Section 2 — Flight Operations (FLT)

Applicability

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

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

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

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

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

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

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

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

General Guidance

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

1 Management and Control

1.1 Management System Overview

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)** ◄

Auditor Actions

☐ **Identified/Assessed** management system structure for flight operations.

☐ **Interviewed** manager(s) of flight operations.

☐ **Assessed** status of conformity with all other FLT management system ISARPs.

☐ **Other Actions** (Specify)

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 one or more designated managers in the flight operations organization that, if required, are post holders acceptable to the Authority, and have the responsibility for ensuring:

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

(ii) The management of safety and security risks to 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)** ◄

Auditor Actions

- ☐ **Identified** designated/nominated managers for flight operations.
- ☐ **Examined** job description of manager for flight operations (focus: authority/accountabilities/responsibilities for flight operations organization).
- ☐ **Interviewed** responsible manager of flight operations.
- ☐ **Interviewed** other managers in flight operations.
- ☐ **Other Actions** (Specify)

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 1.1.3. 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 1.1.3 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/approvals as required by the Authority, to include, as applicable:
  (a) Low visibility operations (LVO);
  (b) CAT II and/or III approaches;
  (c) Automatic landing, head-up display (HUD) or equivalent displays, vision systems operations and associated operational credit(s) granted (if such systems are used to gain operational benefit);
  (d) Use of GPS to conduct any approach;
  (e) ETOPS/EDTO, as applicable, including the applicable threshold/maximum diversion times established for each particular aircraft and engine combination;
  (f) RVSM operations;
  (g) MNPS/NAT HLA operations;
  (h) Area of Magnetic Unreliability (AMU);
  (i) Basic RNAV/RNP operations;
  (j) AR navigation specifications for PBN operations;
  (k) Performance-Based Communication and Surveillance (PBCS) operations;
  (l) Transport of dangerous goods as cargo;
  (m) Electronic Flight Bag (EFB) operations. **(GM)**

Auditor Actions

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

Guidance

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

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

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

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

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

Operators subject to laws or regulations of the State that prevent the issuance of an AOC consistent with the specifications of this provision and/or prohibit the description of authorized operations in a

manner consistent with the specifications of this provision may demonstrate an equivalent method of ensuring the specifications of this provision are satisfied.

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

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

1.3 Accountability, Authorities and Responsibilities

FLT 1.3.1

The Operator shall ensure the flight operations management system defines the safety accountability, 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 regarding risk tolerability with respect to the safety and/or security of flight operations;

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

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

Auditor Actions

☐ **Identified/Assessed** defined safety/security accountability/authorities/responsibilities for management/non-management personnel in flight operations (focus: definitions apply to personnel throughout flight operations).

☐ **Interviewed** responsible manager in flight operations.

☐ **Examined** job descriptions of selected management/non-management personnel (focus: definition of accountability/authorities/responsibilities for roles/positions in flight operations).

☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure operational personnel required to perform functions relevant to the safety and security of aircraft operations are identified, their accountability, authorities and responsibilities are defined by the operator and communicated throughout the flight operations organization. Additionally, the provision addresses, as a minimum, the accountability, 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, for expanded information regarding accountability, authority and responsibility as applicable to management and non-management personnel.

FLT 1.3.2

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

(i) Fleet operations;

(ii) Line operations;

(iii) Documentation control;

(iv) Flight crew training;

(v) Operations engineering;

(vi) Flight crew scheduling;

(vii) Accident prevention and flight safety;

(viii) Human resources;
(ix) Quality assurance;
(x) Security. **(GM)**

Auditor Actions

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

Guidance

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

The specification in:

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

FLT 1.3.3

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

Auditor Actions

- ☐ **Identified/Assessed** processes for flight operations management system delegation of duties (focus: processes maintain managerial continuity during periods when managers are absent).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** example(s) of delegation of duties due to absence of managers.
- ☐ **Other Actions** (Specify)

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.

The intent of this provision is for an operator to have a process or procedure that ensures a specific person (or perhaps more than one person) is identified to assume the duties of any operational manager that is or is expected to be, for any reason, unable to accomplish assigned work duties.

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

Refer to the guidance associated with ORG 1.3.2, located in ISM Section 1, which addresses the performance of work duties and the use of telecommuting technology and/or being on call and continually contactable.

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)** ◄

Auditor Actions

- ☐ **Identified** positions within flight operations with authority/responsibility for liaison with regulators/other external entities.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** selected flight operations manager(s) with authority for liaison external entities.
- ☐ **Examined** job description for selected management positions (focus: authority/responsibility for liaison with external entities).
- ☐ **Other Actions** (Specify)

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)**

Auditor Actions

- ☐ **Identified/Assessed** documents that assign responsibilities to the PIC.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** flight/cabin crew members.
- ☐ **Observed** line flight and flight simulator operations (focus: PIC demonstrates responsibility for safety of flight; ensures compliance with checklists).
- ☐ **Other Actions** (Specify)

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)**

Auditor Actions

- ☐ **Identified/Assessed** documents that describe flight crew composition and/or succession of command.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** flight crew members.
- ☐ **Observed** line flight operations (focus: designation of primary PIC).
- ☐ **Other Action** (Specify)

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)**

Auditor Actions

- ☐ **Identified/Assessed** OM description of flight crew composition and/or succession of command.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** flight crew members.
- ☐ **Observed** line flight operations (focus: flight crew responsibilities/duties performed as defined).
- ☐ **Other Action** (Specify)

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)**

Auditor Actions

- ☐ **Identified** policy that addresses willful/deliberate violation of flight operations policies/procedures by flight operations personnel.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected records of willful/deliberate violations (focus: policy is implemented in a consistent manner).
- ☐ **Other Actions** (Specify)

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 uses supernumeraries in the passenger cabin or supernumerary compartment of an aircraft that are required for the safety of operations, 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)**

Auditor Actions

☐ **Identified/Assessed** policies/procedures that define and address the use of supernumeraries.

☐ **Examined** defined duties and responsibilities for supernumeraries.

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

☐ **Examined** selected supernumerary training curricula and records.

☐ **Observed** line flight operations (focus: control/role/use of supernumeraries).

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Cabin Crew, Cabin Crew Member, Passenger, Supernumerary and Supernumerary Compartment. The definition of Supernumerary further defines and includes examples of supernumeraries, including those that are required for the safety of operations.

This provision is applicable only to supernumeraries that are required for safety of operations in accordance with FLT 2.2.44, which would include appropriately qualified fire watch/firefighting personnel in the cabin of aircraft being used to transport cargo in the passenger cabin, without passengers. The intent 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.

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 subsections 3.8, 3.13 and 3.14.

1.4 Communication and Coordination

FLT 1.4.1

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

(i) Personnel maintain an awareness of the SMS;

(ii) Safety-critical information is conveyed;

△ (iii) If applicable, external service providers are provided with information relevant to operations conducted. **[SMS](GM)** ◄

Auditor Actions

- ☐ **Identified/Assessed** communication system(s) in flight operations (focus: capability for communicating information relevant to operations within the flight operations organization).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** examples of information communication/transfer in flight operations.
- ☐ **Interviewed** selected non-management operational personnel in flight operations.
- ☐ **Other Actions** (Specify)

Guidance

Refer to Guidance associated with ORG 4.2.1 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)**

Auditor Actions

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

Guidance

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

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

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

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

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

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

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

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

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

FLT 1.4.3

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

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

Auditor Actions

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

Guidance

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

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

1.5 Provision of Resources

FLT 1.5.1

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)** ◄

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

Auditor Actions

☐ **Observed/Assessed** physical resources and services (focus: adequacy to meet flight operations needs).
☐ **Interviewed** responsible manager(s) in flight operations.
☐ **Other Actions** (Specify)

Guidance

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 1.5.2 located in ISM Section 1.

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

Implementation of this standard (i.e. adequacy of physical resources, work environment) is typically assessed through observations made by the auditor(s) during the course of the on-site audit.

FLT 1.5.2

△ The Operator shall have a selection process for management and non-management positions within the organization that require the performance of functions relevant to the safety or security of aircraft operations. Such process shall ensure candidates are selected on the basis of knowledge, skills, training and experience appropriate for the position. **(GM)** ◄

Auditor Actions

- ☐ **Identified/Assessed** standards and processes for selection of flight operations personnel in functions relevant to safety and security of aircraft operations.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** personnel that perform flight functions relevant to the safety or security of aircraft operations.
- ☐ **Other Actions** (Specify)

Guidance

Refer to Guidance associated with ORG 1.5.3 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 and non-technical competencies and skills, to include interpersonal skills;
(ii) Aviation experience;
(iii) Credentials and licenses;
(iv) Medical fitness;
(v) Security background;
(vi) Common language(s) fluency. **(GM)**

Auditor Actions

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

Guidance

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

The specification in:

- Item i) refers to technical competencies and skills that will vary with the requirements of the position in which the flight crew member will be employed. For example, an ab initio pilot will not necessarily have flying skills but will possess other skills and/or attributes necessary to succeed in training.
- Item iii) typically includes verification of authenticity of licenses.
- Item iv) could be assessed by a flight operations management interview, Human Resource interview and/or the conduct of a psychological analysis.
- Item vi) is applicable unless such check is performed or prohibited by the State.
- Item vii) refers to aviation English language fluency (where required for Air Traffic Control (ATC) communications) and sufficient fluency in the designated common language(s) necessary for ensuring effective communication (see FLT 3.1.1).

FLT 1.5.4

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)**

Auditor Actions

☐ **Identified/Assessed** the processes used for screening of candidates for the position of PIC.
☐ **Interviewed** responsible manager(s) in flight operations.
☐ **Examined** selected PIC candidate screening records.
☐ **Other Actions** (Specify)

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

Auditor Actions

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

Guidance

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

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

1.6 Documentation System

FLT 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. Such system shall ensure documentation:

(i) Meets all required elements specified in Table 1.1;

(ii) Contains legible and accurate information;

(iii) Is presented in a format appropriate for use in operations. **(GM)** ◄

Auditor Actions

- ☐ **Identified/Assessed** system(s) for management and control of documentation/data used in flight operations (focus: applicable system elements as specified in ORG Table 1.1; management/control of OM, Training Manual, other specified documents and the onboard library).
- ☐ **Interviewed** responsible manager in flight operations.
- ☐ **Examined** selected parts of the OM/other documents/data used in flight operations.
- ☐ **Interviewed** person(s) responsible for flight operations documentation management/control process(es).
- ☐ **Traced** life of selected OM or Training Manual revision from inception to publication to obsolescence.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Documentation, Electronic Documentation, Ground Proximity Warning System (GPWS), Master Minimum Equipment List (MMEL), Minimum Equipment List (MEL), Onboard Library and Operations Manual (OM) and Paper Documentation.

Refer to ORG 2.5.1 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 1.6.3 for the description of additional external documents subject to management and/or control.

Required manuals and documents may be carried on board by the flight crew. Also, 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 also be contained in an EFB device or system used in accordance with FLT 3.5.3.

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 (Intentionally open)

FLT 1.6.3

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

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

(ii) As applicable, relevant ICAO Standards and Recommended Practices (SARPS), manuals, regional supplementary procedures and/or circulars;

(iii) Airworthiness Directives (ADs);

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

(v) State-approved or State-accepted Aircraft Flight Manuals (AFM);

(vi) Manufacturer's Aircraft Operating Manuals (AOMs), including performance data, weight and balance data/manuals, checklists and MEL/CDL;

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

Auditor Actions

☐ **Identified/Assessed** system(s) for management and control of documentation and data used in flight operations (focus: system includes management/control of specified documents from external sources).

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

☐ **Examined** selected documents from external sources (focus: application of management/control elements).

☐ **Other Actions** (Specify)

Guidance

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

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

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

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

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

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

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

△ **FLT 1.6.4** (Intentionally open)

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)**

Auditor Actions

- ☐ **Identified/Assessed** the document that describes the onboard library.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: content/accessibility of onboard library).
- ☐ **Other Actions** (Specify)

Guidance

Refer to Table 2.1 for specifications related to accessing performance calculations via telecom systems (e.g. ACARS) in lieu of onboard documentation.

1.7 Operations Manual

FLT 1.7.1

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

Auditor Actions

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

Guidance

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

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

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)**

Auditor Actions

- ☐ **Identified** common language(s) designated in accordance with FLT 3.1.1.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected parts of OM that address flight crew duties.
- ☐ **Observed** line flight operations (focus: OM crew duties/responsibilities published in designated common language).
- ☐ **Other Actions** (Specify)

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) If applicable, any differences from procedures and checklists provided by the manufacturer(s) are based on operational considerations. **(GM)**

Auditor Actions

☐ **Identified/Assessed** process used to develop flight crew checklists and procedures.

☐ **Identified** specific parts of OM relevant to flight crew.

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

☐ **Observed** line flight operations (focus: flight crew use/interpretation of OM and related checklists).

☐ **Other Actions** (Specify)

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.

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) Retrieval;
(v) Protection, integrity and security;
(vi) Disposal, deletion (electronic records) and archiving. **(GM)** ◄

Auditor Actions

- ☐ **Identified/Assessed** system for management/control of operational records in flight operations (focus: system includes standardized processes as specified in standard).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected flight operations records.
- ☐ **Other Actions** (Specify)

Guidance

Refer to guidance associated with ORG 2.6.1 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)**

Auditor Actions

- ☐ **Identified/Assessed** the management and control system for operational records in flight operations.
- ☐ **Interviewed** the responsible manager(s) in flight operations.
- ☐ **Examined** selected flight crew qualification records (focus: fulfilment of requirements in Table 2.3, successful/unsuccessful flight crew evaluations).
- ☐ **Other Actions** (Specify)

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 uses an electronic system for the management and control of flight operations records, the Operator shall ensure the system provides for a scheduled generation of backup record files. **(GM)** ◄

Auditor Actions

- ☐ **Identified/Assessed** process for backup of electronic flight operations records (focus: system defines schedule for periodic file backup).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected record(s) of backup files for electronic records.
- ☐ **Other Actions** (Specify)

Guidance

Refer to Guidance associated with ORG 2.6.2 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;

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

Auditor Actions

- ☐ **Identified/Assessed** quality assurance program in flight operations (focus: role/purpose within organization/SMS; definition of audit program scope/objectives; description of program elements/procedures for ongoing auditing of management/operational areas).
- ☐ **Interviewed** responsible quality assurance program manager.
- ☐ **Interviewed** selected operational managers (focus: interface with quality assurance program).
- ☐ **Examined** selected flight operations audit reports (focus: audit scope/process/organizational interface).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Quality Assurance (QA).

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.

Refer to Guidance associated with ORG 2.1.1 located in ISM Section 1 for typical audit program requirements.

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 to meet regulatory and management system requirements;

(ii) Conducted within the scheduled interval. **(GM)** ◄

Auditor Actions

- ☐ **Identified/Assessed** quality assurance audit planning process in flight operations (focus: audits planned/scheduled/conducted in accordance with applicable internal/external requirements).
- ☐ **Identified/Assessed** audit resources (focus: availability of sufficient auditors/other resources to accomplish audit plan).
- ☐ **Interviewed** Quality Assurance Program Manager.
- ☐ **Crosschecked** audit plan with selected audit reports, to verify adherence to plan (focus: audits conducted in accordance with audit plan).
- ☐ **Other Actions** (Specify)

Guidance

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

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

Refer to Guidance associated with ORG 2.1.5 located in ISM Section 1.

