.11.1B).*

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 3.1.1A located in ISM Section 1.

CGO 1.11.1B Effective 1 September 2015, if the Operator transports revenue cargo, the Operator shall have a hazard identification program in cargo operations that includes:

(i) A combination of reactive and proactive methods for safety data collection;

(ii) Processes for safety data analysis that identify existing hazards as well as provide the capability to predict future hazards to aircraft operations. **[SMS] (GM)** ◄

Guidance

Refer to Guidance associated with GRH 1.11.1A.

CGO 1.11.2A If the Operator transports revenue cargo, the Operator *should* have a safety risk assessment and mitigation program in cargo operations 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] (GM)** ◄

Note: *Effective 1 September 2015, this recommended practice will be upgraded to a standard (see CGO 1.11.2B).*

Guidance

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

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

CGO 1.11.2B Effective 1 September 2015, if the Operator transports revenue cargo, the Operator shall have a safety risk assessment and mitigation program in cargo operations 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] (GM)** ◄

Guidance

Refer to Guidance associated with GRH 1.11.2A.

Operational Reporting

CGO 1.11.3 If the Operator transports revenue cargo, the Operator shall have an operational 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)** ◄

Guidance

Operational reporting is considered a *proactive* hazard identification activity in an SMS.

Refer to Guidance associated with ORG 3.1.3 located in ISM Section 1.

CGO 1.11.4 If the Operator transports revenue cargo, the Operator *should* have a confidential safety reporting system implemented within the cargo operations organization in a manner that encourages and facilitates the reporting of events, hazards and/or concerns resulting from or associated with human performance in operations. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 3.1.4 located in ISM Section 1.

Safety Performance Monitoring and Management

CGO 1.11.5A If the Operator transports revenue cargo, the Operator *should* have processes in the cargo operations organization for setting performance measures as a means to monitor the safety performance of the organization and to validate the effectiveness of risk controls. **[SMS] (GM)** ◄

Note: *Effective 1 September 2016, this recommended practice will be upgraded to a standard (see CGO 1.11.5B).*

Guidance

Refer to the IRM for the definition of Safety Assurance.

Setting measurable safety objectives is an element of the Safety Assurance component of the SMS framework.

By setting performance measures, an operator is able to track and compare its operational performance against a target (i.e. the performance objective, typically expressed as a rate or number reduction) over a period of time (e.g. one year). Achievement of the target (or objective) would represent an improvement in the operational performance. The use of performance measures is an effective method to determine if desired safety outcomes are being achieved, and to focus attention on the performance of the organization in managing operational risks and maintaining compliance with relevant regulatory requirements.

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

CGO 1.11.5B Effective 1 September 2016, if the Operator transports revenue cargo, the Operator shall have processes in the cargo operations organization for setting performance measures as a means to monitor the safety performance of the organization and to validate the effectiveness of risk controls. **[SMS] (GM)** ◄

Guidance

Refer to Guidance associated with GRH 1.11.5A.

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) handling operations for the Operator, to include personnel of external service providers, complete initial and recurrent training. Such training shall provide the knowledge necessary to perform duties, execute procedures and operate equipment associated with specific cargo handling functions and responsibilities, and include:

(i) Familiarization training on applicable regulations;

(ii) In-depth training on requirements, including policies, procedures and operating practices;

(iii) Safety training on associated operational hazards;

(iv) Training in human factors principles. **(GM)**

Guidance

COMAT is non-revenue cargo.

Refer to the Applicability box at the beginning of this section for the functions within the scope of cargo handling operations.

Requirements for initial and recurrent training apply to all personnel that perform duties within the scope of cargo handling operations for an operator, both at the main base and external office locations where such operations are conducted. Training for security requirements includes access control at both landside and airside facilities and cargo security procedures in accordance with requirements of the State of Flight Departure and/or the State of Flight Arrival, as applicable.

CGO 2.1.2 If the Operator transports revenue or non-revenue cargo, the Operator shall have a process to ensure the structure and content of training completed by cargo operations personnel in accordance with CGO 2.1.1 is reviewed and updated to remain relevant and current.

CGO 2.1.3 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 handling operations for the Operator complete initial training in accordance with CGO 2.1.1 to become qualified prior to being assigned to perform such duties.

CGO 2.1.4 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 handling operations for the Operator complete recurrent training in accordance with CGO 2.1.1 to remain qualified to perform such duties. Recurrent training, except recurrent training in dangerous goods as specified in CGO 2.2.1, CGO 2.2.2 or CGO 2.2.3, shall be completed on a frequency in accordance with requirements of the regulatory authority, but *not less than once during every 36-month period*.

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 handling operations for the Operator includes testing or evaluation by written, oral or practical means, as applicable, to satisfy the requirement for operational personnel to demonstrate adequate knowledge, competency or proficiency to perform duties, execute procedures or operate equipment.

CGO 2.1.6 If the Operator transports revenue or non-revenue cargo, the Operator shall have a process to ensure completion of required training by personnel that perform operational duties within the scope of cargo handling operations for the Operator is recorded and such records retained in accordance with CGO 1.7.1.

2.2 Program Elements

CGO 2.2.1 If the Operator transports revenue or non-revenue cargo, and also transports dangerous goods, the Operator shall have a process to ensure personnel assigned the responsibility for accepting dangerous goods complete dangerous goods training, to include *initial training* and *recurrent training*, on a frequency in accordance with requirements of the regulatory authority, but *not less than once within 24 months of previous training in dangerous goods*. Such training shall address, as a minimum:

(i) General philosophy;
(ii) Limitations;
(iii) General requirements for shippers;
(iv) Classification;
(v) List of dangerous goods;
(vi) General packing requirements;
(vii) Packing instructions;
(viii) Labeling and marking;
(ix) Shipper's declaration and other relevant documentation;
(x) Acceptance procedures;
(xi) Recognition of undeclared dangerous goods;
(xii) Storage and loading procedures;
(xiii) Flight crew notification;
(xiv) Provisions for passengers and/or crew;
(xv) Emergency procedures. **(GM)**

Guidance

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.

Subjects included in the curriculum for dangerous goods training for cargo handling personnel will vary depending on specific responsibilities and duty function(s). For the purpose of dangerous goods training, cargo handling functions generally break down into three groupings:

- Acceptance of cargo;
- Handling, storage and build-up of cargo;
- Provision of required information to load planning.

Refer to DGR 1.5 (Table 1.5.A, Minimum Requirements for Training Curricula), for detailed guidance that addresses dangerous goods training and subjects applicable to specific cargo handling functions.

CGO 2.2.2 If the Operator transports revenue or non-revenue cargo, and does not transport dangerous goods, the Operator shall have a process to ensure personnel assigned the responsibility for accepting or handling any cargo complete dangerous goods training, to include *initial training* and *recurrent training*, on a frequency in accordance with CGO 2.2.1. Such training shall address, as a minimum:

(i) General philosophy;
(ii) Limitations;
(iii) Labeling and marking;
(iv) For personnel that accept cargo, shipper's declarations and other relevant documentation;
(v) Recognition of undeclared dangerous goods;
(vi) Provisions for passengers and/or crew;
(vii) Emergency procedures. **(GM)**

Guidance

COMAT is non-revenue cargo.

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.

Refer to DGR 1.5 (Table 1.5.B, Minimum Requirements for Training Curricula for “No-carry” Operators), for detailed guidance that addresses dangerous goods training and subjects applicable to specific cargo handling functions.

CGO 2.2.3 If the Operator transports revenue or non-revenue cargo, the Operator shall have a process to ensure personnel assigned the responsibility for handling or storing such cargo, as well as the loading of ULDs, receive dangerous goods training, to include *initial training* and *recurrent training*, on a frequency in accordance with CGO 2.2.1. Such training shall address, as a minimum:

(i) General philosophy;
(ii) Limitations
(iii) Labeling and marking;
(iv) Recognition of undeclared dangerous goods;
(v) Storage and loading procedures;

(vi) Flight crew notification;
(vii) Provisions for passengers and/or crew;
(viii) Emergency procedures. **(GM)**

Guidance

Refer to the IRM for the definition of Unit Load Device (ULD), which addresses certified and non-certified units.

Refer to DGR 1.5 (Table 1.5.A, Minimum Requirements for Training Curricula), for detailed guidance that addresses dangerous goods training and subjects applicable to personnel with responsibilities for handling, storing and loading cargo.

CGO 2.2.4 If the Operator transports revenue cargo, the Operator *should* have a process to ensure cargo operations personnel assigned to operate equipment in the performance of their duties in cargo operations are trained and qualified to operate the equipment associated with those duties.

2.3 SMS Training

CGO 2.3.1A If the Operator transports revenue or non-revenue cargo, the Operator *should* have a program that ensures personnel that perform functions within the scope of cargo handling operations are trained and competent to perform SMS duties. The scope of such training *should* be appropriate to each individual's involvement in the SMS. **[SMS] (GM)** ◄

Note: *Effective 1 September 2015, this recommended practice will be upgraded to a standard (see CGO 2.3.1B).*

Guidance

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

Refer to Guidance associated with ORG 1.6.5A located in ISM Section 1.

CGO 2.3.1B Effective 1 September 2015, if the Operator transports revenue or non-revenue cargo, the Operator shall have a program that ensures personnel that perform functions within the scope of cargo handling operations are trained and competent to perform SMS duties. The scope of such training shall be appropriate to each individual's involvement in the SMS. **[SMS] (GM)** ◄

Guidance

Refer to Guidance associated with GRH 2.3.1A.

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)**

Guidance

COMAT is non-revenue cargo.

Shipments of cargo or mail are 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.

It is expected that interline cargo also 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 3.1.2 (Intentionally open)

CGO 3.1.3 If the Operator transports revenue or non-revenue cargo, the Operator shall have a process to ensure, where scales are utilized 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)**

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.

CGO 3.1.4 If the Operator transports revenue cargo, the Operator *should* have a process to ensure cargo terminals are equipped with specifically configured facilities appropriate for storage of dangerous goods, radioactive material and other special cargo, such as human remains, live animals, perishables, valuable cargo and fragile goods. **(GM)**

Guidance

Such items may have separation requirements as specified in the appropriate IATA manual(s) and, additionally, may be governed by local rules or regulations. Information relative to storage of cargo is included in the OM.

3.2 Dangerous Goods

CGO 3.2.1 If the Operator transports revenue or non-revenue cargo, and also transports dangerous goods, the Operator shall have a Dangerous Goods Acceptance Checklist that reflects applicable requirements contained in the current dangerous goods regulations. **(GM)**

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 revenue or non-revenue cargo, and also transports dangerous goods, 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)**

Guidance

Refer to DGR 9.1.3 for guidance that addresses use of the Dangerous Goods Acceptance Checklist.

CGO 3.2.3 If the Operator transports revenue or non-revenue cargo, and also transports dangerous goods, the Operator shall have procedures to ensure the Dangerous Goods Acceptance Checklist and shipper documentation, to include the Shipper's Declaration for Dangerous Goods, if required, and information to the pilot-in-command, are retained for a minimum period of three months after the flight on which the dangerous goods were transported. **(GM)**

Guidance

A minimum of one copy of each document associated with each dangerous goods shipment is retained on file for three months or, if required by the State of Flight Departure, a longer period of time.

Each shipment that requires a Shipper's Declaration for Dangerous Goods is accompanied by the appropriate information, which is immediately available to all relevant personnel, to include the pilot-in-command, for use in an emergency response to accidents and incidents involving dangerous goods.

Emergency response information may be found in The Emergency Response Guidance for Aircraft Incidents Involving Dangerous Goods (ICAO Doc 9481- AN/928), or in any other document that provides similar information concerning dangerous goods on board.

Refer to DGR, 9.5.1.2, for guidance that addresses dangerous goods emergency response.

CGO 3.2.4 If the Operator transports revenue or non-revenue cargo, and also transports dangerous goods, 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)**

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 revenue or non-revenue cargo on or in ULDs, and also transports dangerous goods, the Operator shall have procedures to ensure ULDs containing dangerous goods have a dangerous goods tag that:

(i) Is marked with the class or division number(s) of such dangerous goods;

(ii) If a ULD contains packages bearing a “Cargo Aircraft Only” label, indicates the ULD can only be loaded onto a cargo aircraft. **(GM)**

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 the exterior of the ULD;
- ULDs are only loaded onto aircraft that are compatible with the load and associated restrictions.

CGO 3.2.6 If the Operator transports revenue or non-revenue cargo, and also transports dangerous goods, the Operator *should* have a process for retention of the applicable documentation when a dangerous goods consignment does not pass the acceptance check due to errors or omissions by the shipper. Such documentation *should* be retained for a minimum period of three months after the completion of the acceptance checklist. **(GM)**

Guidance

The intent of this provision is to ensure an operator retains all relevant documentation when a cargo shipment containing dangerous goods is not accepted (by the operator) due to an error or omission (by the shipper) in packaging, labeling, marking or documentation.

CGO 3.2.7 (Intentionally open)

CGO 3.2.8 If the Operator transports revenue or non-revenue cargo, and also transports dangerous goods, the Operator shall have a process to ensure, when dangerous goods hazard and

handling labels are discovered to be lost, 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)**

Guidance

Guidance may be found in DGR Section 9.