FLT 1.10.3

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

Auditor Actions

- ☐ **Identified/Assessed** process for management review of flight operations quality assurance issues (focus: continual improvement of quality assurance program).
- ☐ **Interviewed** responsible quality assurance program manager.
- ☐ **Examined** selected records/documents of management review of flight operations quality assurance program issues (focus: specific issues/changes identified and implemented to improve quality assurance program).
- ☐ **Other Actions** (Specify)

Guidance

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

Refer to ORG 4.1.1, ORG 4.1.2 and associated guidance located in ISM Section 1.

FLT 1.10.4

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 areas of flight operations;

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

Auditor Actions

- ☐ **Identified/Assessed** process for addressing/closing flight operations audit findings.
- ☐ **Interviewed** responsible quality assurance program manager.
- ☐ **Examined** selected audit reports/records (focus: identification of root cause, development/implementation of corrective action, follow-up to evaluate effectiveness).
- ☐ **Other Actions** (Specify)

Guidance

Refer to Guidance associated with ORG 2.1.7 located in ISM Section 1.

1.11 Quality Control of Outsourced Operations and Products

FLT 1.11.1A

If the Operator has external service providers conduct outsourced flight operations functions, the Operator *should* ensure a service provider selection process is in place that ensures:

(i) Relevant safety and security selection criteria are established;

(ii) Service providers are evaluated against such criteria prior to selection. **(GM)** ◄

Auditor Actions

☐ **Identified/Assessed** selection process for external service providers.

☐ **Interviewed** responsible manager in flight operations.

☐ **Examined** selected records/documents that demonstrate application of the selection process.

☐ **Other Actions** (specify)

Guidance

The intent of this provision is for an operator to define relevant safety and security criteria for use in the evaluation and potential selection of flight operations service providers. This is the first step in the management of external service providers and would take place prior to the operator signing an agreement with a provider. The process need be applied only one time leading up to the selection of an individual service provider.

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

FLT 1.11.1B

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 the application of specific documented requirements 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)** ◄

Auditor Actions

☐ **Identified/Assessed** processes for contract/agreement production/execution with external service providers that conduct outsourced flight operations functions.

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

☐ **Examined** selected flight operations outsourcing contracts/agreements (focus: inclusion of or reference to specific requirements applicable to external service providers).

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Operational Function (Aircraft Operations) and Outsourcing.

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.

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

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)** ◄

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

Auditor Actions

- ☐ **Identified/Assessed** processes used for monitoring external flight operations service providers (focus: monitoring process ensures provider fulfils applicable safety/security requirements).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected records/reports resulting from monitoring of flight operations service providers (focus: monitoring process ensures provider fulfils applicable safety/security requirements).
- ☐ **Other Actions** (Specify)

Guidance

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

The intent of this provision is to ensure operators that outsource flight operations functions) 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 processes to ensure data, equipment or other operational products relevant to the safety and security of aircraft operations that are purchased or otherwise acquired from an external vendor or supplier (other than electronic data products as specified in FLT 4.2.6 and FLT 4.2.7) meet the product technical requirements specified by Operator prior to being used in the conduct of operations. **(GM)** ◄

Auditor Actions

- ☐ **Identified/Assessed** acceptance processes for ensuring acquired products used in flight operations meet technical requirements.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected product acceptance records (focus: products meet flight operations technical requirements).
- ☐ **Other Actions** (Specify)

Guidance

The specifications of this provision address data, equipment or products that directly affect aircraft, flight deck, or cabin operational safety. Such data or products typically include 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.

Terrain and obstacle data product integrity is addressed in FLT 4.2.7.

Refer to guidance associated with ORG 2.3.1 located in ISM Section 1.

FLT 1.11.4 (Intentionally open)

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)** ◄

Auditor Actions

- ☐ **Identified/Assessed** auditing processes used for monitoring external flight operations service providers.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected records/reports resulting from auditing of flight operations service providers (focus: audit process ensures provider is fulfilling applicable safety/security requirements).
- ☐ **Other Actions** (Specify)

Guidance

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

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

1.12 Safety Management

Risk Management

FLT 1.12.1

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

Auditor Actions

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

Guidance

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

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

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

FLT 1.12.2

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

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

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

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

Assessment Tool

Desired Outcome

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

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

- Number and type of analyzed hazards and corresponding risks.
- Means used for recording risks and mitigation (control) actions.
- Safety data used for the identification of hazards.

Effectiveness Criteria

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

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

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

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

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

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

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

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

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

Auditor Actions

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

Guidance

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

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

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

- Weather (e.g. adverse, extreme and space);
- Geophysical events (e.g. volcanic ash, earthquakes, tsunamis);
- Operations in airspace affected by armed conflict (i.e. Conflict Zones);
- ATM congestion;
- Mechanical failure;
- Geography (e.g. adverse terrain, large bodies of water, polar);
- Airport constraints (e.g. isolated, runway closure, RFFS capability);
- Alternate airport selection, specification and availability at the estimated time of use;
- Preflight fuel planning and in-flight fuel management;

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

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

Operational Reporting

FLT 1.12.3

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

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

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

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

Auditor Actions

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

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

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

☐ **Interviewed** selected flight crew members.

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

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

☐ **Other Actions** (Specify)

Guidance

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

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

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)** ◄

Auditor Actions

- ☐ **Identified/Assessed** confidential safety reporting system in flight operations (focus: system urges/facilitates reporting of events/hazards/safety concerns caused by humans; report/reporters are de-identified; includes analysis/action to validate/address reported hazards/safety concerns).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** records of selected flight operations confidential safety reports (focus: report/reporter de-identification; analysis/follow-up to identify/address reported hazards/safety concerns).
- ☐ **Other Actions** (Specify)

Guidance

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

Safety Performance Monitoring and Management

FLT 1.12.5

The Operator shall have processes in the flight operations organization for setting safety performance indicators (SPIs) and, as applicable, safety performance targets (SPTs) as means to monitor its safety performance, the achievement of its safety objectives and to validate the effectiveness of safety risk controls. **[SMS] (GM)** ◄

Auditor Actions

- ☐ **Identified/Assessed** processes for setting SPIs and SPTs in flight operations (focus: processes define the development and implementation of SPIs and SPTs that are aligned with safety objectives).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected SPIs and SPTs (focus: SPIs and SPTs are being used to monitor operational performance toward effectiveness of risk controls and achievement of safety objectives).
- ☐ **Examined** records/documents that identify tracking of flight operations SPIs and SPTs (focus: tracking used to assess/monitor operational safety performance, assess/validate risk control effectiveness).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Safety Assurance, Safety Objective, Safety Performance Indicator (SPI) and Safety Performance Target (SPT).

Setting SPIs and SPTs that are consistent with the operator's safety objectives is an element of the Safety Assurance component of the SMS framework.

SPIs are used by an operator to track and compare its operational performance against the achievement of its safety objectives and to focus attention on the performance of the organization in managing operational risks and maintaining compliance with relevant regulatory requirements.

SPIs are usually specifically identified occurrences, conditions or parameters used for monitoring and assessing safety performance, Examples in flight operations could include the number of 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.

SPTs define short-term and medium-term safety performance management desired achievements. They act as ‘milestones’ that provide confidence that the organization is on track to achieving its safety objectives and provide a measurable way of verifying the effectiveness of safety performance management activities. The setting of SPTs is normally accomplished after considering what is realistically achievable and, where historical trend data are available, the recent performance of the particular SPI.

It is not always necessary or appropriate to set or define SPTs as there could be some SPIs that are better monitored for trends rather than against a targeted number. Safety reporting is an example of when having a target could either discourage people not to report (if the target is not to exceed a number) or to report trivial matters to meet a target (if the target is to reach a certain number).

Refer to Guidance associated with ORG 1.4.1 (safety objectives) and ORG 1.4.2 (SPIs and SPTs) located in ISM Section 1.

2 Training and Qualification

General Guidance

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

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

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

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

2.1 Training and Evaluation Program

General

FLT 2.1.1A

The Operator shall have a training and evaluation program, approved or accepted by the Authority, that consists of ground and flight training and, when applicable, evaluations to ensure flight crew members are competent to perform assigned duties. The program shall address traditional and, if applicable, advanced, alternative or evidence-based training and qualification, and ensure training

and evaluation is conducted for each type of aircraft in the fleet. Such program shall also, as a minimum, address:

(i) Initial qualification;
(ii) Continuing qualification;
(iii) Re-qualification;
(iv) As applicable, aircraft transition or conversion;
(v) Upgrade to PIC;
(vi) As applicable, other specialized training requirements, including those associated with operations authorized in the AOC;
(vii) As applicable, each traditional training program requirement that is replaced by a requirement under an Advanced Qualification Program (AQP), Alternative Training and Qualification Program (ATQP) or Evidence-based Training (EBT) program. **(GM)**

Auditor Actions

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

Guidance

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

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

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

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

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

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

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

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

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

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

FLT 2.1.1B

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

Auditor Actions

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

Guidance

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

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

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

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

FLT 2.1.2

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

Auditor Actions

- ☐ **Identified/Assessed** requirement for objectivity in flight crew training/evaluation program.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** selected instructors/evaluators (focus: evaluation criteria/methodology).
- ☐ **Examined** selected instructor/evaluator job descriptions.

- ☐ **Observed** flight simulator operations (focus: objectivity; no undue external interference in training/evaluation).
- ☐ **Other Actions** (Specify)

Guidance

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

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

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

FLT 2.1.3

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

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

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

Auditor Actions

- ☐ **Identified/Assessed** methodology for introduction of specified new elements into flight crew training/evaluation program.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected training/qualification course curricula/syllabi (focus: examples of new elements as specified).
- ☐ **Observed** flight simulator operations (focus: training/evaluation reflects current policies/procedures/equipment/aircraft modifications).
- ☐ **Other Actions** (Specify)

Guidance

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

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

FLT 2.1.4

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

Auditor Actions

- ☐ **Identified/Assessed** regulatory approval, process for monitoring/continual improvement of distance learning in flight crew training/evaluation program.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected distance learning/qualification course development records (focus: monitoring/continual improvement).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Distance Learning.

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

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 Table 2.2. **(GM)**

Auditor Actions

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

Guidance

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

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

FLT 2.1.11 (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)**

Auditor Actions

- ☐ **Identified/Assessed** flight crew training manual, regulatory approval of standards.
- ☐ **Interviewed** the responsible manager(s) in flight operations.
- ☐ **Examined** selected parts of training manual (focus: content includes specified standards/requirements).
- ☐ **Examined** training/qualification records of selected flight crew members (focus: application of training manual standards/requirements in flight crew training).
- ☐ **Other Actions** (Specify)

Guidance

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

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

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

- Heading
- Airspeed
- Height/altitude
- Course tracking

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

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

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

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

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

FLT 2.1.13 (Intentionally open)

FLT 2.1.14

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

Auditor Actions

- ☐ **Identified/Assessed** requirement for use of authorized documents by instructors/evaluators/line check airmen/flight crew members in flight crew training/evaluation program.
- ☐ **Interviewed** the responsible manager(s) in flight operations.

- ☐ **Examined** selected training/qualification course curricula/syllabi (focus: identification/use of authorized documents).
- ☐ **Observed** flight simulator operations (focus: use of authorized documents in training/evaluation).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure 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 have standards that ensure 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) Are periodically evaluated to ensure compliance with applicable training resource standards.

Auditor Actions

- ☐ **Identified/Assessed** standards for training facilities/devices/equipment/course materials (focus: standards ensure training resources are appropriately certified and approved, periodically evaluated to ensure compliance with training resource standards).
- ☐ **Interviewed** the responsible manager(s) in flight operations.
- ☐ **Examined** selected records associated with specific training resources (focus: training resources are certified and approved, evaluated to ensure compliance with applicable standards).
- ☐ **Observed** flight simulator operations (focus: specified training resources meet required standards).
- ☐ **Other Actions** (Specify)

FLT 2.1.20

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

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

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

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

Auditor Actions

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

Guidance

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

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

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

FLT 2.1.21

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

Auditor Actions

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

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)**

Auditor Actions

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

Guidance

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

FLT 2.1.28

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

Auditor Actions

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

Guidance

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

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

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) If the Operator conducts training flights, dangers associated with simulating system failures in flight;
  (h) As applicable, the simulated or actual weather and environmental conditions necessary to conduct each simulator or aircraft training/evaluation session to be administered.

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

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

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

Auditor Actions

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

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

Guidance

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

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

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

FLT 2.1.36

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

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

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

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

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

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

Auditor Actions

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

Guidance

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

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

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

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

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

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)**

Auditor Actions

- ☐ **Identified/Assessed** standards/requirements for course materials/training aids/devices/equipment in flight crew training/evaluation program.
- ☐ **Interviewed** the responsible manager(s) in flight operations.
- ☐ **Observed/Assessed** selected course materials/training aids/devices/equipment (focus: consistency with configuration of fleet(s)).
- ☐ **Observed** flight simulator operations (focus: simulator configuration consistent with aircraft type).
- ☐ **Other Actions** (Specify)

Guidance

Differences in equipment configuration are normally 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)**

Auditor Actions

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

Guidance

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

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

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

FLT 2.1.47

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

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

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

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

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

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

Auditor Actions

- ☐ **Identified/Assessed** program elements for ZFTT in flight crew training/evaluation program; approval by State.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of applicable ZFTT program elements).
- ☐ **Observed** flight simulator operations (focus: simulators at level to support ZFTT).
- ☐ **Other Actions** (Specify)

Guidance

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

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

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

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

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

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

2.2 Training Elements

FLT 2.2.1–2.2.6 (Intentionally open)

FLT 2.2.7

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

(i) Duties and responsibilities;

(ii) Relevant state regulations;

(iii) Authorized operations;
(iv) Relevant sections of the OM. **(GM)**

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

Auditor Actions

- ☐ **Identified/Assessed** initial training/qualification course curriculum/syllabus (focus: operator familiarization training; definition of subjects addressed).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of operator familiarization training prior to assignment to line duties).
- ☐ **Observed** line flight operations (focus: flight crew demonstrates familiarity with operational responsibilities and requirements).
- ☐ **Other Actions** (Specify)

Guidance

This provision and many of the ensuing flight crew training provisions contain a Conformance Applicability (CA) Table. Refer to the General Guidance at the beginning of this Subsection 2, Training and Qualification, for a detailed description of the CA Table.

Training is applicable to all flight crew members.

Many operators refer to this training course as Basic Company Indoctrination.

FLT 2.2.8

The Operator shall ensure flight crew members complete practical training exercises:

(i) In the use of emergency and safety equipment required to be on board the aircraft;
(ii) That address emergency evacuation and coordination among flight crew members and, as applicable, cabin crew members and/or supernumeraries required for the safety of operations. **(GM)**

Conformance Applicability				
Sub-spec	**Specific to Aircraft Type**	**Included in Initial/Transition/ Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
(i)	Yes	Yes	Yes (every 12 months)	Yes
(ii)	Yes	Yes	Yes (every 36 months)	Yes

Auditor Actions

- ☐ **Identified/Assessed** requirement for practical training exercises in flight crew training/evaluation program.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT, (focus continuing qualification recurrent schedule for practical training exercises).
- ☐ **Interviewed** responsible manager(s) in flight operations.

- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: inclusion of initial/recurrent practical training exercises as specified).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of practical training exercises in initial/recurrent training).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Supernumerary, which defines and includes examples of supernumeraries, including those that are required for the safety of operations.

The principal intent of the specifications of this provision is to ensure flight crew members have a working knowledge of the emergency and safety equipment required to be on board an aircraft. Training exercises typically address the operation of safety and emergency equipment carried on the flight deck, emergency exits and slides, flotation devices (e.g. life rafts, life vests) and locating equipment (e.g. ELT).

The extent to which training exercises must include the actual use or manipulation of such equipment is typically determined by the operator in conjunction with requirements of the Authority. Additionally, since the routine manipulation or use of certain required items may pose an occupational health hazard, such training is typically accomplished using mock-ups or non-functioning replicas.

Training is applicable to all flight crew members.

Supernumeraries as specified in item ii) are those that are required for the safety of operations in accordance with FLT 2.2.44.

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

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.9

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. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Initial/Transition/ Conversion Training**	**Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes*	Yes*	Yes (every 36 months)	Yes
* This training may be provided as a complete package or, if applicable, tailored to address aircraft type or crew position requirements that are different from the individual's previous joint training with cabin crew members.			

Auditor Actions

- ☐ **Identified/Assessed** requirement for flight-cabin crew joint training activities/exercises in flight crew training/evaluation program.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for flight-cabin crew joint training activities/exercises).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus inclusion of initial/recurrent flight-cabin crew joint training in activities/exercises as specified).

- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of flight-cabin crew joint training activities/exercises).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Passenger Flight.

FLT 2.1.1B addresses overall AQP/ATQP/EBT 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 under either of the following conditions:

- When approved by the Authority under an AQP, ATQP or EBT program, or
- When the flight crew training and cabin crew training occur at different geographical locations.

When training is delivered independently under the above conditions, learning objectives are normally 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.

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.10

The Operator shall ensure flight crew members receive training in all aspects of aircraft performance. Such training shall include:

(i) Weight/mass and balance;
(ii) Takeoff, climb, cruise, approach and landing performance;
(iii) Obstacle clearance;
(iv) Fuel planning;
(v) Diversion planning;
(vi) Effect of inoperative or missing components (MEL/CDL);
(vii) If applicable, engine-out driftdown. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes	Yes	No	No

Auditor Actions

- ☐ **Identified/Assessed** requirement for training in aircraft performance in flight crew training/evaluation program.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial training/qualification course curricula/syllabi (focus: aircraft performance training; definition of aspects/subjects addressed).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of initial aircraft performance training).
- ☐ **Other Actions** (Specify)

Guidance

Training is applicable to all flight crew members.

The specification in item vi) might not apply to ferry flights or maintenance flights.

The specification in item vii) is applicable when engine-out performance is operationally limiting.

FLT 2.2.11

The Operator shall ensure flight crew members complete training and an evaluation in aircraft systems and limitations, to include a demonstration of competence in the operation of aircraft systems. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes	Yes	Yes (every 36 months)	Yes

Auditor Actions

- ☐ **Identified/Assessed** requirement for training/evaluation in aircraft systems/limitations in flight crew training/evaluation program.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for training/evaluation in aircraft systems/limitations).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: training/evaluation in aircraft systems limitations/operation).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of training/evaluation in aircraft systems limitations/operation).
- ☐ **Observed** flight simulator operations (focus: training/evaluation in flight crew operation of aircraft systems/limitations).
- ☐ **Other Actions** (Specify)

Guidance

Training and evaluation is applicable to all flight crew members.

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

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.12

If the Operator transports dangerous goods as cargo, the Operator shall ensure flight crew members complete training and an evaluation in dangerous goods. **(GM)**.

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes*	Yes*	Yes (every 24 months)	Yes
* This training may be provided as a complete package or, if applicable, tailored to address aircraft type or crew position requirements that are different from the individual's previous training in dangerous goods.			

Auditor Actions

- ☐ **Identified/Assessed** requirement for training/evaluation in dangerous goods in flight crew training/evaluation program.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for training/evaluation in dangerous goods).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: dangerous goods training/evaluation; definition of specific aspects/subjects addressed).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of training/evaluation in dangerous goods in initial/recurrent training).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Dangerous Goods Regulations (DGR).

Training and evaluation is applicable to all flight crew members.

The curriculum for dangerous goods training is determined by the operator and may vary depending on specific responsibilities and duty function(s).

Recurrent training in dangerous goods is typically completed within a validity period that expires 24 months from the previous training to ensure knowledge is current, unless a shorter period is defined by a competent authority. However, when such recurrent training is completed within the final 3 months of the 24-month validity period, the new validity period may extend from the month on which the recurrent training was completed until 24 months from the expiry month of the current validity period. If such recurrent training is completed *prior* to the final three months (or 90 days) of the validity period, the new validity period would extend 24 months from the month the recurrent training was completed.

Refer to DGR 1.5 and Appendix H.6 for guidance that includes adapted task lists for well-defined job functions.

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

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.13

If the Operator does not transport dangerous goods as cargo, the Operator shall ensure flight crew members complete training and an evaluation in dangerous goods. **(GM)**.

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes*	Yes*	Yes (every 24 months)	Yes
* This training may be provided as a complete package or, if applicable, tailored to address aircraft type or crew position requirements that are different from the individual's previous training in dangerous goods.			

Auditor Actions

- ☐ **Identified/Assessed** requirement for training/evaluation in dangerous goods in flight crew training/evaluation program.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for training/evaluation in dangerous goods).

- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: dangerous goods training/evaluation; definition of aspects/subjects addressed).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of training/evaluation in dangerous goods in initial/recurrent training).
- ☐ **Other Actions** (Specify)

Guidance

Training and evaluation is applicable to all flight crew members.

The curriculum for dangerous goods training is determined by the operator and may vary depending on specific responsibilities and duty function(s).

Recurrent training in dangerous goods is typically completed within a validity period that expires 24 months from the previous training to ensure knowledge is current, unless a shorter period is defined by a competent authority. However, when such recurrent training is completed within the final 3 months of the 24-month validity period, the new validity period may extend from the month on which the recurrent training was completed until 24 months from the expiry month of the current validity period. If such recurrent training is completed prior to the final three months (or 90 days) of the validity period, the new validity period would extend 24 months from the month the recurrent training was completed.

Refer to DGR 1.5 and Appendix H.6 for guidance that includes adapted task lists for well-defined job functions.

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

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.14

The Operator shall ensure flight crew members complete training and, when applicable, an evaluation in crew resource management (CRM), including Threat and Error Management, using facilitators that have been trained in human performance and human factors principles. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes*	Yes*	Yes (every 36 months)	Yes
* This training may be provided as a complete package or, if applicable, tailored to address aircraft type or crew position requirements that are different from the individual's previous CRM training.			

Auditor Actions

- ☐ **Identified/Assessed** flight requirements for training/evaluation in CRM, use of CRM facilitators trained in human performance/factors principles in crew training/evaluation program.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for training/evaluation in CRM, use of CRM facilitators).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: training/evaluation in CRM, threat/error management).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of training/evaluation in CRM in initial/recurrent training).

- ☐ **Observed** line flight operations (focus: application of CRM/TEM principles/skills to flight management).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Crew Resource Management (CRM), CRM Facilitator, Human Performance, Human Factors Principles and Threat and Error Management.

CRM training is applicable to all flight crew members.

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

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.15

If the Operator uses 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)**

Auditor Actions

- ☐ **Identified/Assessed** requirement for resource management training that addresses issues of mutual concern to flight crew/FOO personnel.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** flight crew/FOO training curriculum/syllabus (focus: inclusion of subjects that address coordination/human factors involved in joint operational control).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of resource management training for flight crew/FOO personnel).
- ☐ **Other Actions** (Specify)

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/EBT 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. Such training and evaluation shall address, as applicable:

(i) Cold weather operations;

(ii) De-/anti-icing policies and procedures as specified in FLT 3.9.6;

(iii) Contaminated runway operations;

(iv) Thunderstorm avoidance. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes*	Yes*	Yes (every 36 months)	Yes
* This training may be provided as a complete package or, if applicable, tailored to address aircraft type or crew position requirements that are different from the individual's previous training in subjects associated with adverse weather and/or environmental conditions.			

Note: *Item ii) is applicable if the Operator conducts flights from any airport when conditions are conducive to ground aircraft icing.*

Auditor Actions

- ☐ **Identified/Assessed** requirement for training/evaluation in adverse weather/environmental conditions in flight crew training/evaluation program.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for training/evaluation in adverse weather/environmental conditions).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: training/evaluation in adverse weather/environmental conditions; definition of aspects/subjects addressed).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of training/evaluation in adverse weather/environmental conditions in initial/recurrent training).
- ☐ **Observed** flight simulator operations (focus: training/evaluation in operations in adverse weather/environmental conditions).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Contaminated Runway.

Training and evaluation is applicable to all flight crew members.

The specifications in this provision are related to the prevention of runway excursions and in-flight loss of control.

The intent of this provision is to ensure flight crew members receive recurrent training and an evaluation in the subjects associated with the adverse weather or environmental conditions they may encounter in operations.

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

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.16B

If the Operator conducts operations on routes that traverse active volcanic areas or in the terminal areas of airports in the vicinity of active volcanoes, the Operator shall ensure flight crew members complete training and an evaluation in such operations. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes*	Yes*	No	No
* This training may be provided as a complete package or, if applicable, tailored to address aircraft type or crew position requirements that are different from the individual's previous training in operations on routes that traverse active volcanic areas or in the terminal areas of airports in the vicinity of active volcanoes.			

Auditor Actions

- ☐ **Identified/Assessed** requirement for training/evaluation in operations associated with potential volcanic ash in flight crew training/evaluation program.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for training/evaluation in operations associated with potential for volcanic ash).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: training in operations associated with potential for volcanic ash).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of training/evaluation in operations associated with potential for volcanic ash in initial/recurrent training).
- ☐ **Other Actions** (Specify)

Guidance

Training and evaluation is applicable to all flight crew members.

The intent of this provision is to ensure flight crew members receive training and an evaluation in the subjects associated with the adverse environmental conditions they might encounter in operations, to include the consequences of an inadvertent entry into a volcanic ash cloud or unanticipated volcanic eruptions along the route of flight. Such training and evaluation is designed to increase flight crew awareness and vigilance related to volcanic activity and emphasize the possibility that they may be the first to observe an eruption or be required to pass information related to a new eruption to the appropriate authorities for dissemination.

Additional information related to the risk management of flight operations with known or forecast volcanic ash contamination is contained in ICAO Doc 9974, *Flight Safety and Volcanic Ash*.

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

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.17

The Operator shall ensure flight crew members complete upset prevention and recovery training (UPRT). **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes*	Yes*	Yes (every 36 months)	Yes
* This training may be provided as a complete package or, if applicable, tailored to address aircraft type or crew position requirements that are different from the individual's previous UPRT.			

Auditor Actions

- ☐ **Identified/Assessed** requirement for training in procedures for aircraft upset recovery in flight crew training/evaluation program.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for training in procedures for aircraft upset recovery).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: training in procedures for aircraft upset recovery).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of upset recovery training/evaluation in initial/recurrent training).
- ☐ **Observed** flight simulator operations (focus: training in upset recovery).
- ☐ **Other Actions** (Specify)

Guidance

Training is applicable to all *pilot* crew members and typically addresses pilot flying (PF) and pilot monitoring (PM) duties.

Aircraft upset recovery training typically includes:

- Upset prevention;
- Factors leading to an upset or loss of control situation;
- Upset situation identification;
- Recovery techniques;
- Emphasis on aerodynamic factors present during the upset and the recovery.

Acceptable means of ground training may include video presentation(s), verbal instruction and/or group discussion.

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

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.

FLT 2.2.18 (Intentionally open)

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)**

Auditor Actions

- ☐ **Identified/Assessed** requirement for common language evaluation prior to assignment of operational duties for flight crew members/instructors/evaluators whose native language is not the common language.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** common language evaluation syllabus (focus: inclusion of demonstration of common language proficiency consistent with use in operations/operational duties).
- ☐ **Examined** selected flight crew member/instructor/evaluator training/qualification records (focus: completion of common language evaluation by applicable personnel prior to assignment to operational duties).
- ☐ **Observed** line flight and flight simulator operations (focus: instructor/crew use of designated common language).
- ☐ **Other Actions** (Specify)

Guidance

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

Evaluation is applicable to all flight crew members including foreign nationals and expatriates used as flight crew members, as well as instructors and evaluators used by the operator in the ground and flight training program.

Such evaluation of proficiency is typically 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)**

Auditor Actions

- ☐ **Identified/Assessed** requirement for English language evaluation for flight crew members that will operate flights/communicate with ATC in areas where the primary language of ATC is English.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** initial training/qualification course curriculum/syllabus (focus: demonstration of English language proficiency level necessary for effective ATC communications).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of demonstration of English language proficiency).
- ☐ **Observed** line flight operations (focus: English language proficiency in communication with ATC).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure a pilot who is required to communicate with air traffic control in English 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) years based on the proficiency level of the applicant. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** requirement for English language evaluation for flight crew members that have not previously demonstrated expert English language proficiency and operate flights/communicate with ATC in areas where the primary language of ATC is English.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** initial training/continuing qualification course curriculum/syllabus (focus: demonstration of English language proficiency necessary for effective ATC communications, periodic demonstration every 3-6 years based on demonstrated proficiency level).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of initial/periodic demonstration of English language proficiency).
- ☐ **Other Actions** (Specify)

Guidance

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

Such evaluation applies to each operating pilot member of the flight crew, as required by the AFM.

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

Periodic demonstration of language proficiency is not required of individuals who have previously demonstrated an expert level of English language proficiency. Such individuals are those whose native language is English and those whose native language is not English, but who understand English and speak English that is easily understood, even if spoken with a dialect or accent.

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

In order to conform to these specifications, an operator may periodically evaluate Individuals that have not previously demonstrated expert English language proficiency in accordance with *either*:

- ICAO Annex 1.2.9.6, 1.2.9.7 and ICAO Annex 1, Attachment 1.1 (ICAO Language Proficiency Rating Scale), *or*
- Any State-approved or State-accepted method of English language proficiency evaluation that establishes a minimum proficiency level, defines an evaluation interval and requires pilot flight crew members to demonstrate a level of English language proficiency sufficient to ensure effective communication during the performance of duties.

Guidance for the development of language proficiency plans and associated interim risk mitigation measures related to delayed implementation may be found in ICAO Resolution A36-11 dated 26 October 2007.

FLT 2.2.23 (Intentionally open)

FLT 2.2.24

If the Operator transports dangerous goods on cargo aircraft and assigns flight crew members duties and responsibilities related to the preflight inspection of accessible dangerous goods, the Operator shall ensure applicable flight crew members complete training and an evaluation in the preflight inspection of accessible dangerous goods during initial ground training. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** requirement for flight crew training in preflight inspection of accessible dangerous goods.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial training/qualification course curricula/syllabi (focus: ground training in preflight inspection of dangerous goods).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of initial ground training in preflight inspection of dangerous goods).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Cargo Aircraft.

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

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

- Accessible dangerous goods are visually intact;
- If applicable, the securing and preflight of any fire protection equipment;
- Accessible dangerous goods are loaded properly, to include the proper segregation of dangerous goods.