CGO 3.2.9 If the Operator transports revenue or non-revenue cargo, and also transports dangerous goods, the Operator shall have procedures that ensure English, in addition to the language required by the State of Origin, is used for markings and transport documents related to the shipment of dangerous goods. **(GM)**

Guidance

Refer to the IRM for the definition of State of Origin.

Guidance may be found in DGR Sections 2 and 7.

CGO 3.2.10 If the Operator transports revenue or non-revenue cargo, and also transports dangerous goods, the Operator shall have procedures that ensure dangerous goods are separated from other cargo or incompatible materials in accordance with published category restrictions. **(GM)**

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 a consideration for stowage of these materials in the cargo building and during transport to the aircraft.

CGO 3.2.11 If the Operator transports revenue cargo, the Operator shall ensure, at locations where the operator accepts cargo shipments, notices providing information about dangerous goods transportation are prominently displayed. **(GM)**

Guidance

Where the acceptance of cargo is outsourced to a ground services provider, the provider is responsible for the display of dangerous goods information notices. However, ultimate responsibility for the safe transportation of dangerous goods, whether cargo is accepted by the operator or a ground services provider, always remains with the operator.

CGO 3.2.12 If the Operator transports revenue or non-revenue cargo, and also transports dangerous goods, 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.

CGO 3.2.13 If the Operator conducts flights utilizing cargo aircraft, and also transports dangerous goods, 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 such a manner that in the event of an emergency involving such packages or overpacks, a crew member or other authorized person can access those packages or overpacks, and can handle and, where size and weight permit, separate such items from other cargo. **(GM)**

Guidance

Refer to the IRM for the definition of Cargo Compartment, which includes definitions of compartment types by classification.

CGO 3.2.14 If the Operator transports revenue or non-revenue cargo, and also transports dangerous goods, the Operator shall have procedures that ensure information on dangerous goods to be loaded on a flight is communicated to the appropriate person(s) in the load control system. Information to be communicated shall include the following:

(i) If applicable, Air Waybill number.

(ii) Proper shipping name and/or UN/ID number, and where required, technical name(s).

(iii) Class or division, and subsidiary risk(s) corresponding to label(s) applied, and for Class 1, compatibility group.

(iv) Packing group.

(v) For non-radioactive material, number of packages, exact loading location and, as applicable, net quantity or gross weight of each package, *except*:

(a) For UN 1845, carbon dioxide, solid (dry ice): At the option of the Operator, only the UN number, proper shipping name, classification, total quantity in each aircraft hold and offload airport are required;

(b) For UN 3480, (Lithium ion batteries) and UN 3090 (lithium metal batteries): At the option of the Operator, 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 are required. UN 3480 (Lithium ion batteries) and UN 3090 (lithium metal batteries) carried under a State exemption shall meet all requirements specified in iv) and v).

(vi) For radioactive material, number and category of packages, overpacks or freight containers, exact loading locations and, as applicable, transport index and dimensions 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) If applicable, ULD identification number(s). **(GM)**

Guidance

Refer to the IRM for the definition of Load Control.

Certain dangerous goods carried as cargo are not required to appear in the information provided to the PIC. Refer to DGR, Table 9.5.A.

CGO 3.2.15–3.2.16 (Intentionally open)

CGO 3.2.17 If the Operator transports revenue or non-revenue cargo, the Operator shall have a process to ensure dangerous goods accidents or incidents are reported to the appropriate authorities of the State of the Operator and the state in which the accident or incident occurred, and such reports are in accordance with the reporting requirements of the appropriate authorities.

CGO 3.2.18 If the Operator transports revenue or non-revenue cargo, the Operator shall have a process to ensure a dangerous goods report is made to the appropriate authorities of the State of the Operator and the State of Condition Origin:

(i) When undeclared or mis-declared dangerous goods have been discovered in cargo.

(ii) If the Operator transports dangerous goods as cargo, when dangerous goods are discovered to have been carried when not loaded, segregated, separated and/or secured in accordance with provisions of the DGR.

(iii) If the Operator transports dangerous goods as cargo, when dangerous goods are discovered to have been carried as cargo without information as specified in CGO 3.2.14 having been provided to the PIC.

3.3 Live Animals and Perishables

CGO 3.3.1 If the Operator transports live animal and/or perishable cargo shipments, the Operator shall have procedures that ensure live animal and/or perishable cargo shipments are accepted and handled in accordance with requirements specified in the OM. **(GM)**

Guidance

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 IATA LAR and IATA 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).

CGO 3.3.2 If the Operator transports live animal cargo shipments, the Operator *should* have procedures that ensure:

(i) The acceptance and handling of live animals is in accordance with requirements of the IATA Live Animal Regulations (LAR);

(ii) The IATA Live Animals Acceptance Check List, or equivalent, is utilized for the acceptance of live animal shipments. **(GM)**

Guidance

The IATA Live Animals Acceptance Checklist is recommended as an effective reference in assisting shippers, agents and operators in preparing live animal shipments for air transportation.

CGO 3.3.3 If the Operator transports perishable cargo shipments, the Operator *should* have procedures that ensure acceptance and handling of perishable cargo shipments is in accordance with requirements of the IATA Perishable Cargo Regulations (PCR) and other applicable regulations. **(GM)**

Guidance

The handling procedures for handling perishable goods and specific responsibilities of an operator with regard to documentation, packaging and classification are addressed in the PCR. Additional requirements may be mandated by local regulatory requirement.

CGO 3.3.4 If the Operator transports live animal cargo shipments, the Operator *should* have procedures that ensure live animal shipments are accompanied by the shipper's certification or equivalent, as well as other required documents. **(GM)**

Guidance

Documentation required for live animal shipments includes the shipper's certification, air waybill and, in some situations, CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora). Some states have additional requirements, which may include health certificates, export or import permits. Refer to guidance contained in the IATA LAR, 2.2.

3.4 Other Special Cargo

CGO 3.4.1 If the Operator transports special cargo shipments such as human remains, valuable cargo, fragile goods, outsized cargo and heavy cargo, the Operator shall have procedures that ensure such special cargo shipments are accepted and handled in accordance with standards specified in the OM. **(GM)**

Guidance

Guidance for the handling of human remains can be found in the IATA TACT Rules and the IATA Airport Handling Manual.

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 utilizing 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 IATA ULD Regulations (ULDR) or other means acceptable to the Authority. **(GM)**

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 include:

- Minimum training requirements stipulated in the ULDR);
- Continued airworthiness of ULD during operations;
- Adequate supervision and management of all ULD operations.

Guidance may be found in the applicable chapter of the IATA ULD Regulations (ULDR).

CGO 3.5.2 If the Operator transports revenue or non-revenue cargo utilizing 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)**

Guidance

Detailed instructions for the safe loading and securing of cargo are contained in the UTM. The data includes the use of pallets, nets, straps and containers, and also information regarding ULD center of gravity (CG) offset limits.