FLT 2.2.25

If the Operator delegates the accomplishment of the exterior aircraft inspection (walkaround) to qualified individuals as specified in FLT 3.8.6A (iii), the Operator shall ensure such individuals complete training, as well as an evaluation, to ensure competence in the performance of any assigned duties or functions related to the exterior aircraft inspection. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes	Yes	Yes*	Yes
* Recurrent/Continuing qualification interval as defined by the Operator.			

Auditor Actions

- ☐ **Identified/Assessed** training program for individuals (other than flight crew members or licensed maintenance technicians) that perform exterior aircraft exterior inspections (focus: program includes initial/recurrent training and evaluation; includes type-specific training in the exterior aircraft inspection).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training course curricula/syllabi (focus: training addresses exterior inspection of aircraft types in operator's fleet; includes training in visual inspection of safety-critical areas of each aircraft type).

- ☐ **Examined** selected training/qualification records (focus: completion of initial/recurrent training and evaluation; applicable to aircraft types and individual duties/functions associated with exterior inspection).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Exterior Aircraft Inspection (Walkaround).

Exterior aircraft inspection training and evaluation is aircraft type-specific and typically addresses the following safety-critical areas:

- Blocked or damaged pitot/static ports;
- Locked or disabled flight controls (as applicable depending on aircraft type);
- Locked or disabled steering and/or landing gear systems;
- Landing gear strut compression;
- Tire pressure, wear and/or damage;
- Fluid leaks;
- Unlatched/open doors and access panels;
- Presence of frost, snow or ice on critical surfaces;
- Aircraft structural integrity (damage);
- Flight crew notification procedures;
- Any other safety-critical and/or aircraft type-specific items as defined by the aircraft manufacturer or operator.

FLT 2.2.26

The Operator shall ensure flight crew members complete training in normal and non-normal procedures and maneuvers. Such training shall address, as a minimum:

(i) Pilot Monitoring (PM) Pilot Flying (PF) and other flight crew division of duties (task sharing);
(ii) Positive transfer of aircraft control;
(iii) Consistent checklist philosophy;
(iv) Emphasis on a prioritization of tasks (e.g. “aviate, navigate, communicate”);
(v) Proper use of all levels of flight automation. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes	Yes	Yes (every 12 months)	Yes

Auditor Actions

- ☐ **Identified/Assessed** requirement for training in normal/non-normal procedures/maneuvers in flight crew training/evaluation program.
- ☐ **Identified/Assessed** in flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for training in normal/non-normal procedures/maneuvers).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: training in normal/non-normal procedures/maneuvers; definition of specific elements/subjects addressed).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of initial/recurrent training in the specified normal/non-normal procedures/maneuvers).

- ☐ **Observed** flight simulator operations (focus: training in normal/non-normal procedure/maneuvers).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Pilot Flying (PF) and Pilot Monitoring (PM).

Training is applicable to all flight crew members.

The intent of this provision is to set a training interval for normal and non-normal procedures, and additionally to ensure the training manual, curricula, lesson plans, or other guidance associated with such training addresses the specifications in items i) through v).

Division of flight crew duties, transfer of aircraft control, checklist use and prioritization of tasks are in accordance with the operator's policies for task sharing and as specified in FLT 3.11.18.

Proper use of automation levels is in accordance with the operator's automation policy and as specified in FLT 3.11.22.

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

Elements of training may be accomplished as part of ground, simulator, aircraft or line training.

The term *Pilot Monitoring (PM)* has the same meaning as the term *Pilot Not Flying (PNF)* for the purpose of applying the specifications of this provision.

The specification in item iv) refers to the following prioritization of tasks during any normal or abnormal situation or maneuver:

- Aviate: fly the aircraft in accordance with restrictions and limitations set forth in the OM;
- Navigate: guide the aircraft along the intended or appropriate route;
- Communicate: verbalize intentions to other crew members and ATC, as applicable.

The term “abnormal” is used to describe a condition or situation (e.g. abnormal airframe vibration, abnormal landing configuration).

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

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

The term “emergency” used alone refers to declarations and non-AOM procedures.

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.27

The Operator shall ensure flight crew members complete training and, when applicable, an evaluation, that includes a demonstration of competence in normal and non-normal procedures and maneuvers, to include, as a minimum, rejected takeoff, emergency evacuation, engine failure and/or those procedures and maneuvers specified in the Operator's AQP/ATQP/EBT as approved or accepted by the Authority. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes	Yes	Yes (every 12 months)	Yes*

Auditor Actions

- ☐ **Identified/Assessed** requirement for training/evaluation including a demonstration of competence in normal/non-normal procedures/maneuvers in flight crew training/evaluation program.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for training/evaluation in normal/non-normal procedures/maneuvers).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: training/evaluation in specified normal/non-normal procedures/maneuvers).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of initial/recurrent training/evaluation in the specified normal/non-normal procedures/maneuvers).
- ☐ **Observed** flight simulator operations (focus: training/evaluation in performance of normal/non-normal procedures/maneuvers).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to define the basic initial and subsequent recurrent training and evaluation cycles that ensure flight crew members are competent to perform normal and non-normal procedures and maneuvers. It is understood that competence in all potential normal and non-normal procedures may not be demonstrated annually but in accordance with a schedule that is acceptable to the Authority.

The modification of qualification intervals in accordance with an AQP, ATQP or EBT program requires conformity with FLT 2.1.1B.

Training and, when applicable, a demonstration of competence in specified normal and non-normal procedures and maneuvers is applicable to all *pilot* crew members.

Training and, when applicable, evaluation is accomplished as part of ground, simulator/aircraft and line training;

Line training is in normal procedures/maneuvers only.

An evaluation of competence in the normal and non-normal procedures and maneuvers specified is applicable when such procedures and/or maneuvers are stipulated by the operator and/or State in conjunction with State-approved or State-accepted training courses that require a method of evaluation. Such courses typically include:

- Type qualification;
- Transition (conversion);
- Upgrade to PIC;
- Re-qualification;
- Recurrent training.

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

All pilot flight crew members who receive training in the normal and non-normal procedures and maneuvers specified in this provision also demonstrate competence in such procedures and maneuvers in accordance with the applicable specifications of FLT 2.3.2.

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.28

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)**

Auditor Actions

- ☐ **Identified/Assessed** philosophy/requirements for preparing flight crew members for an evaluation in flight crew training/evaluation program.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** guidance for instructors/evaluators (focus: methodology for providing information to flight crew members in preparation for an evaluation).
- ☐ **Observed** flight simulator operations (focus: information provided to flight crew members in preparation for an evaluation).
- ☐ **Other Actions** (Specify)

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)**

Auditor Actions

- ☐ **Identified/Assessed** requirement for a final evaluation prior to a flight crew member commencing line flight training.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** syllabus for final evaluations of flight crew members prior to line flight training (focus: demonstration of skill/knowledge adequate to operate the aircraft at or above the standards stipulated in the training syllabus; definition of evaluation criteria).
- ☐ **Examined** selected flight crew member training/qualification records (focus: successful completion of final evaluation conducted by an evaluator prior to commencing line flight training).
- ☐ **Other Actions** (Specify)

Guidance

An evaluation in conjunction with Initial Type Qualification satisfies the specifications in this provision.

FLT 2.2.30

The Operator shall ensure flight crew members complete training in CRM skills, which may be accomplished as part of simulator, aircraft and/or line training, as applicable. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes*	Yes	Yes (every 12 months)	Yes
* This training may be provided as a complete package or, if applicable, tailored to address aircraft type or crew position requirements that are different from the individual's previous training in CRM skills.			

Auditor Actions

- ☐ **Identified/Assessed** requirements for training in CRM skills in flight crew training/evaluation program.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for CRM training).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: inclusion of CRM training in simulator/aircraft or during line flight training).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of initial/recurrent CRM training).
- ☐ **Observed** line flight and flight simulator operations (focus: training in application of CRM/TEM principles/skills).
- ☐ **Other Actions** (Specify)

Guidance

Training is applicable to all flight crew members.

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

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

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.31

The Operator shall ensure flight crew members complete a Line Operational Simulation (LOS) profile. Such training and/or evaluation shall be:

(i) Approved or accepted by the State;

(ii) A planned scenario administered in a line environment setting with specific CRM objectives where such non-technical skills are observed, debriefed upon completion and used for the performance assessment of the flight crew. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes	Yes	Yes (every 12 months)	Yes

Auditor Actions

- ☐ **Identified/Assessed** requirement for approved LOS in flight crew training/evaluation program.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for LOS).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** criteria for administration of LOS (focus: conducted as uninterrupted scenario in real-time line environment with planned CRM objectives, CRM skills observed/briefed at completion).
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: inclusion of LOS in simulator/aircraft or during line flight training).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of LOS in initial/recurrent training).
- ☐ **Observed** flight simulator operations (focus: training using LOS profile).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Line Operational Simulation (LOS), Line Oriented Evaluation (LOE), Line-Oriented Flight Training (LOFT) and Special Purpose Operational Training (SPOT).

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

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

LOS includes SPOT, LOE, and LOFT. Such scenarios incorporated into the training program satisfy the specifications of this provision.

LOS scenarios are conducted in a simulated “line environment” setting and are as standardized and scripted as possible. A simple menu of expected weather conditions and/or normal/non-normal procedures/maneuvers would not be acceptable as this would increase the subjectivity of the presentation.

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

- LOS profiles conducted in a generic simulation device or representative flight training device;
- An uninterrupted planned scenario in the aircraft with specific CRM objectives that include behavioral observation and assessment of crew performance, where such skills are observed and debriefed upon completion. This requires an operator to specify how the CRM objectives are set, evaluated and debriefed in a line environment.

The term “abnormal” is used to describe a condition or situation (e.g. abnormal airframe vibration, abnormal landing configuration).

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

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

The term “emergency” used alone refers to declarations and non-AOM procedures.

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.32

The Operator shall ensure flight crew members complete training and, when applicable, an evaluation, that includes a demonstration of competence, in wind shear avoidance and recovery from predictive and actual wind shear. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes	Yes	Yes (every 36 months)	Yes

Auditor Actions

- ☐ **Identified/Assessed** requirement for training/evaluation/demonstration of competence in wind shear avoidance/recovery from predictive/actual wind shear in flight crew training/evaluation program.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for wind shear training/evaluation).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: wind shear training/evaluation/demonstration of competence).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of initial/recurrent wind shear training/evaluation).
- ☐ **Observed** flight simulator operations (focus: training/evaluation in wind shear avoidance/recovery from predictive/actual wind shear).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Wind Shear.

The intent of this provision is to ensure training and evaluation occurs, as applicable, in the maneuvers specified within the intervals specified. Such training and evaluation can occur in conjunction with any State-approved or State-accepted training course.

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

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

Training is accomplished in a representative flight simulator approved for the purpose by the State.

Such evaluation of competence in the normal and non-normal procedures and maneuvers specified is applicable when such procedures and/or maneuvers are stipulated by the operator and/or State in conjunction with State-approved or State-accepted training courses that require a method of evaluation. Such courses typically include:

- Type qualification;
- Transition (conversion);
- Upgrade to PIC;
- Re-qualification;
- Recurrent training.

Training and evaluation of the non-normal procedures and maneuvers specified in this provision cannot be safely accomplished in an aircraft on a training flight (see FLT 2.2.38).

Operators that cannot conform to the specifications of this provision due to the non-existence of a representative flight simulator may demonstrate an alternative means of conforming to these specifications in accordance with FLT 2.2.41.

The additional ground and line training and evaluation used to satisfy the specifications of this provision and of FLT 2.2.41 in the absence of a representative flight simulator typically include a review of:

- Conditions conducive to wind shear;
- Effects on aircraft performance;

- Indications of wind shear presence;
- Avoidance and recovery techniques;
- Wind shear case studies or scenarios.

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.33

The Operator shall ensure flight crew members complete training and an evaluation, which includes a demonstration of competence in terrain awareness procedures and maneuvers. Such training and evaluation shall include:

(i) Knowledge and conduct of associated procedures;

(ii) Response to GPWS alerts and warnings;

(iii) The avoidance of Controlled Flight Into Terrain (CFIT). **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes	Yes	Yes (every 36 months)	Yes

Auditor Actions

☐ **Identified/Assessed** requirement for training/evaluation/demonstration of competence in terrain awareness procedures/maneuvers in flight crew training/evaluation program.

☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for training/evaluation in terrain awareness procedures/maneuvers).

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

☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: training/evaluation in terrain awareness procedures/maneuvers; definition of subjects addressed).

☐ **Examined** selected flight crew member training/qualification records (focus: completion of initial/recurrent training/evaluation in terrain awareness procedures/maneuvers).

☐ **Observed** line flight and flight simulator operations (focus: terrain awareness procedures/maneuvers).

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Controlled Flight into Terrain (CFIT).

The specifications in this provision are directly related to the prevention of controlled flight into terrain (CFIT).

The intent is to ensure training and evaluation occurs, as applicable, in the maneuvers specified within the intervals specified. Such training and evaluation can occur in conjunction with any State-approved or State-accepted training course.

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

Training and evaluation in the specified normal and non-normal procedures and maneuvers in a representative flight simulator approved for the purpose by the State is applicable to *pilot* crew members.

Training and evaluation of the non-normal procedures and maneuvers specified in this provision cannot be safely accomplished in an aircraft on a training flight (see FLT 2.2.38).

Operators that cannot conform to the specifications of this provision due to the non-existence of a representative flight simulator may demonstrate an alternative means of conforming to these specifications in accordance with FLT 2.2.41.

The additional ground and line training and evaluation used to satisfy the specifications of this provision and of FLT 2.2.41 in the absence of a representative flight simulator typically includes a review of:

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

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.34

If the Operator conducts low visibility operations (LVO), the Operator shall ensure flight crew members complete training and an evaluation that includes a demonstration of competence in such operations, as well as operations with inoperative ground based and/or aircraft equipment. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes*	Yes	Yes (every 12 months)	Yes
* This training may be provided as a complete package or, if applicable, tailored to address aircraft type or crew position requirements that are different from the individual's previous training in LVO.			

Auditor Actions

- ☐ **Identified/Assessed** requirement for training/evaluation/demonstration of competence in LVO and/or operations with inoperative ground based/aircraft equipment in flight crew training/evaluation program.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for training/evaluation in LVO and/or operations with inoperative ground based/aircraft equipment).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: training/evaluation in LVO and/or operations with inoperative ground based/aircraft equipment).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of initial/recurrent training/evaluation in LVO and/or operations with inoperative ground based/aircraft equipment).
- ☐ **Observed** flight simulator operations (focus: training in LVO).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Low Visibility Operations (LVO).

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

Training and evaluation in low visibility operations is applicable to all *pilot* crew members.

For the purposes of this provision, low visibility operations are considered in effect when the Runway Visual Range (RVR) is below 400 m for takeoff and/or below Category I limits for landing.

Operators that conduct training flights and cannot safely train/evaluate the specified procedures in an aircraft or in a representative flight simulator as specified in FLT 2.2.38 may demonstrate an alternative means of conformance in accordance with FLT 2.2.41.