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)**

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 conducts operations in cargo facilities, the Operator shall ensure security measures are implemented in such facilities in accordance with requirements of the applicable civil aviation security program. **(GM)**

Guidance

Refer to the IRM for the definition of Cargo Facility.

Security measures that address landside and airside facility access for vehicles and personnel, as well as the protection of cargo and mail 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.

CGO 3.7.2 If the Operator conducts operations in a cargo facility, the Operator shall ensure procedures are in place for persons and vehicles with access to security restricted areas in or around any cargo facility to be subjected to security controls.

CGO 3.7.3 If the Operator transports revenue or non-revenue cargo, the Operator shall have a process to ensure the application of screening or other security controls on cargo shipments for transport on any flight is confirmed and accounted for by a regulated agent or an entity approved by the relevant authority. **(GM)**

Guidance

Refer to the IRM for the definitions of Known Shipper and Regulated Agent.

The term "entity 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.

Additional guidance may be found in the IATA Security Manual.

CGO 3.7.4 If the Operator transports revenue or non-revenue cargo, and accepts cargo shipments where the application of screening or other security controls has been confirmed or accounted for by a regulated agent or an entity approved by the relevant authority as specified in CGO 3.7.3, the Operator shall have a process to ensure such cargo shipments are:

(i) Delivered by a regulated agent, a nominated representative of an entity approved by the relevant authority, or a known representative of the operator;

(ii) Free from any signs of tampering;

(iii) Accompanied by all required information (paper or electronic) that corresponds to the cargo being delivered, including documentation that details the security status (e.g. consignment security declaration);

(iv) Subjected to additional security controls as required by risk assessment. **(GM)**

Guidance

Refer to the IRM for the definitions of Known Cargo 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.

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 and mail 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.

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.

CGO 3.7.5 If the Operator transports revenue or non-revenue cargo, and accepts cargo shipments where the application of screening or other security controls has not been confirmed or accounted for by a regulated agent or an entity approved by the relevant authority as specified in CGO 3.7.3, the

Operator shall have a process to ensure such cargo shipments are subjected to screening prior to transport on any flight. **(GM)**

Guidance

The application of security controls on cargo and mail shipments is to be accounted for by a regulated agent or an approved entity. Where this does not occur, the operator ensures all cargo shipments are subjected to screening before being loaded onto an aircraft.

CGO 3.7.6 If the Operator transports revenue or non-revenue cargo, the Operator shall have processes to ensure cargo for transport on any flight is protected from unauthorized interference from the point security screening or other security controls are applied, or from the point of acceptance after screening or security controls already have been applied, until departure of the aircraft.

CGO 3.7.7 If the Operator transports revenue or non-revenue cargo, the Operator shall have a process to ensure transfer cargo shipments have been subjected to appropriate security controls in accordance with requirements of the relevant authority before being transported on an international flight. **(GM)**

Guidance

Refer to the IRM for the definition of Transfer Cargo and Mail.

Table 7.1–Operations Manual 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.

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Section 8 — Security Management (SEC)

Applicability

Section 8 addresses the management of operational security in accordance with requirements of an airline Security Program. This section is applicable to all operators.

Individual provisions or sub-specifications within a provision that:

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

Where operational security functions are outsourced to 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

SEC 1.1.1 The Operator shall have a security management system (SeMS) that includes, as a minimum, the following key elements:

(i) Senior management and corporate commitment;
(ii) Resource management;
(iii) Threat assessment and risk management;
(iv) Management of emergencies and incidence (resilience);
(v) Quality control and quality assurance;
(vi) Aviation Security Program. **(GM)**

Guidance

Refer to the IRM for the definitions of Operator, Security Management System (SeMS) and Security Program.

Conformity with this standard may be achieved by incorporating the following elements into the Security Management System:

- Senior management and corporate commitment:
  - Appointment of a Head of Security;
  - Security department organizational structure;
  - Authorities and responsibilities;
  - Delegation of duties.
- Resource management:
  - Staff selection process;
  - Staff performance assessment process;
  - A security personnel training program;
  - Security awareness training program;
  - Management of service providers.

- Threat assessment and risk management:
  - Identification of risks and threats;
  - Threat assessment;
  - Risk management.
- Management of emergencies and incidents (resilience);
  - Emergency preparedness and response;
  - Crisis and contingency management plans;
  - Security incident management.
- Quality control and assurance
  - Corrective actions mechanisms;
  - Oversight of external service providers.
- Aviation Security Program

Provided all of the above elements are implemented, individual airlines may group or break down the elements and sub-elements in a manner that best suits their own SeMS structure.

An operator's security management system is structured to ensure the most efficient and effective application of the Security Program.

The management system is typically documented in the form of a manual or other appropriate controlled medium, and includes detailed descriptions of the structure, individual responsibilities, available resources and processes in place to effectively manage security operations and ensure operator is in compliance with the requirements of the civil aviation security program of the State.

Refer to Guidance associated with ORG 1.1.1 located in ISM Section 1.

SEC 1.1.2 The Operator shall have a senior management official designated as the head of security with direct access to the highest level of management within the organization. Such senior management official, regardless of reporting structure, shall have the responsibility, and thus be accountable, for ensuring the implementation and maintenance of the Security Program. **(GM)**

Guidance

Refer to the IRM for the definitions of Accountability and Responsibility.

Based on the size, structure and complexity of an operator's organization, the position of head of security could be filled by a member of senior management that has responsibilities in addition to security. However the organization is structured, it is important that one senior management official is the designated focal point for security management on behalf of the operator.

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 security management system;
(vi) Periodic review of the policy to ensure continuing relevance to the organization. **(GM)**

Guidance

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.

Additional elements incorporated into a security policy might include:

- The adoption of industry best practices for security management;
- 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 front line 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.

1.2 Security Program

SEC 1.2.1 The Operator shall have a formal Security Program 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)**

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 Security Program in order to:

- Protect customers, personnel and assets from any act of unlawful interference;
- Comply with regulatory requirements.

The Security Program may be structured in accordance with the ICAO or IATA template, or in accordance with the template provided by the State of the Operator or other relevant state (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 Security Program of the operator.

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 standard.

The Security Program is normally approved or accepted (i.e. no notice of deficiency or equivalent is issued) by the relevant state.

The Security Program provides a structure for security policy and awareness, which flows from senior management to all levels of operational personnel within the organization. The documented Security Program, as a minimum, specifies or makes reference to other documents that specify:

- Airline security policy and objectives;
- Means for achieving these objectives including establishing a security department;
- Structure and responsibilities of the security department;
- Security responsibilities of operational personnel, handling agents and other contractors;
- Minimum and contingency protective measures;
- Risk analysis, threat assessment and counter measures.

1.3 Authorities and Responsibilities

SEC 1.3.1 The Operator shall ensure the security management system defines the authorities and responsibilities of management and non-management personnel as defined under the Security Program, and specifies:

(i) The levels of management with the authority to make decisions that affect the operational security;

(ii) Responsibilities for ensuring security functions are performed and procedures are implemented in accordance with applicable regulations and standards of the Operator. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 1.3.1 located in ISM Section 1.

SEC 1.3.2 The Operator shall have a process for delegation of duties within the security management system that ensures managerial continuity is maintained when managers with operational security responsibilities are absent from the workplace. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 1.3.2 located in ISM Section 1.

Such plan addresses responsibilities associated with management positions (not individuals) under the Security Program and ensures proper management of operational security functions is always in place.

SEC 1.3.3 The Operator shall ensure a delegation of authority and assignment of responsibility for liaison with applicable aviation security authorities and other relevant external entities. **(GM)** ◄

Guidance

Although motives might be different, all stakeholders share a similar interest in ensuring the security of the aviation industry. However, the potential problem of gaps or overlap in responsibilities and/or coverage may exist when more than one entity is handling security. It is crucial for state, airport and airline security officials to establish clear jurisdictional boundaries to ensure all entities understand where their respective jurisdictions begin and end.

Whereas gaps in security create obvious problems and expose the entire aviation infrastructure to threats, the presence of unnecessary overlap by different security groups can also lead to problems. Without proper coordination, the presence of multiple entities providing security services could lead to inaccurate assumptions that might, in fact, result in unintended gaps in the security web due to a reduction of services. Also, multiple groups doing the same job could lead to conflicts of authority, which would detract from the required focus on aviation security.

It is important that there is effective communication between airport security and airline security management. An Airline Operators Committee typically offers a viable platform for airlines and an airport authority to express their respective views on security and identify areas of deficiency. Such committee might also serve as a useful forum for coordination between airlines and airports to develop and implement a seamless security system with no gaps and appropriate overlap.

With regards to state involvement, the creation of an Airport Security Committee (ASC) might be suggested since the group would focus solely on security and address only security issues. An ASC typically reports (formally or informally) to the National Civil Aviation Security Committee.

Air carriers are advised to participate in both the Airline Operators Committee and the ASC, either directly or via representation by other carriers or stakeholders.

1.4 Communication

SEC 1.4.1 The Operator shall have a communication system that enables an exchange of operational security information in all relevant areas of the organization. **(GM)** ◄

Guidance

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 would be required in order to control the access to restricted information to those with a "need to know."

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, typically issued by the corporate security department, might specify action 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 1.4.1 located in ISM Section 1.

1.5 Provision of Resources

SEC 1.5.1 (Intentionally open).

SEC 1.5.2 The Operator shall ensure management and non-management positions that require the performance of functions within the scope of the Security Program, 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)** ◄

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 1.6.2 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 screened passengers, baggage and cargo, as well as to catering supplies and searched aircraft. **(GM)**

Guidance

Refer to the IRM for the definition of Security Control.

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.

1.6 Documentation System

SEC 1.6.1 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 under the Security Program. Such system shall include processes as specified in ORG 2.1.1. **(GM)** ◄

Guidance

Refer to the IRM for the definition of Documentation and Electronic Documentation.

Refer to ORG 2.1.1 and associated Guidance, and Table 1.1, located in ISM Section 1.

SEC 1.6.2 (Intentionally open)

SEC 1.6.3 The Operator shall have processes to ensure documentation used in the implementation of the Security Program:

(i) Is readily identifiable and accessible to applicable operational personnel;

(ii) Contains legible and accurate information;

(iii) Is presented in a format appropriate for use by operational personnel. ◄

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 manner that meets requirements of the Security Program.

1.7 Security Manual

SEC 1.7.1 The Operator shall have a Security Manual or equivalent document that provides guidance for the implementation of the Security Program(s) to ensure applicable personnel have the direction necessary to implement security measures. **(GM)**

Guidance

An operator may have more than one security manual (e.g. where security responsibilities are delegated to various departments or by geographic locations, each with distinct security requirements). All documents comprising an operator's security manual (or equivalent document) are considered controlled documents.

The content of the security manual (or equivalent document) typically addresses the following subject areas, as applicable to the operator's type(s) of operations conducted and specific security requirements:

- Definitions of technical terms associated with the Security Program;
- Authority and applicability of the Security Program;
- Recruitment and training of operational security personnel;
- Security threat assessment;
- Movement of aircraft and evacuation of passengers following bomb alerts;

- Security crisis management plans at airports served;
- Scrutiny of electronic items in the aircraft cabin and in checked baggage (based on threat level);
- Segregation of departing passengers in airport facilities;
- Public awareness of security;
- Detection equipment and technology;
- Passenger and cabin baggage security;
- Passenger and cabin baggage search;
- Passenger risk assessment and enhanced screening;
- Security of checked baggage;
- Screening of checked baggage;
- Security of cargo, express parcels and mail;
- Screening of cargo, express parcels and mail;
- Security of catering and onboard supplies;
- Aircraft security;
- Measures for addressing unruly passengers.

1.8 Records System

SEC 1.8.1 The Operator shall have a system for the management and control of operational security records to ensure the content and retention of such records is in accordance with requirements of the aviation security authority of the State. **(GM)** ◄

Guidance

Some security records could contain sensitive or restricted information that, while not classified, could be detrimental to aviation security if publically released. Such restricted information is typically defined, usually in conjunction with specific handling procedures, by the State or the operator. Management of such records would include standardized processes for:

- Identification;
- Legibility;
- Maintenance;
- Retrieval;
- Protection and security;
- Disposal, deletion (electronic records) and archiving.

Typical handling procedures for records containing sensitive or restricted information ensure:

- When not in the physical possession of an authorized person, records are stored in a secure container such as a locked file cabinet or drawer;
- A review is conducted periodically (typically once per year) to identify records that are no longer valid and to ensure such records are destroyed in a manner that precludes recognition or reconstruction of the information.

Refer to Guidance associated with ORG 2.2.1 located in ISM Section 1.

SEC 1.8.2 If the Operator utilizes an electronic system for the management and control of records, the Operator shall ensure the system provides for a scheduled generation of back-up record files. **(GM)** ◄

Guidance

Refer to Guidance associated with ORG 2.2.2 located in ISM Section 1.

1.9 Management Review

SEC 1.9.1 The Operator *should* have a security review committee for the purpose of ensuring:

(i) Senior management oversight of security in operations;

(ii) Continual improvement of the security management system;

(iii) Security threats are being identified and controlled;

(iv) The promotion of security awareness. **(GM)**

Guidance

A security review committee, which might have a different name with each operator, would ideally be chaired by the Accountable Executive or designated security official, and typically includes the head of security, other members of senior management and representatives from the major operational areas.