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.35

The Operator shall ensure flight crew members with duties and responsibilities related to TCAS/ACAS alerting equipment complete training and an evaluation that includes a demonstration of competence in maneuvers and procedures for the proper response to TCAS/ACAS alerts. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes	Yes	Yes (every 36 months)	Yes

Auditor Actions

- ☐ **Identified/Assessed** requirement for training/evaluation/demonstration of competence in procedures for proper response to TCAS/ACAS alerts in flight crew training/evaluation program.
- ☐ **Identified/flight** crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for training/evaluation in response to TCAS/ACAS alerts).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: training/evaluation in procedures for proper response to TCAS/ACAS alerts).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of initial/recurrent training/evaluation in procedures for proper response to TCAS/ACAS alerts).
- ☐ **Observed** flight simulator operations (focus: training/evaluation in response to TCAS/ACAS alerts).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure training and evaluation occurs, as applicable, in the maneuvers specified within the intervals specified. Such training and evaluation can occur in conjunction with any State-approved or State-accepted training course.

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

Training is accomplished in a representative flight simulator approved for the purpose by the State.

TCAS training may be performed without demonstrating capability in a simulator (since many simulators do not have TCAS capability).

Training and evaluation of the non-normal procedures and maneuvers specified in this provision cannot be safely accomplished in an aircraft on a training flight (see FLT 2.2.38).

Operators that cannot conform to the specifications of this provision due to the non-existence of a representative flight simulator may demonstrate an alternative means of conforming to these specifications in accordance with FLT 2.2.41.

The additional ground and line training and evaluation used to satisfy the specifications of this provision and of FLT 2.2.41 in the absence of a representative flight simulator typically include a review of:

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

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.36 (Intentionally open)

FLT 2.2.37

If the Operator uses pilot flight crew members designated to perform duties from either control seat, the Operator shall have seat-specific qualification for such flight crew members, to include training and an evaluation. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes	Yes	Yes (every 12 months)	Yes

Auditor Actions

- ☐ **Identified/Assessed** requirement for seat-specific qualification of pilot flight crew members designated to perform duties from either control seat.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for seat-specific qualification).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: seat-specific training/evaluation for flight crew members designated to perform duties from either control seat).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of seat-specific evaluation in initial/recurrent training).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure that any pilot designated to perform duties from either control seat, including takeoffs and landings, completes seat specific qualification.

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

The specifications of this provision typically apply to pilot flight crew members, such as:

- Type Rating Instructors (TRIs)
- Type Rating Examiners (TREs)
- Pilots who are authorized to conduct takeoff and landings from either control seat.

Cruise relief pilots may meet the seat-specific requirements of this provision as part of a State-approved or State-accepted (cruise relief pilot) qualification program.

Cruise relief pilots are not required to receive recurrent training in both control seats once every 12 months unless required as part of a State-approved or -accepted (cruise relief pilot) qualification program.

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.38

If the Operator conducts training flights, the Operator shall specify those required maneuvers and procedures that cannot be safely accomplished in an aircraft, and ensure such maneuvers and procedures are either trained and evaluated in a representative flight simulator or, if such a synthetic device does not exist, ensure a demonstration of pilot competence in those maneuvers and procedures using an alternative means in accordance with FLT 2.2.41. Maneuvers and procedures that cannot be safely accomplished in an aircraft shall include, as a minimum:

(i) Wind shear avoidance and recovery;

(ii) Response to GPWS alerts and warnings and the avoidance of Controlled Flight Into Terrain (CFIT);

(iii) Response to TCAS/ACAS alerts. **(GM)**

Note: *If a representative flight simulator exists, conformity with FLT 2.2.32, FLT 2.2.33 and FLT 2.2.35 is required for the Operator to be in conformity with this provision.*

Note: *If a representative flight simulator does not exist, conformity with FLT 2.2.41 is required for the Operator to be in conformity with this provision.*

Auditor Actions

- ☐ **Identified/Assessed** designation of required maneuvers/procedures that cannot be accomplished in an aircraft, requirement for flight crew training/evaluation in such maneuvers/procedures in an approved representative flight training device or using alternative means in accordance with FLT 2.2.41.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** aircraft training/qualification curriculum/syllabus (focus: exclusion of specified maneuvers from aircraft training).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of specified maneuvers in an approved representative training device or via alternative means).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Flight Simulator.

The intent of this provision is to ensure both of the following:

- The maneuvers and procedures that cannot be safely accomplished in an aircraft are specified by the operator and include, as a minimum, those maneuvers specified in i), ii) and iii);
- A demonstration of pilot competence in the specified maneuvers and procedures using either a representative flight simulator or an alternative means (as specified in FLT 2.2.41) if such flight simulator does not exist.

Training is accomplished in a representative flight simulator approved for the purpose by the State.

Refer to FLT 2.2.41 if no representative flight simulator exists for the aircraft type.

Refer to FLT 2.2.32, FLT 2.2.33, FLT 2.2.35 and associated Guidance for additional specifications and information related to the training and evaluation on the specified maneuvers.

FLT 2.2.39

If the Operator conducts training flights and accomplishes training or evaluation related to a failed or inoperative engine during such flights, the Operator shall ensure engine failures are simulated for the purpose of accomplishing any maneuvers that involve a failed or inoperative engine. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** requirement for only simulated engine failure during aircraft training flights.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** instructor guidance for aircraft training flights (focus: instructions for simulation of engine failure for maneuvers that involve failed/inoperative engine).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure maneuvers that involve a failed or inoperative engine are safely accomplished when training in such maneuvers is performed in the aircraft (as required by the Authority or due to the unavailability of a representative flight simulator approved for the purpose by the State). In order to ensure maneuvers that involve a failed or inoperative engine are accomplished safely during training flights, engine failures are typically simulated in a manner that would not prevent the flight crew from recovering immediate and full control of an engine.

FLT 2.2.40

The Operator shall ensure flight crew members complete training and, when applicable, an evaluation that includes a demonstration of competence in duties and procedures related to flight crew incapacitation. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes*	Yes	Yes (every 36 months)	Yes
* This training may be provided as a complete package or, if applicable, tailored to address aircraft type or crew position requirements that are different from the individual's previous training in duties and procedures related to flight crew incapacitation.			

Auditor Actions

- ☐ **Identified/Assessed** requirement for demonstration of competence in duties/procedures related to flight crew incapacitation in flight crew training/evaluation program.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for demonstration of competence in duties/procedures related to flight crew incapacitation).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: evaluation in duties/procedures related to flight crew incapacitation).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of demonstration of competence in duties/procedures related to flight crew incapacitation in initial/recurrent training).
- ☐ **Other Actions** (Specify)

Guidance

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

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

A demonstration of competence in the crew member duties and procedures related to flight crew incapacitation is applicable when such a demonstration is required by the operator and/or State in conjunction with State-approved or State-accepted training courses that require a method of evaluation. Such courses typically include:

- Type qualification;
- Transition (conversion);
- Upgrade to PIC;
- Re-qualification;
- Recurrent.

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.41

If the Operator conducts training flights and is unable to train and evaluate the required maneuvers and procedures specified in FLT 2.2.38 due to the non-existence of a representative flight simulator, the Operator shall use an alternative means for ensuring a demonstration of pilot competence in such maneuvers and procedures. Any alternative means shall be approved or accepted by the State, and require a demonstration of competence through a combination of means, to include:

(i) The use of generic flight simulators;

(ii) The use of representative and/or generic flight training devices;

(iii) Additional ground and line training and evaluation;

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

Auditor Actions

☐ **Identified/Assessed** requirement for flight crew demonstration of competence using alternative means for required maneuvers/procedures that cannot be accomplished in an aircraft or due to the non-availability of a representative flight training device.

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

☐ **Examined** applicable training/qualification curriculum/syllabus (focus: training/evaluation in designated maneuvers accomplished; definition of acceptable alternative means of training).

☐ **Examined** selected flight crew member training/qualification records (focus: demonstration of competence in designated maneuvers completed using alternative means).

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Flight Training Device (FTD).

The intent of this provision is for the operator to ensure, in the absence of a representative flight simulator necessary to conform to FLT 2.2.38, that suitable and effective alternatives are used for the training and evaluation of maneuvers and procedures that cannot be safely conducted in an aircraft.

It is important to note that conformity with this provision requires a *combination* of alternative training and evaluation methods to ensure a demonstration of pilot competence (i.e. generic simulators and/or flight training devices, ground training/evaluation, line training/evaluation, other). This requirement is based on the presumption that any one method when used alone would be inadequate to ensure competence in the specified maneuvers as well as associated procedures.

Wind shear, GPWS, and TCAS training maneuvers and procedures, as specified in FLT 2.2.38, cannot be safely accomplished in an aircraft during a training flight or line training.

Refer to FLT 2.2.32, FLT 2.2.33, FLT 2.2.35 and associated Guidance for additional specifications and information related to the required training and evaluation associated with:

- Wind shear avoidance and recovery;
- Response to GPWS alerts and warnings and the avoidance of Controlled Flight Into Terrain (CFIT);
- Response to TCAS/ACAS alerts.

FLT 2.2.42

If the Operator transports passengers or supernumeraries, the Operator shall ensure flight crew members complete security training as approved or accepted by the State, and in accordance with the Operator's security training program as specified in SEC 2.1.1. Flight crew security training shall address the following subject areas:

(i) Determination of the seriousness of the occurrence;
(ii) Crew communication and coordination;
(iii) Policy and procedures associated with flight deck access;
(iv) Appropriate self-defense responses;
(v) Use of non-lethal protective devices assigned to crew members for use as authorized by the State;
(vi) Understanding the behavior of terrorists so as to facilitate the ability to cope with hijacker behavior and passenger responses;
(vii) Situational training exercises regarding various threat conditions;
(viii) Flight deck procedures to protect the aircraft;
(ix) Aircraft search procedures;
(x) As practicable, guidance on least-risk bomb locations. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes*	Yes*	Yes (every 36 months)	Yes
* This training may be provided as a complete package or, if applicable, tailored to address aircraft type or crew position requirements that are different from the individual's previous flight crew security training.			

Note: *Flight crew members shall complete initial security training prior to being assigned to operational duties.*

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

Auditor Actions

☐ **Identified/Assessed** flight crew security training program (focus: approval/acceptance by the State; meets applicable requirements of other states).
☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for flight crew security training).
☐ **Interviewed** responsible manager(s) in flight operations.
☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: security training is included; required subjects are addressed).
☐ **Examined** selected flight crew member training/qualification records (focus: completion of security training).
☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Air Operator Security Program (AOSP) and Non-Lethal Protective Device.

Flight crew members are directly involved in the implementation of security measures and thereby require an awareness of obligations to the Security Program of the operator.

Crew security training would normally be in accordance with applicable regulations and/or the civil aviation security program of the State, and where no regulatory guidance exists, in accordance with the policy of the operator.

Security training for flight crew members typically focuses on the need for the flight crew to maintain control of the flight deck.

Specific subject areas included in recurrent security training are typically identified and derived from an analysis of actual or likely situations or trends experienced during line operations.

Fight deck access as specified in item (iii) would typically include persons authorized for flight deck access as well as procedures for flight deck entry/exit.

Flight crew training in self-defense responses as specified in item (iv) typically focuses on ensuring the security of the flight deck and takes into consideration relevant operational factors (e.g. type of operation, phase of flight, aircraft type/configuration, responses by cabin crew members or, if applicable, supernumeraries).

Training as specified in item (vi) typically addresses topics or tactics as appropriate for the operator that might be associated with or could be used to facilitate crew-passenger reaction to or interaction with hijackers (e.g. conflict management, use of passive or non-passive cooperation, understanding Stockholm Syndrome, identification of and response to hijacker types/motives).

Training exercises as specified in item (vii) are typically interactive in nature, and scenarios or situations (e.g. bomb threat, hijacking, unruly passenger) may be presented using various accepted training methods (e.g. live role playing, table top, computer-based training).

Training as specified in item (x) is applicable to aircraft types that have designated least-risk bomb locations. Least-risk bomb locations are typically not identified on all-cargo aircraft.

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.43

If the Operator conducts passenger flights without cabin crew, the Operator shall ensure flight crew members, complete training and demonstrate competence in the performance of any assigned duties and functions related to passenger cabin safety. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes*	Yes*	Yes (every 24 months)	Yes
* This training may be provided as a complete package or, if applicable, tailored to address aircraft type or crew position requirements that are different from the individual's previous training in duties and functions related to passenger cabin safety.			

Auditor Actions

- ☐ **Identified/Assessed** requirement for flight crew training in the performance of assigned duties/functions related to passenger cabin safety.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for crew training in the performance of assigned duties/functions related to passenger cabin safety).

- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: training in performance of assigned duties/functions related to passenger cabin safety).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of training in performance of assigned duties/functions related to passenger cabin safety).
- ☐ **Other Actions** (Specify)

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

Cabin safety 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 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 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.

Cabin safety training elements incorporated into other curricula of the flight crew member training program may satisfy the specifications of this provision.

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.44

If the Operator uses 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 training and an evaluation to demonstrate competence in the performance of any assigned duties or functions related to passenger cabin or cargo compartment safety. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes*	Yes*	No	No
* This training may be provided as a complete package or, if applicable, tailored to address aircraft type or crew position requirements that are different from the individual's previous training in duties or functions related to passenger cabin or cargo compartment safety.			

Note: *The specifications of this provision are applicable to supernumeraries used on board an aircraft during commercial and/or non-commercial operations.*

Auditor Actions

- ☐ **Identified/Assessed** requirement for aircraft type-specific supernumerary training/evaluation in performance of assigned duties/functions related to passenger cabin/cargo compartment safety.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected supernumerary training course curricula/syllabi (focus: as applicable, aircraft type-specific training/evaluation in performance of assigned duties/functions related to passenger cabin/cargo compartment safety).
- ☐ **Examined** selected supernumerary training records (focus: completion of aircraft type-specific training/evaluation in performance of assigned duties/functions related to passenger cabin/cargo compartment safety).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Supernumerary, which further defines and includes examples of supernumeraries, including those that are required for the safety of operations.

This provision is applicable only to supernumeraries that are required for safety of operations, and the intent is to ensure such 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.

The term “abnormal” is used to describe a condition or situation (e.g. abnormal airframe vibration, abnormal landing configuration).

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

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

The term “emergency” used alone refers to declarations and non-AOM procedures.

2.3 Line Qualification

FLT 2.3.1

The Operator shall have a line qualification program consisting of line training and, where applicable, evaluations, approved or accepted by the State, which ensures flight crew members are qualified to operate in areas, on routes or route segments and into the airports to be used in operations for the Operator. Such program shall:

(i) Be published in the Training Manual or equivalent documents;

(ii) Ensure each pilot flight crew member has adequate knowledge of the elements specified in Table 2.5, as applicable to the areas, routes and route segments of intended operation;

(iii) Specify qualification requirements for operations in all areas, on all routes or route segments, and into all airports of intended use;

(iv) Ensure each pilot flight crewmember, prior to entering the line qualification program, has satisfied the applicable recency-of-experience requirements specified in FLT 3.3.7 (i) under the supervision of an instructor or evaluator authorized for the purpose by the Operator and/or State;

(v) Ensure line training and evaluation for each pilot crew member is completed during initial qualification and, if applicable, in accordance with the continuing qualification curriculum as defined in the Operator's AQP/ATQP/EBT that conforms to the specifications of FLT 2.1.1B;

(vi) Ensure line training and evaluation is completed prior to a pilot crew member being used as a PIC in operations. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** flight crew line qualification training/evaluation program, approved/accepted by the State, specifies qualification requirements for operations associated with areas/routes/route segments/airports used in operations.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification schedule for line training/evaluation).
- ☐ **Identified/Assessed** the requirement for recency-of-experience prior to entry into the line qualification program.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** flight crew line qualification initial/recurrent curricula/syllabi (focus: line training/evaluation in areas/airports of operations; program elements consistent with specifications in Table 2.5).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of initial/recurrent line qualification training/evaluation).
- ☐ **Examined** selected flight crew member training/qualification records (focus: assessment of recency-of-experience for pilots entering line qualification).
- ☐ **Observed** line flight operations (focus: flight crew demonstrates knowledge of relevant operational requirements).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Zero Flight Time Training (ZFTT).