A security review committee typically meets at least every two months to review the security performance in operations, address security concerns, provide feedback and instructions to the operating units, and set priorities for sub-teams. It may be useful to have more frequent meetings in the first year of establishment to create an awareness of the committee throughout the organization.

1.10 Quality Assurance/Quality Control Programs

Quality Assurance

SEC 1.10.1 The Operator shall have a quality assurance program that provides for the auditing and evaluation of the management system and operational security functions at a determined frequency following a regularly performed risk assessment to ensure the organization is:

(i) Complying with the Security Program;

(ii) Achieving Security Program objectives;

(iii) Properly applying security standards. **(GM)** ◄

Guidance

Refer to the IRM for the definition of Quality Assurance.

The quality assurance program will typically determine compliance with the Security Program

Typically, the person responsible for the security operation is accountable for the implementation of a quality assurance program, which includes the various standards set out within an operator's Security Program. The quality assurance program typically takes into consideration the standards set by other states to achieve specific requirements as the result of their respective risk analyses and threat assessments.

Quality Assurance refers to all areas of security protection and prevention that involve the operator, handling agents, personnel, passengers and the carriage of cargo and aircraft stores. It also incorporates an examination of the actions or inactions of airports and other agencies, which, although not directly “touching” the airline, could impact on the security of the operator.

To achieve the set objectives of the Security Program, it is necessary to introduce a means of measuring the efficiency and effectiveness of the security operation and to note any deficiencies.

Operators typically perform a security risk assessment least once a year. The frequency of security audits is then typically determined on a risk-priority basis as determined by the operator for its operations at its base and overseas stations. There are two main purposes for conducting a security audit:

- To ensure operator personnel, handling agents and contractors are properly implementing the Security Program;
- To ensure the Security Program is achieving the set objectives.

Audits may be complemented by quality control mechanisms, to include:

- Security surveys to identify the operator security needs;
- Security tests to evaluate the effectiveness of specific aviation security measures and procedures;
- Security exercises to evaluate the effectiveness of the emergency response plan.

Refer to Guidance associated with ORG 3.4.1 located in ISM Section 1.

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)** ◄

Guidance

Refer to Guidance associated with ORG 3.4.3 located in ISM Section 1.

SEC 1.10.3A The Operator shall have a process to ensure significant issues arising from quality assurance audits of operational security functions are subject to a regular review by senior security management. **(GM)** ◄

Guidance

In order to ensure proper implementation of corrective actions following the identification of gaps or deficiencies through quality assurance audits, it is important that senior security management is made aware of overall audit reports and especially of any significant issue(s) identified.

Senior security management officials have the authority and available expertise to quickly resolve any deficiency in order to prevent re-occurrences and ensure that the corrective actions implemented are commensurate to the gaps or issues identified.

Auditor recommendations contained in a report provide the basis for possible changes within the system. However, for various reasons, the adoption or implementation of recommendations made by auditors may not always be feasible. Therefore, the determination of a need for corrective or preventive action, and the actual implementation of such action, would typically be coordinated between the Head of Security (or appointee) and those operational managers directly responsible for the safety and security of operations.

Refer to Guidance associated with ORG 3.4.4 located in ISM Section 1.

SEC 1.10.3B The Operator shall have an audit planning process and sufficient resources, including auditors as specified in ORG 3.4.12, to ensure audits are:

(i) Scheduled in accordance with a security risk assessment at intervals to meet regulatory and management system requirements;
(ii) Completed in accordance with scheduled intervals (subject to a change in risk). **(GM)**

Guidance

Refer to Guidance associated with ORG 3.4.10 located in ISM Section 1.

Quality Control

SEC 1.10.4 The Operator shall have a process for conducting regular risk-assessed or event-driven security surveys that identify needs and weaknesses of the Security Program, including operational security procedures and infrastructure. **(GM)**

Guidance

A security survey is a method for an operator to evaluate airport(s) security environment and airline operations to determine its vulnerability to acts of unlawful interference, and to develop recommended protective measures based on the identified needs and commensurate with the threat level.

Surveys of security measures are necessary to ensure the adequacy and continued effectiveness of security programs, and further ensure such measures and procedures remain in compliance with the appropriate legislation.

SEC 1.10.5 If required and/or authorized by the aviation security authority, the Operator shall have a process for conducting security tests that assess the effectiveness and proper implementation of security controls of which the Operator is in direct control. **(GM)**

Guidance

A security test is a simulated act of unlawful interference against existing security measures, carried out covertly by persons using an approved test object concealed in their baggage or on their person. Similar tests are also sometimes performed on cargo shipments and in aircraft. Tests may be used for ensuring alertness of security personnel, which might be considered with caution because the results of testing could degrade the motivation of such personnel.

An effective testing program ensures the administration of tests:

- Are permitted by the laws of the state(s) where such tests are conducted;
- Do not jeopardize the safety of persons;
- Do not jeopardize the safety of aircraft or airport facilities;
- Do not damage property;
- Do not alarm or inconvenience the public and persons or organizations not being tested;
- If required, includes notification of applicable police authorities and other security agencies.

Furthermore, tests may be conducted:

- In accordance with a schedule;
- Without prior notification to the operating or supervisory personnel (management, however, is made aware);
- Utilizing clearly marked test pieces (decoys);
- By qualified personnel who are in possession of documentation authorizing such testing.

SEC 1.10.6 If required and/or authorized by the aviation security authority, the Operator shall have a process to perform or participate in periodic operational security exercises in order to:

(i) Evaluate the effectiveness of procedures designed for response to security incidents;

(ii) Practice implementation of security procedures by applicable personnel. **(GM)**

Guidance

If the Operator is invited to participate in an emergency response exercise (where a security element may be addressed), or wishes to conduct its own emergency response exercise, the Operator will be able correct any deficiencies discovered as a result of plan implementation.

If the opportunity to participate in a full scale emergency exercise is not possible, an operator may conduct a table-top security exercise.

1.11 Outsourcing and Product Quality Control

SEC 1.11.1 If the Operator has external service providers conduct outsourced operational security functions, the Operator shall have a process to ensure a contract or agreement is executed with such external service providers. **(GM)** ◄

Guidance

Refer to the IRM for the definition of Outsourcing.

The contract or agreement typically includes the measures required and associated performance measures (perhaps in a supplemental service level agreement) to be met by the service provider, including regular key performance indicator reporting.

Contractors and/or service providers that deliver security services required under the Security Program receive planned inspections and/or audits by the operator.

Normally, an operator obtains a written undertaking that ensures service providers are familiar and comply with standards of the operator and local regulatory requirements.