The intent of this provision is to ensure flight crew members are qualified to conduct routine operations within each theater of operation as defined by the operator. It does not address the additional and specialized knowledge required to conform to FLT 2.4.1.

Refer to FLT 2.4.1 and associated Guidance for additional specifications and information that addresses special areas, routes route segments and special airports.

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

The specification in item (iv) ensures that a qualifying pilot has the necessary experience to operate as a required crewmember in the line training qualification program. Recency-of-experience would typically be established during simulator training in a ZFTT training program or during base training associated with initial aircraft qualification and/or type rating. If there are delays between simulator and/or type qualification training and the commencement of line qualification, recency-of-experience may be lost and would need to be re-established by the operator.

The specification in item (iv) may be satisfied by a process integral to the line qualification program or be in accordance with the process defined by FLT 3.3.7.

This specification in item (v) applies to all candidates for the position of PIC, to include SIC upgrade candidates and pilots hired directly into PIC positions in operations for the operator.

The training and evaluation specified in this provision is accomplished by pilot flight crew members as part of; ground training, simulator/aircraft training or line training.

FLT 2.3.2

The Operator shall ensure each pilot flight crew member, in order to maintain qualification, receives training and, when applicable, successfully completes an evaluation at or above the standards stipulated in the training syllabus and administered by an Evaluator of the Operator or a representative of the Authority, and demonstrates piloting technique and competence to execute emergency procedures and comply with instrument flight rules. Such training and, when applicable, evaluation shall be conducted in accordance with the requirements of the State and applicable authorities to ensure evaluations for all pilot flight crew members are conducted using one or more of the following intervals, as applicable:

(i) For the PIC, twice within any period of one year plus or minus one calendar month from the original qualification anniversary date or base month, **and/or**

(ii) For pilot crew members other than the PIC, in accordance with i), or once within any period of one year plus or minus one calendar month from the original qualification anniversary date or base month, **and/or**

(iii) For any pilot crew member participating in an AQP, ATQP or EBT program, once within any period of one year, or other period approved or accepted by the State, provided such training and qualification program incorporates all elements and specifications contained in Table 2.6, Table 2.7 and Table 2.8. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** requirement for flight crew continuing qualification that includes a demonstration of piloting technique and competence to execute emergency procedures and comply with instrument flight rules; definition of continuing training/evaluation interval(s).
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification schedule for demonstration of piloting technique and competence to execute emergency procedures and comply with instrument flight rules).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected recurrent training/qualification course curricula/syllabi (focus: training/evaluation in emergency procedures/compliance with instrument flight rules).
- ☐ **Examined** selected flight crew training/qualification records (focus: completion of continuing qualification training/evaluation at intervals as specified).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for definitions of Base Month, Calendar Month, LOE and Training to Proficiency.

The modification of qualification intervals in accordance with an AQP, ATQP or EBT program requires conformity with FLT 2.1.1B.

The intent of this provision is to define the conditions necessary for a pilot crewmember to maintain qualification and to set a basic qualification interval, which may be slightly modified in accordance with the specifications of the provision or conditions stipulated in guidance material.

The specifications of this provision are minimum requirements and might be exceeded by requirements of the State or other applicable authorities. The applicable authorities specified in this provision typically refer to authorities that have jurisdiction over international operations conducted by an operator over the high seas or the territory of a state that is other than the State of the Operator.

An operator, in accordance with the requirements of the State and other applicable authorities, may adjust the frequency of evaluations specified in item i) of this provision to minimize overlap, preserve the original qualification date, and ensure evaluations are completed within the annual cycle set forth by the operator, State and/or applicable authorities.

Providing a minimum of two simulator training sessions within a thirteen-month period typically satisfies the requirements of item i) if the interval between training sessions is not less restrictive than what is specified by the operator, State and/or applicable authorities.

The evaluation cycles specified in items i) and ii) of this provision may be completed in 13 months in accordance with State requirements that allow such cycle to be adjusted a maximum of plus or minus one calendar month from the original qualification anniversary date or base month. Such flexibility is normally incorporated in the training and evaluation program to allow for latitude in the trainee scheduling process.

The evaluation cycles specified in item i) of this provision may also be adjusted in accordance with State requirements that flight crew members undergo training and, when applicable, an evaluation at least every 6 calendar months. If the training and evaluation, however, is conducted within 3 calendar months prior to the expiry of the 6-calendar month period in the case of item i) or the 12 calendar months period in the case of item ii), the next training and evaluation must be completed within 6 or 12 calendar months, respectively, of the original expiry date of the previous training and evaluation.

Training and evaluation specified in items i) and ii) may be anticipated and conducted within 3 calendar months prior to the expiry date.

Accommodations made to adjust evaluation cycles or frequency may not affect the original anniversary date or base month when flight crew member qualification was *either*:

- First established, *or*
- Re-established following a period of extended absence, and subject to the satisfactory completion of a training program designed specifically for the re-qualification of flight crew members following an extended absence.

One of the evaluations specified in item i), in a 12-calendar month period, may be administered by an instructor, trained and authorized by the operator and the Authority, during the conduct of a simulator or aircraft training course, approved or accepted by the Authority, for the purpose of maintaining piloting technique and competence.

One of the evaluations specified in item ii), in a 24-calendar month period, may be administered by an instructor, trained and authorized by the operator and the Authority, during the conduct of a simulator or aircraft training course, approved or accepted by the Authority, for the purpose of maintaining piloting technique and competence.

Simulator or aircraft training courses approved or accepted by the Authority for the purpose of maintaining piloting technique and competence typically include one or more of the following elements:

- Training-to-proficiency at the pilot controls of an aircraft or aircraft simulator;
- Appropriate briefings before and after the training;
- LOE using a complete flight crew;
- Maneuvers and procedures (abnormal and emergency) that may occur in line operations.

The term “abnormal” is used to describe a condition or situation (e.g. abnormal airframe vibration, abnormal landing configuration).

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

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

The term “emergency” used alone refers to declarations and non-AOM procedures.

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding specified intervals associated with recurrent training/continuing qualification.

FLT 2.3.3

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)**

Auditor Actions

- ☐ **Identified/Assessed** requirement for SIC training in PM/PF duties in flight crew line qualification training/evaluation program.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected SIC training/qualification records (focus: completion of training/evaluation in PM/PF duties).
- ☐ **Other Actions** (Specify)

Guidance

The term Pilot Monitoring (PM) has the same meaning as the term Pilot Not Flying (PNF) for the purpose of applying the specifications of this provision.

FLT 2.3.4

The Operator shall ensure pilot flight crew members complete an evaluation that includes a demonstration of knowledge of the operations approved as part of the Air Operator Certificate (AOC). Such evaluation shall include a demonstration of knowledge of:

(i) Approaches authorized by the Authority;

(ii) Ceiling and visibility requirements for takeoff, approach and landing;

(iii) Allowance for inoperative ground components;

(iv) Wind limitations (crosswind, tailwind and, if applicable, headwind). **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes*	Yes*	Yes (every 12 months)	Yes
* This evaluation may be provided as a complete package or, if applicable, tailored to address aircraft type or crew position requirements that are different from the individual's previous evaluation in the knowledge of AOC-approved operations.			

Auditor Actions

- ☐ **Identified/Assessed** requirement for flight crew initial/continuing qualification that includes a demonstration of knowledge of operations approved as part of the AOC.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for demonstration of knowledge of AOC operations).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** flight crew line qualification initial/recurrent curricula/syllabi (focus: evaluation of relevant operational knowledge; definition of operational areas addressed).
- ☐ **Examined** selected flight crew training/qualification records (focus: completion of initial/continuing qualification training/evaluation).
- ☐ **Other Actions** (Specify)

Guidance

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

The training and evaluation specified in this provision is accomplished by pilot flight crew members as part of ground, simulator/aircraft or line training.

The specifications of this provision are normally satisfied during line training but can occur elsewhere in the training program.

The wind limitations specified in item iv) refer to maximum limits that have been demonstrated for takeoff and landing, as well as limits that have been established for the type of operation being conducted (e.g., as applicable, automatic landing, HUD/EVS guided, or contaminated runway).

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.3.5 (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 and, if applicable, in accordance with the continuing qualification curriculum as defined in the Operator's AQP/ATQP/EBT that conforms to the specifications of FLT 2.1.1B. Such training and evaluation shall be completed prior to a pilot flight crew member being assigned as PIC in operations. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** requirement for PIC command training/evaluation program.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for PIC command training/evaluation).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected flight crew training/qualification records (focus: completion of command training/evaluation prior to assignment to PIC duties).
- ☐ **Other Actions** (Specify).

Guidance

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

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

The specifications of this provision apply to all candidates for the position of PIC, to include SIC upgrade candidates and pilots hired directly into PIC positions in operations for the operator.

Command training and evaluation is accomplished by pilot flight crew members as part of ground, simulator/aircraft or line training.

Command training and evaluation programs may be conducted in addition to, and/or in conjunction with, one or more of the training programs specified in FLT 2.1.1.

The program specified in this provision addresses the technical and non-technical aspects of command relevant to the operations of the operator, and typically includes:

- Technical seat-specific aircraft training for the aircraft type;
- Basic operator familiarization training in subjects relevant to the PIC;
- Human performance and CRM skill training relevant to command, the relationship with other crew members and the operation as a whole (e.g. leadership, team building, conflict resolution, etc.);
- Training in the sections of the OM relevant to command, to include:
    - Authority and responsibilities of the PIC in operations for the operator;
    - Adherence to the limitations of the AOC;
    - Responsibilities relevant to the OFP and ATL;
    - Responsibilities relevant to the reporting of accidents and incidents.

2.4 Special Qualification

FLT 2.4.1

If the Operator conducts flights in areas or on routes or route segments over difficult terrain and/or into special airports as designated by the State or by the Operator, the Operator shall ensure each PIC completes training and, if required, an evaluation in the special skills and/or knowledge required to qualify or requalify for such operations. The content of training shall ensure the PIC has adequate knowledge of the elements specified in Table 2.5 as applicable to the areas, routes, route segments and special airports of intended operation. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** requirement for training to qualify/requalify a PIC in special skills/knowledge needed for operations associated with specific areas/routes/route segments/difficult terrain/airports as designated by State or operator.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** training curriculum/syllabus used to qualify/requalify PIC to operate over/into special routes/areas/airports (focus: training in special skills/knowledge required for certain operations; program elements consistent with specifications in Table 2.5).
- ☐ **Examined** selected PIC training/qualification records (focus: completion of training for operations associated with designated special areas/routes/route segments/terrain/airports).
- ☐ **Other Actions** (Specify)

Guidance

This provision applies to candidates for the position of PIC, to include SIC upgrade candidates and pilots hired directly into PIC positions in operations for the operator.

Training as specified in this provision may include aircraft type-specific elements as applicable to areas of operations, routes, airports, and equipment operated.

The specifications of this provision address the training required to operate over difficult terrain and/or into special airports based on a determination, by the operator and/or State, that pilots require special skills or knowledge for such operations. Such training typically addresses routes and/or airports that are over or in areas:

- With mountainous terrain, including high terrain, rapidly rising terrain or terrain with steep gradients;
- With terrain that contributes to the existence of mountain waves, turbulence, high surface winds, sudden wind changes and/or other atmospheric phenomena that could affect the performance of the aircraft;
- Containing topographical variations such as ridgelines, valleys, ravines, fjords or other areas where downdrafts on the leeward or downwind side can make traversing the area or accomplishing a crosswind landing hazardous;
- Where the airport, runway and/or approach environment is difficult to identify at night due to surrounding lights;
- Where featureless or expansive terrain could contribute to optical illusions during the day or at night;
- That are devoid of lighting where airport, runway and/or approach area identification is difficult at night due to lack of visible landmarks;
- That are devoid of lighting and sole reference to external or visual cues is insufficient for the maintenance of proper aircraft attitude control;
- That require the application of any other specific skills or knowledge, as determined by the operator and/or State.

The specified training may be included as part of initial or continuing qualification under FLT 3.3.10 or conducted independently.

FLT 2.4.2

If the Operator engages in specialized operations, the Operator shall ensure flight crew members, prior to being used in such operations, complete training and/or an evaluation in the operating practices and procedures for the following special operations, as applicable to the Operator:

(i) Performance-Based Navigation (PBN), training and evaluation required.

(ii) Performance-Based Communication and Navigation Surveillance System (PBCS).

(iii) Reduced Vertical Separation Minima (RVSM).

(iv) Minimum Navigation Performance Specifications (MNPS/NAT HLA).

(v) Areas of Magnetic Unreliability (AMU). **(GM)**

Conformance Applicability				
Sub-spec	**Specific to Aircraft Type**	**Included in Initial/Transition/ Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
(i)	Yes*	Yes*	Yes (every 12 months)	Yes
(ii)–(v)	Yes*	Yes*	No	Yes
* This training may be provided as a complete package or, if applicable, tailored to address aircraft type or crew position requirements that are different from the individual's previous training in PBN, PBCS, RVSM, MNPS/NAT HLA and/or AMU practices and procedures.				

Auditor Actions

- ☐ **Identified/Assessed** requirement for training in PBN/PBCS/RVSM/MNPS/NAT HLA/AMU procedures in flight crew training/evaluation program.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification/recurrent schedule for training and evaluation in PBN).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/other qualification course curricula/syllabi (focus: training in PBN/PBCS/RVSM/MNPS/NAT HLA/AMU procedures.
- ☐ **Examined** selected flight crew training/qualification records (focus: completion of PBN/PBCS/RVSM/MNPS/NAT HLA/AMU procedures in initial training).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Areas of Magnetic Unreliability (AMU), Minimum Navigation Performance Specifications (MNPS), North Atlantic Track High Level Airspace (NAT HLA), Performance-Based Communication and Navigation Surveillance System (PBCS), Performance-Based Navigation (PBN) and Specialized Operations.

Training is applicable to all pilot crew members and, if used in conjunction with such special operations, flight navigators.

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

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.4.3

If the Operator uses flight crew members to concurrently operate aircraft of different types, or operate variants within one type, the Operator shall have qualification processes that are approved or accepted by the State and ensure such flight crew members complete training and an evaluation that emphasizes the differences between aircraft types and variants. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes	Yes	Yes (every 12 months)	Yes

Auditor Actions

- ☐ **Identified/Assessed** requirement for flight crew training/evaluation in differences between aircraft types/variants (as applicable).
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for training/evaluation in differences between aircraft types/variants).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** flight crew line qualification initial/recurrent curricula/syllabi (focus: training/evaluation in differences between relevant aircraft types/variants).
- ☐ **Examined** selected flight crew training/qualification records (focus: completion of training/evaluation in differences between aircraft types/variants).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Aircraft Type and Aircraft Variant (within Type).

The intent of this specification is to ensure flight crew members are familiarized with the significant differences in equipment and/or procedures between concurrently operated types or variants.

The determination of variant within type is within the domain of the State as part of flight crew licensing.

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

Qualification processes are applicable to all flight crew members used in such operations and as defined in the IRM.

Aircraft differences that require emphasis typically include level of technology, ergonomics, operational differences and handling characteristics.

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

2.5 SMS Training

FLT 2.5.1

The Operator shall have a program that ensures its flight operations personnel 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)** ◄

Note: *The specifications of this provision are applicable to personnel of the Operator that perform flight operations functions.*

Auditor Actions

- ☐ **Identified/Assessed** SMS training program for flight operations (focus: program ensures training for the operator's flight operations personnel as appropriate to individual SMS involvement).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training curricula/syllabi for management/non-management personnel (focus: training in individually relevant SMS duties/responsibilities).
- ☐ **Examined** selected management/non-management personnel training records (focus: completion of SMS training).
- ☐ **Other Actions** (Specify)

Guidance

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

Refer to Guidance associated with ORG 4.3.1 located in ISM Section 1.

FLT 2.5.2

If the Operator outsources flight operations functions to external service providers, the Operator *should* have a program that ensures personnel of external service providers are trained and competent to perform SMS duties. The scope of such training *should* be appropriate to individual involvement in the Operator's SMS. **[SMS] (GM)** ◄

Auditor Actions

- ☐ **Identified/Assessed** SMS training program for flight operations (focus: program ensures training for flight operations personnel of external service providers as appropriate to individual SMS involvement).
- ☐ **Interviewed** SMS manager and/or designated management representative(s).
- ☐ **Examined** selected outsourcing contracts/agreements (focus: inclusion of requirement of SMS training for applicable service provider personnel).
- ☐ **Examined** selected records/reports resulting from monitoring of service providers (focus: monitoring process ensures applicable personnel of service providers have completed SMS training).
- ☐ **Other Actions** (Specify)

Guidance

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

Refer to Guidance associated with ORG 4.3.2 located in ISM Section 1.

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)**

Auditor Actions

- ☐ **Identified/Assessed** requirement for use of common language(s) by flight/cabin crew members.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** selected flight/cabin crew members (focus: awareness/use of designated common language in operations).
- ☐ **Observed** line flight and flight simulator operations (focus: instructor/crew use of designated common language).
- ☐ **Other Actions** (Specify)

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 used 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.

FLT 3.1.2

If the Operator designates more than one common language in accordance with FLT 3.1.1, the Operator shall have procedures to ensure effective communication is established and maintained between flight crew members and, if applicable, with cabin crew members:

(i) During normal, abnormal and emergency operations;

(ii) In the event of incapacitation of any crew member. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** requirement for use of multiple common languages by flight/cabin crew members.
- ☐ **Identified/Assessed** procedures for flight/cabin crew member communication in the event of crew incapacitation.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** selected flight/cabin crew members (focus: awareness/use of designated common languages in operations).
- ☐ **Observed** line flight operations (focus: flight/cabin crew use of designated common languages).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure, when an operator has more than one designated common language, that operational communication among crew members is maintained and, in the case of incapacitation of any crew member, does not result in a loss of verbal communication among the remaining crew members.

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)**

Auditor Actions

- ☐ **Identified/Assessed** assignment of responsibility for PIC to record flight information; definition of information to be recorded.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: recording of flight information).
- ☐ **Other Actions** (Specify)

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)**

Auditor Actions

- ☐ **Identified/Assessed** requirement/methodology for determining flight crew composition/number of crew members based on aircraft type/crew qualification/flight-duty time limitations.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected flight crew pairing records (focus: crew composition/number consistent with aircraft type/qualifications/limitations).
- ☐ **Observed** flight crew scheduling operations (focus: scheduling complies with defined flight crew composition/number of flight crew members based on mission factors).
- ☐ **Other Actions** (Specify)

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)**

Auditor Actions

- ☐ **Identified/Assessed** guidance/criteria that prohibit pairing of inexperienced pilot flight crew members.
- ☐ **Identified/Assessed** tracking/scheduling processes that prevent pairing of inexperienced pilot flight crew members.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected flight crew pairing records (focus: inexperienced flight crew members not paired together).
- ☐ **Observed** flight crew scheduling operations (focus: scheduling uses guidance/criteria that prevent pairing of inexperience flight crew members).
- ☐ **Other Actions** (Specify)

Guidance

The definition of inexperienced pilot flight crew member typically varies depending on the operator or the State and generally refers to a minimum number of hours in aircraft type after the completion of initial training/qualification.

The specifications of this provision are intended to preclude two newly trained or inexperienced pilots from operating together in an aircraft type until they each achieve a level of experience defined by the operator or the State.

FLT 3.3.3

If the Operator conducts low visibility approaches, the Operator shall define a minimum level of command experience required for a pilot to be authorized to conduct such approaches as PIC to approved Operator minima. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** defined minimum level(s) of command experience required for PIC to be authorized to conduct low visibility approaches to approved minima.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** OM guidance/procedures (focus: defined PIC minimum level of command experience to conduct low visibility approaches to approved minima).
- ☐ **Examined** selected flight crew training/qualification records (focus: low visibility approach authorization based on experience level).
- ☐ **Other Actions** (Specify)

Guidance

For those flight crew members qualified as PIC on aircraft types equipped for low visibility approaches, the specification for a minimum level of command experience may be replaced by a State-approved or State-accepted training program on low visibility operations conducted in a simulator suitable for the purpose.

FLT 3.3.4

The Operator shall ensure flight crew members will not operate an aircraft unless issued a medical assessment in accordance with requirements of the State; such assessment shall not be valid for a period greater than 12 months. **(GM)**

Note: *If authorized by the State, it is permissible to extend the validity beyond 12 months (to preserve the original expiry date) when the medical assessment is renewed up to 45 days prior to its expiry date.*

Auditor Actions

- ☐ **Identified/Assessed** requirement for flight crew members to have valid medical assessment in accordance with requirements of the State, maximum 12 months validity.
- ☐ **Identified/Assessed** tracking/scheduling processes that prevent flight crew members from assignment to flight duty without valid medical assessment.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected flight crew training/qualification records (focus: existence of valid medical assessment).
- ☐ **Observed** flight crew scheduling operations (focus: scheduling tracks/accounts for valid flight crew member medical assessment).
- ☐ **Other Actions** (Specify)

Guidance

Requirements of the State and/or an applicable authority that are associated with medical classifications, aircraft types, flight crew positions and/or licensing could require a more restrictive assessment interval than specified in this provision. An applicable authority is one that has jurisdiction over international operations conducted by an operator over the high seas or the territory of a state that is other than the State of the Operator.

The “class” of medical assessment required to conform to the specifications of this provision, typically “class 1”, is defined by the State and/or an applicable authority.

FLT 3.3.5

If the Operator conducts international flight operations, the Operator shall ensure either of the following apply to flight crew members that operate such flights:

(i) The Operator has a method to prevent such crew members from acting as a pilot after having attained their 65th birthday, or

(ii) Where laws or regulations of the State do not permit maximum age limits, the Operator has a method, which is acceptable to the State and other applicable states, for making a determination that pilot flight crew members are no longer permitted to exercise the privileges of their pilot license in international operations for the operator. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** requirements/restrictions applicable to use of pilot flight crew members that have attained 65 years of age.
- ☐ **Identified/Assessed** tracking/scheduling processes that ensure assignments of PIC and crew pairing for international flights are in accordance with age limitations/restrictions.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected flight crew training/qualification records (focus: retention of age imitations/restrictions).
- ☐ **Observed** flight crew scheduling operations (focus: scheduling accounts for/complies with age/other restrictions that prohibit assignment of flight crew member as pilot in international flight operations).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to address pilot flight crew member duty assignments for international operations when the flight crew includes at least one pilot that has attained 65 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 ii) 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 (Intentionally open)

FLT 3.3.7

The Operator shall have a process to ensure flight crew member recency-of-experience requirements are satisfied as follows:

(i) A pilot does not act as PIC or SIC of an aircraft unless *either*:

(a) On the same type or variant of aircraft within the preceding 90 days (120 days if under the supervision of an instructor or evaluator), that pilot has operated the flight controls during at least three takeoffs and landings in the aircraft type or in a flight simulator approved for the purpose by the appropriate authority, *or*

(b) On the same type or variant of aircraft within a time period acceptable to the State and applicable authorities, that pilot has operated the flight controls during the number of takeoffs and landings in the aircraft type or in a flight simulator approved for the purpose by the appropriate authority, necessary to conform to a defined recency of experience schedule approved or accepted by the State and applicable authorities.

(ii) A pilot does not act in the capacity of a cruise relief pilot unless, within the preceding 90 days, that pilot has *either*:

(a) Operated as PIC, SIC or cruise relief pilot on the same type or variant of aircraft, *or*

(b) Completed flying skill refresher training to include normal, abnormal and emergency procedures specific to cruise flight on the same type of aircraft or in a flight simulator approved for the purpose, and has practiced approach and landing procedures, where the approach and landing procedure practice may be performed as the PM.

(iii) A flight engineer does not perform duties in an aircraft unless *either*:

(a) Within the preceding 6 months, that individual has had at least 50 hours of flight time as a flight engineer on that aircraft type aircraft, *or*

(b) Within the preceding 90 days, that individual has operated as a flight engineer on board that aircraft type or in a simulator of the aircraft type.

(iv) A flight navigator or radio operator does not perform duties in an aircraft unless recency-of-experience requirements of the Operator and the State have been satisfied.

(v) If a flight crew member does not satisfy recency-of-experience requirements in accordance with i), ii), iii) or iv), such flight crew member completes re-qualification in accordance with the Operator's training and evaluation program. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** tracking/scheduling processes that prevent flight crew members from flight duty assignment unless recency-of-experience qualification requirements are met.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** OM guidance/procedures (focus: definition of recency-of-experience qualification requirements).
- ☐ **Examined** selected flight crew training/qualification records (focus: satisfaction of recency-of-experience qualification requirements).
- ☐ **Observed** flight crew scheduling operations (focus: scheduling tracks/accounts for flight crew member recency-of-experience qualification requirements).
- ☐ **Observed** flight simulator operations (focus: simulators are representative of aircraft flown and are approved for the purpose of satisfying recency-of-experience requirements).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Cruise Relief Pilot.

The specification in item i) requires the pilots to operate the flight controls: PM duties do not satisfy recency-of-experience requirements for this specification.

The specifications in item (i) also ensure that newly qualifying pilots have the necessary experience to operate as a required crewmember in the line training qualification program. The process to ensure such pilots meet recency-of-experience requirements may be integral to the line qualification program in accordance with FLT 2.3.1.

The term Pilot Monitoring (PM) has the same meaning as the term Pilot Not Flying (PNF) for the purpose of applying the specifications of this provision.

The specification in item i) b) may stipulate the number of takeoffs and landings to be performed according to a defined schedule in order to establish an equivalent level of recency experience. Such schedule would not have to adhere exactly to the specification in item i) a) of this provision if the level of recent experience is acceptable to the State and applicable authorities, and the PIC or SIC, as applicable, is required to operate the flight controls in order to satisfy recency-of-experience requirements.

Item v) specifies that a flight crew member whose recency has lapsed for any reason becomes unqualified and must be re-qualified by the operator. The requalification program for such a flight crewmember need not specify the same number of takeoffs and landings as the recency requirements.

Applicable authorities include those authorities that have jurisdiction over international operations conducted by an operator over the high seas or the territory of a state that is other than the State of the Operator.

The term “abnormal” is used to describe a condition or situation (e.g. abnormal airframe vibration, abnormal landing configuration).

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

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

The term “emergency” used alone refers to declarations and non-AOM procedures.

FLT 3.3.8 (Intentionally open)

FLT 3.3.9

The Operator shall have an airport qualification process that ensures a PIC has made an actual approach and landing at each airport within the Operator's route system accompanied by a pilot, either as a crew member or flight deck observer, that is qualified for that airport, unless:

(i) The approach to the airport is *not* over difficult terrain and the instrument approach procedures and aids available are similar to those with which the pilot is familiar, and the normal operating minima are adjusted by the addition of a margin of safety that is approved or accepted by the State, or there is reasonable certainty that approach and landing can be made in visual meteorological conditions (VMC), or

(ii) The descent from the initial approach altitude can be made by day in VMC, or

(iii) The Operator has qualified the PIC for operations into the airport by means a pictorial representation that is approved or accepted the Authority, or

(iv) The airport is adjacent to another airport into which the PIC is currently qualified to operate. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** tracking/scheduling/pairing processes for ensuring PICs will meet qualification requirements for airports/areas/routes to be used in operations.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** OM guidance/procedures (focus: definition of crew member qualification criteria for operations into airports/areas/routes used in operations).
- ☐ **Observed** flight crew scheduling operations (focus: scheduling and crew pairing accounts for PIC qualification for operations into airports of intended landing).
- ☐ **Other Actions** (Specify)

Guidance

The specification in item (i) may be satisfied by a process, approved or accepted by the State, that:

- Identifies instrument approach procedures that require the application of margins to operating minima;
- Specifies the operating margin to be applied.

The specification in item (iii) may be satisfied by any pictorial representation approved or accepted for the purpose by the Authority, such as an instrument approach plate or chart.

Refer to FLT 2.4.1 and associated Guidance for additional specifications and information that addresses training for operations associated with special areas, routes, route segments and special airports.

FLT 3.3.10

The Operator shall have a process to ensure a pilot is not used as a PIC in operations that require the application of special skills or knowledge within areas, on routes over difficult terrain and/or into special airports, as designated by the State or by the Operator, unless, within the preceding 12 months, that pilot has *either*:

(i) Made at least one trip as a pilot flight crew member, line check airman or observer on the flight deck on a route in close proximity and over similar terrain within the specified area(s), on the specified route and/or into the special airport, as applicable, *or*

(ii) Completed training and an evaluation in the special skills and/or knowledge required to qualify or requalify for such operations. The content of training shall ensure the PIC has adequate knowledge of the elements specified in Table 2.5 as applicable to the areas, routes, route segments and special airports of intended operation. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** tracking/scheduling processes that prevent PICs from flight duty assignment into airports/areas and on routes/route segments that require special skills/knowledge, unless qualification requirements have been satisfied.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** OM guidance/procedures (focus: definition of PIC qualification criteria for operations into airports/areas/routes that require special knowledge/skills).
- ☐ **Observed** flight crew scheduling operations (focus: scheduling tracks/accounts for PIC qualification for routes/airports that require special knowledge/skills).
- ☐ **Other Actions** (Specify)

Guidance

Special airport and/or route/area re-qualification (if applicable) could take the form of pictorial review, simulator training, line check airmen briefing or operation into the airport accompanied by a line check airman or other qualified airman and could include exemptions for VFR operations.

The intent of this provision is to ensure the PIC has a level of knowledge of terrain, minimum safe altitudes, seasonal meteorological conditions, communication and air traffic facilities, services and procedures, search and rescue services and navigational facilities and procedures, including any long-range navigation procedures, required for safe operations.

Refer to FLT 2.4.1 and associated Guidance for additional specifications and information that addresses training for operations associated with special areas, routes route segments and special airports.