An important aspect to be monitored by the operator would be the security training provided to personnel of the service provider(s).

The use of a registered ISAGO provider typically signifies that the provider is in conformity with basic industry security requirements.

Refer to Guidance associated with ORG 3.5.1 located in ISM Section 1.

SEC 1.11.2 If the Operator has external service providers conducting outsourced operational security functions, the Operator shall have processes to monitor such external service providers to ensure compliance with either the contract or agreement as specified in SEC 1.11.1, or:

(i) The Security Program of the Operator;

(ii) Requirements of applicable aviation security authorities. **(GM)** ◄

Guidance

The contract and/or agreement may contain those aspects of the Security Program and/or regulatory requirements to be undertaken by the external service provider. In most cases only one or two aspects of the Security Program may be involved, which would negate the requirement to provide or monitor compliance with the entire Security Program.

Examples of activities that might be used to verify such compliance include:

- Periodic quality assurance audits of providers conducted by the operator using either corporate or local resources;
- Reports submitted to the operator by the provider detailing self-audit schedules and results;
- Quality control functions (e.g. security surveys/tests) conducted jointly by the operator and provider.

The use of a registered ISAGO provider typically signifies that the provider is in conformity with basic industry security requirements.

Refer to Guidance associated with ORG 3.5.2 located in ISM Section 1.

SEC 1.11.3 (Intentionally open)

SEC 1.11.4 If the Operator has operational security functions conducted by external organizations not under the control of the Operator, the Operator *should* have methods, as permitted by law or the applicable civil aviation security authority, for the monitoring of such functions to ensure security controls are implemented to prevent acts of unlawful interference. **(GM)**

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, it may not be permitted to perform oversight activity on the security functions.

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 recommended practice is applicable to all security procedures required under the security program of the State of the Operator, State of operation or the operator.

1.12 Operational Reporting

SEC 1.12.1 The Operator *should* have an operational reporting system that encourages and facilitates personnel to report security incidents and threats, identify security deficiencies, and raise security concerns. **(GM)** ◄

Guidance

Refer to the IRM for the definition of Security Threat.

Frontline personnel, such as flight or cabin crew members, maintenance technicians and ground handling personnel are exposed to security situations as part of their everyday activities. An operational security reporting system provides such personnel with a means to report 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.

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 provides absolute protection of confidentiality;
- A process that provides for review by corporate security personnel;
- An articulated 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 front line 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.

Refer to ORG 3.1.3 and ORG 3.1.4 located in ISM Section 1, which address operational safety reporting systems.

SEC 1.12.2 The Operator *should* have a process to ensure security incidents and acts of unlawful interference that have been reported by personnel in accordance with SEC 1.12.1 are reviewed by operational and security management to ensure:

(i) Root cause is identified;

(ii) Corrective action is determined;

(iii) When applicable, corrective action is implemented and monitored to ensure effectiveness in preventing future incidents. **(GM)**

Guidance

An effective system provides for a review and analysis of each report to determine whether a real security threat or deficiency exists, and if so, ensures development and implementation of appropriate action by responsible management to correct the situation.

2 Training and Qualification

2.1 Training Program

SEC 2.1.1 The Operator shall have a security training program that includes initial and recurrent training; initial training shall be completed by personnel prior to being assigned to operational duties. The security training program shall be in accordance with requirements of all applicable states and have a balanced curriculum of theoretical and practical training to ensure:

(i) Personnel, employed by or under the control of the Operator who implement security controls, have the competence to perform their duties;

(ii) Crew members and frontline ground handling personnel are able to act in the most appropriate manner to minimize the consequences of acts of unlawful interference and/or disruptive passenger behavior. **(GM)**

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 Security Program.

The security training program is typically integrated into the normal training curriculum for operational personnel, and need not be stand-alone training.

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 2.1.2 If the Operator has operational security functions conducted by external service providers selected by the Operator (outsourcing), the Operator shall have a process to ensure such external service providers have a security training program that is acceptable to the Operator.

SEC 2.1.3 (Intentionally open)

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, but not less than a frequency specified by the Operator as necessary to maintain effectiveness in performing operational duties that involve aviation security responsibilities. **(GM)**

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 or operates 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)**

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.

Screeners undertaking cargo screening duties are typically not looking for weapons. Such personnel are normally trained to detect and identify unauthorized explosives and unauthorized dangerous goods.

SEC 2.1.6 The security training program of the Operator shall include a process for reviewing and updating or revising security training courses to ensure:

(i) Continual improvement of curriculum and content and applicability to the operational environment;

(ii) Incorporation of regulatory amendments or operational changes.

SEC 2.1.7 The Operator shall ensure the completion of required security training by operational personnel is documented and retained in a records system in accordance with SEC 1.8.1.

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 of acts of sabotage and other forms of unlawful interference. **(GM)**

Guidance

Security awareness training applies to the protection of assets from internal and external interference and the necessity of ensuring all personnel have a positive attitude to 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.

Typically, operational personnel that complete security awareness training are crew members, front line ground handling personnel and all personnel that implement security controls.

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)**

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)**

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 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)**

Guidance

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 observable area;
- 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 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 for a passenger flight 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 on board an aircraft. **(GM)**

Guidance

A weapon would be any instrument of attack or defense in combat that is normally prohibited from being carried on board an aircraft by a passenger.

The carriage of weapons on board an aircraft by law enforcement officers and other authorized persons is governed by the laws of the states involved.

SEC 3.3.2 If the carriage of weapons on board an aircraft for a passenger flight is approved as specified in SEC 3.3.1, the Operator shall have a procedure to ensure the pilot-in-command is notified prior to the commencement of a flight. If permitted by the states involved, such notification shall include the number and seat locations of authorized armed persons on board the aircraft.

SEC 3.3.3 If the carriage of weapons on board an aircraft for a passenger flight, other than those weapons specified in SEC 3.3.1, is approved by the Operator, the Operator shall have procedures for the carriage of such weapons to ensure:

(i) 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)**

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;
- 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;
- 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 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;
- The pilot-in-command is notified when weapons and ammunition are carried on the aircraft;
- 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, 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)**

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 Airline Security Program.

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.

Specific guidelines and procedures are developed and training given to personnel, for addressing persons with special needs.

SEC 3.4.2 If the Operator transports supernumeraries, the Operator shall have a process to ensure such personnel and their personal belongings are subjected to screening or other appropriate security controls prior to boarding the aircraft. **(GM)**

Guidance

Refer to the IRM for the definition of Supernumerary.

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)**

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 3.4.4 If the Operator conducts passenger flights, the Operator shall have a process to ensure passengers and their cabin baggage are subjected to additional security controls in accordance with requirements of the applicable aviation security authority when flights are under an increased security threat. **(GM)**

Guidance

In the case of a general (i.e. non-specific) *intermediate* threat level, in addition to the baseline passenger and carry-on screening procedures, the following additional measures may be implemented:

- Continuous random searching of passengers by hand (or by approved technological methods) either at the departure gate (where airport facilities permit) or other suitable location(s).
- Continuous random searching of cabin baggage by hand (or by approved technological means) either at the departure gate (where airport facilities permit) or other suitable location(s).

In the case of a general (i.e. non-specific) *high* threat level, additional measures such as the following may be introduced:

- All departing passengers are searched again by hand or screened with metal detection equipment at the departure gate before being permitted to board the aircraft;
- All cabin baggage is subjected to an additional search by hand or by X-ray equipment, either at the departure gate (where airport facilities permit) or other suitable location(s), before being permitted to be carried on board the aircraft.

If a threat is specific to a certain object (e.g. liquid explosives), then more specific countermeasures than above would need to be implemented.

To facilitate additional screening, earlier close-out of passenger check-in operations is a consideration.

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)**

Guidance

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.

SEC 3.4.6 If the Operator conducts passenger flights, the Operator shall have a process to ensure, at each transit airport:

(i) The integrity of the security system is protected from acts of unlawful interference;

(ii) Transit passengers and their cabin baggage are protected from unauthorized interference. **(GM)**

Guidance

Special precautions taken to control transfer and transit passengers and their baggage include surveillance of transit areas (arrival/departure halls) and baggage storage and sorting areas. Where transit or transfer passengers have access to hold baggage or baggage collection areas, re-screening is necessary before re-boarding or having any contact with other screened passengers. The objective is to ensure transit and transfer passengers do not mix with unscreened passengers.

SEC 3.4.7 The Operator shall have a policy and procedures to refuse transportation to any person that does not consent to a search of his or her person or property in accordance with the Security Program. **(GM)**

Guidance

Persons who refuse to undergo screening before boarding or entering an aircraft are denied boarding and not allowed to pass the point of search. Additionally, such persons, or others who might be denied passage for other security reasons, are referred to policing authority officials, if required by law.

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)**

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 pilot-in-command 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 pilot-in-command and crew of the aircraft.

SEC 3.5.2 (Intentionally open)

SEC 3.5.3 If the Operator conducts passenger flights, the Operator shall have a process to ensure procedures are in place for the notification of the pilot-in-command, prior to the commencement of a flight, when passengers are to be transported who are obliged to travel because they have been the subject of judicial or administrative proceedings.

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 subjected to screening prior to being loaded into an aircraft for an international passenger flight. **(GM)**

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 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 3.6.2 If the Operator conducts passenger flights, the Operator *should* have a process to ensure originating hold baggage is subjected to screening prior to being loaded into an aircraft for a *domestic* passenger flight.

SEC 3.6.3 If the Operator conducts passenger flights, the Operator shall have a process to ensure hold baggage to be transported on an *international* passenger flight is protected from unauthorized interference from the point it is screened or accepted into the care of the Operator, whichever is earlier, until departure of the aircraft transporting the baggage.

SEC 3.6.4 If the Operator conducts passenger flights, the Operator shall have a process to ensure procedures are in place to prevent the transport of baggage of passengers that are not on board the aircraft for an *international* flight unless such baggage is identified as unaccompanied and subjected to appropriate security control based on risk assessment. **(GM)**

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.

A system is in place to verify and confirm, before a flight departs, that only the baggage of boarded passengers 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).

SEC 3.6.5 (Intentionally open)

SEC 3.6.6 If the Operator conducts passenger flights, the Operator shall have a process to ensure procedures are in place to prevent items of hold baggage from being transported on an international passenger flight unless such items have been:

(i) Individually identified as either accompanied or unaccompanied baggage;

(ii) Subjected to appropriate security controls based on risk assessment.

SEC 3.6.7 If the Operator conducts 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 and has been authorized by a person appointed by the Operator for transport on an *international* passenger flight.

SEC 3.6.8 If the Operator conducts passenger flights, the Operator shall have a process to ensure secure storage areas have been established where mishandled passenger baggage may be held until forwarded, claimed or disposed of in accordance with local laws. **(GM)**

Guidance

Refer to the IRM for definitions of Mishandled Baggage, Unidentified Baggage and Unclaimed Baggage.

Mishandled baggage is usually the result of the baggage having:

- Been incorrectly tagged;
- Arrived without a tag;
- Missed a connecting flight;
- Been carried on the wrong flight.

Such baggage is held in a locked and secure storage cage or room. Access and key control is properly supervised and the baggage subjected to additional screening before being loaded into an aircraft.

Unclaimed baggage is kept for a period of time, as prescribed by the local authority, and disposed of through that authority as unclaimed property.

The process for forwarding mishandled baggage is described in:

- IATA Resolution 743a;
- IATA Recommended Practice 1743g, *Marking of Expedite Baggage for Security Control*.

SEC 3.6.9 (Intentionally open)

SEC 3.6.10 If the Operator conducts passenger flights, the Operator shall have a process to ensure transfer hold baggage for an international passenger flight *either*:

(i) Is subjected to screening prior being loaded into an 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 aircraft at the transfer airport.

SEC 3.6.11 If the Operator conducts domestic passenger flights, the Operator *should* have a process to ensure transfer hold baggage for a domestic passenger flight *either*:

(i) Is subjected to screening prior being loaded into an 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 aircraft at the transfer airport.

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).

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)**

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

SEC 3.9.1 (Intentionally open)

SEC 3.9.2 The Operator shall have a process to ensure merchandise and supplies introduced into security restricted areas controlled by the Operator are subject to appropriate security controls, which may include screening. **(GM)**

Guidance

Protection measures might include sealing, visual monitoring or any other method that will detect or physically prevent unauthorized interference.

4 Security Threat and Contingency Management

4.1 Threat Management

SEC 4.1.1 The Operator shall have a process to identify security threats directed against the Operator, to include:

(i) Assessment of associated risks;

(ii) Development of appropriate response measures. **(GM)**

Guidance

Procedures would typically 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.

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)**

Guidance

The contingency plan for response to an increased threat to operations is included in the Security Program.

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.

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)**

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 incidents involving:

(i) Threats or acts of unlawful interference;

(ii) Failure of implementation of security controls under the responsibility of the Operator.

SEC 4.3.2 The Operator shall have a process that ensures notification to the applicable aviation security authorities when an act of unlawful interference against the Operator has occurred. **(GM)**

Guidance

Procedures are in place to immediately notify local security and civil aviation authorities and to provide information relevant to threats and acts of unlawful interference. Contact information and checklists for this purpose are readily available.

Procedures typically specify an initial verbal notification followed by a written notification.

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