3.4 Flight Crew Scheduling

FLT 3.4.1

The Operator shall have a means to ensure flight crew members are qualified and current prior to accepting and/or being assigned to duty. Such means shall consist of:

(i) A requirement that prohibits flight crew members from operating an aircraft if not qualified for duty in accordance with requirements contained in Table 2.3;

(ii) A scheduling process that ensures flight crew members, prior to being assigned to duty, are qualified and current in accordance with the applicable flight crew qualification requirements contained in Table 2.3 and, if applicable, additional requirements of the State. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** tracking/scheduling processes that prevent flight crew members from flight duty assignment unless currently qualified in accordance with Table 2.3 or other applicable requirements of the State.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** process for determining additional flight crew qualification requirements of the State.
- ☐ **Examined** selected flight crew duty assignment records (focus: satisfaction of applicable qualification requirements).
- ☐ **Observed** flight crew scheduling operations (focus: scheduling requires flight crew member qualification in accordance with Table 2.3 and requirements of State).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure flight crew member requirements and related scheduling processes preclude operation of an aircraft by a flight crew member that is not qualified and current in accordance with the specifications of the provision.

FLT 3.4.2

The Operator shall have a scheduling policy that ensures flight crew members, prior to being assigned to duty, will not be adversely 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 whether occurring in one flight, successive flights or accumulated over a period of time. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** scheduling policy/process that takes into account factors that could impair flight crew human performance prior to flight duty assignment.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** OM guidance/procedures (focus: definition of factors that impair flight crew human performance).

- ☐ **Examined** selected flight crew duty assignment records (focus: examples of application of factors that could impair crew member performance).
- ☐ **Observed** flight crew scheduling operations (focus: scheduling accounts for factors that could impair crew member performance).
- ☐ **Other Actions** (Specify)

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 and 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 limitations and rest period requirements that are in accordance with the applicable prescriptive fatigue management regulations of the State, and/or

(ii) If applicable, the Operator's Fatigue Risk Management System (FRMS) approved or accepted by the State and established in accordance with FLT 3.4.3B. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** requirements/methodology for flight crew fatigue management and/or FRMS in accordance with regulations of the State.
- ☐ **Identified/Assessed** FRMS (if applicable) (focus: approved/accepted by State, incorporates elements as specified in FLT 3.4.3B).
- ☐ **Identified/Assessed** tracking/scheduling processes (focus: processes take into account flight time/flight duty period/duty period/rest period limitations in the duty assignment of flight crew members).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** selected scheduling personnel.
- ☐ **Examined** selected flight crew duty assignment records (focus: examples of application of flight crew fatigue management limitations/mitigations).
- ☐ **Observed** flight crew scheduling operations (focus: scheduling includes management of fatigue-related safety risk).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Fatigue and Fatigue Risk Management System (FRMS).

The intent of this provision is to ensure an operator establishes a methodology for the management of crew member fatigue in a manner that:

- Is based upon scientific principles and knowledge;
- Is consistent with the prescriptive fatigue management and/or FRMS regulations of the State;
- Precludes fatigue from endangering safety of the flight.

Where authorized by the State, the operator may use a Fatigue Risk Management System (FRMS) in accordance with FLT 3.4.3B alone or in combination with prescriptive flight time, flight duty period, duty period limitations and rest period requirements as the means for managing fatigue-related risks.

Guidance for the implementation of an FRMS is contained in the IATA/ICAO/IFALPA Fatigue Management Guide for Airline Operators and, as applicable, in other reference documents approved or accepted by the State for the purpose of FRMS implementation (e.g. FAA, AC 120-103A–Fatigue Risk Management Systems for Aviation Safety).

FLT 3.4.3B

If the Operator uses an FRMS to manage flight crew fatigue-related safety risks, the Operator shall incorporate scientific principles and knowledge within the FRMS, comply with any applicable requirements for managing flight crew fatigue as established by the State or Authority and, as a minimum:

(i) Define and document the FRMS policy;

(ii) Incorporate risk management processes for fatigue hazard identification, risk assessment and risk mitigation;

(iii) Develop and maintain effective FRMS safety assurance processes;

(iv) Establish and implement effective FRMS promotion processes. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** FRMS policy/components/elements, compliance with fatigue risk management requirements of State/Authority.
- ☐ **Identified/Assessed** FRMS processes for flight crew fatigue risk management data collection/analysis/hazard identification, safety risk assessment, safety risk mitigation/control.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** selected personnel that perform flight crew fatigue-related safety risk management functions.
- ☐ **Examined** selected examples of fatigue risk management (focus: hazard identified, risk assessed, mitigation action developed and implemented).
- ☐ **Observed** flight crew scheduling operations (focus: scheduling includes management of fatigue-related safety risk in accordance with an approved FRMS).
- ☐ **Other** Action (Specify)

Guidance

The intent of this provision is to ensure fatigue occurring either in one flight, successive flights or accumulated over a period of time does not impair a crew member's alertness and ability to safely operate an aircraft or perform safety-related duties.

Where authorized by the State, the operator may use an FRMS as a means to determine that variations from prescriptive fatigue management policies demonstrate an acceptable level of safety. Guidance for the implementation of an FRMS is contained in the IATA/ICAO/IFALPA Fatigue Management Guide for Operators and, as applicable, other reference documents approved or accepted by the State for the purpose of FRMS implementation (e.g. FAA, AC 120-103A–Fatigue Risk Management Systems for Aviation Safety).

The applicability of this provision is limited to those operations wherein fatigue is managed in accordance with the FRMS as defined in the operator's FRMS documentation. It is important to note, however, that an FRMS may be used alone or in combination with prescriptive flight time, flight duty period, duty period limitations and rest period requirements as the means for managing fatigue related risks.

The components of an effective FRMS as specified in this provision are described in the following table.

FRMS Component	Item	Description
FRMS policy and documentation	(i)	Policy: • Defines FRMS Terms of Reference • Identifies scope of FRMS operations • Identifies FRMS elements • Reflects shared responsibility • States safety objectives • Declares management commitment • Identifies lines of accountability Documentation: • Policy and objectives • Processes and procedures • Accountabilities, responsibilities and authorities • Mechanism for involvement of all stakeholders • FRMS training records • Planned and actual times worked • Outputs (findings, recommendations, actions)
Fatigue risk management processes	(ii)	• Fatigue hazard identification (reactive/proactive/predictive processes) • Safety risk assessment • Safety risk mitigation
FRMS safety assurance processes	(iii)	• FRMS performance monitoring • Operational and organizational change management • Continual FRMS improvement
FRMS promotion processes	(iv)	• Training programs (for management, crew members and all other involved personnel under the FRMS) • Communication plan (explains FRMS policies, procedures and responsibilities to all relevant stakeholders and also describes communication channels)

FLT 3.4.3C

If the Operator uses an FRMS to manage flight crew fatigue-related safety risks, the Operator *should* ensure the organizational activities specified in FLT 3.4.3B related to the management of flight crew fatigue-related risks are integrated with the Operator's organizational safety management system (SMS) as specified in ORG 1.1.10. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** integration of FRMS elements in organizational SMS.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** selected personnel that perform flight crew fatigue-related safety risk management functions.
- ☐ **Examined** selected examples of flight crew fatigue-related hazards addressed/analyzed under organization-wide safety risk assessment/mitigation program.
- ☐ **Other** Action (Specify).

Guidance

The intent of this provision is to ensure the “tactical” organizational activities specified in FLT 3.4.3B interface with organizational safety risk management activities. This includes interfaces with SMS and Quality systems to ensure operational systems and processes are subjected to the organization's overarching safety and quality assurance processes.

Guidance for the integration of FRMS and SMS is described in the IATA/ICAO/IFALPA Fatigue Management Guide for Airline Operators.

FLT 3.4.4

The Operator shall consider the following as duty time for the purposes of determining required rest periods and calculating duty time limitations for operating flight crew members:

(i) Entire duration of the flight;

(ii) Pre-operating deadhead time;

(iii) Training periods prior to a flight;

(iv) Administrative or office time prior to a flight (for flight crew members that serve in a management function);

(v) If required by the State, flight time accrued by flight crew members in operations other than those of the Operator. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** requirements/criteria used for determination of required rest periods/calculation of duty time limitations for operating flight crew members.
- ☐ **Identified/Assessed** processes used to track flight crew compliance with duty time/rest period limitations.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected flight crew duty assignment records (focus: application of duty time/rest period limitations).
- ☐ **Observed** flight crew scheduling operations (focus: scheduling uses defined criteria for determining required flight crew rest periods/calculating duty time limitations).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Deadheading.

The intent of this provision is to ensure an operator considers non-flight duty time, or flight time accrued in operations other than those of the operator, that is likely to induce fatigue into the calculation of duty time limitations and the determination of required rest periods.

FLT 3.4.5 (Intentionally open)

FLT 3.4.6

If the Operator uses flight crew members that are concurrently qualified to operate aircraft of different types, or operate variants within one type, and the State specifies unique training and/or recency requirements for such flight crew members to remain concurrently qualified, the Operator shall have a scheduling process that addresses such unique requirements, to include, as a minimum:

(i) Required differences training (between type or variants);

(ii) Recency of experience necessary to maintain currency on all types or variants. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** scheduling processes that address flight crew members concurrently qualified to operate aircraft of different types/variants within one type.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** flight crew scheduling personnel.

- ☐ **Examined** requirements/criteria applicable to concurrently qualified flight crew members (focus: differences training, recency of experience).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure scheduling processes address the unique State requirements (e.g. recency on each type or variant, or training on each type or variant), if any, that are necessary for flight crew members to remain concurrently qualified to operate multiple types or variants within type.

The determination of variant within type is within the domain of the State as part of flight crew licensing.

3.5 Flight Preparation

FLT 3.5.1

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;

(ii) The OFP;

(iii) Weather information to include en route and departure, destination and alternate airports;

(iv) NOTAMS applicable to the en route phase of flight and to departure, destination and alternate airports;

(v) Aircraft performance;

(vi) Aircraft weight/mass and balance. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures for flight crew preflight preparation (focus: description of duties/responsibilities; definition of information required to be reviewed).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: preflight preparation duties/responsibilities).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Aircraft Technical Log (ATL).

FLT 3.5.2

If the Operator uses aircraft with electronic navigation data capabilities, the Operator shall have guidance and procedures for flight crew members to ensure the validity of any electronic navigation database installed into aircraft navigation equipment. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures for flight crew preflight of aircraft navigation equipment (focus: validation of any installed navigation databases; definition of validation criteria).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: flight crew preflight navigation database validation).
- ☐ **Other Actions** (Specify)

Guidance

Where more than one database is available for use in the aircraft navigation system, an operator can ensure database validity by providing guidance for the flight crew to select the new database for use prior to the first flight on the effective date for the new database.

The operator may provide relief in the MEL, permitting flight crew use of a non-current database for a specified period of time due to database errors or faults.

FLT 3.5.3

If the Operator uses electronic flight bag (EFB) devices or systems, the Operator shall, in accordance with requirements of the Authority, have one or more processes to ensure the appropriate management, control, maintenance and use of EFBs. Such process shall ensure, as a minimum:

(i) Portable EFBs, if used, do not affect the performance of aircraft systems, equipment or the ability to operate the aircraft;

(ii) Assessment of the safety risks associated with each EFB function used in operations in accordance with FLT 1.12.2;

(iii) Establishment of procedures for the use, management and maintenance of the device, each EFB function and any database the device may use;

(iv) Establishment of training requirements for the use of the device and each EFB function;

(v) In the event of an EFB failure, sufficient information is readily available to the flight crew for the flight to be conducted safely. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** process(es) for management/control of EFB systems/devices (focus: device distribution/serviceability (as applicable)/process for data maintenance/timely update, data limitations).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: implementation of relevant process(es)/procedures).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Electronic Flight Bag (EFB).

The specification in item ii) refers to risk assessment and mitigation action. Such process considers an EFB system, its software applications, and its integration inside a specific aircraft, to identify the potential malfunctions and failure scenarios, analyze their operational effects, and, if necessary, propose mitigation means. An effective risk assessment includes:

- Evaluation of the risks associated with the use of an EFB;
- Definition of appropriate risk mitigation measures;
- Identification of potential losses of function or malfunctions (detected and undetected erroneous output) and associated failure scenarios;
- Analysis of the operational consequences of identified failure scenarios;
- Establishment of mitigating measures;
- Assurance that the EFB system (hardware and software) achieves at least the same level of accessibility, usability, and reliability as the means of presentation it replaces;
- The possibility of redundant portable EFBs to reduce the risk of exhausted batteries.

The specification in item v) refers to reliability of EFB use. Consideration is given to establishing a reliable alternative means of providing the information available on the EFB system. For example, alternative means could include one or a combination of the following:

- System design (including hardware and software);
- Alternative EFB possibly supplied from a different power source;
- EFB applications hosted on more than one platform;
- Paper backup (e.g. Quick Reference Handbook (QRH));
- Procedural means; and
- Administration.

3.6 Route and Airport Planning

FLT 3.6.1 (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)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance that specifies operational requirements for airports of intended use (focus: availability to flight crew; instructions for information in operations).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: determination of airport operational requirements).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Air Traffic Services.

FLT 3.6.3

The Operator shall have guidance that enables the flight crew to determine operating minima for airports of intended use. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance that specifies operating minima for airports of intended use (focus: availability to flight crew; instructions for use of information in operations).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: determination of airport operating minima).
- ☐ **Other Actions** (Specify)

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)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance that specifies takeoff/landing runway visual range (RVR) requirements/associated limitations for runways of intended use (focus: availability to flight crew; instructions for use of information in operations).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: determination of airport RVR requirements/associated limitations).
- ☐ **Other Actions** (Specify)

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 prevailing visibility is below 800 meters or the Converted Meteorological Visibility (CMV) is below 800 RVR unless RVR reporting is available for the runway of intended use. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance that requires RVR reporting for approach/landing operations when prevailing visibility is below 800 meters/CMV below 800 RVR (focus: availability of guidance to flight crew; statement of prohibition).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: determination of approach/landing RVR requirements).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Converted Meteorological Visibility (CMV).

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)**

Auditor Actions

- ☐ **Identified/Assessed** policy/OM guidance that requires flight crew to determine minimum dispatch/departure fuel. (focus: availability to flight crew; minimum dispatch/departure fuel includes fuel for phases of flight specified in DSP 4.3.1).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: determination of minimum dispatch/departure fuel).
- ☐ **Other Actions** (Specify)

Guidance

DSP 4.3.1 specifies the fuel categories that are typically used when defining regulatory and/or operational requirements during the flight planning process and on the OFP.

Individual aircraft fuel consumption, MEL/CDL adjustments, anticipated operational constraints (weather, de-icing, slots, etc.) are all factors normally to be considered in calculating minimum dispatch/departure fuel required.

Fuel calculations are typically made by a flight crew member, a Flight Operations Officer/Flight Dispatcher, or both.

FLT 3.7.2

The Operator shall delegate the authority to the PIC to ensure:

(i) A flight is not commenced unless the usable fuel required in accordance with DSP 4.3.1 is on board the aircraft and is sufficient to complete the planned flight safely;

(ii) If fuel is consumed during a flight for purposes other than originally intended during pre-flight planning, such flight is not continued without a re-analysis and, if applicable, adjustment of the planned operation to ensure sufficient fuel remains to complete the flight safely. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM requirement for PIC to ensure required safe usable fuel on board prior to flight (focus: delegation of authority to PIC; instructions for determination of safe usable fuel).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: determination of usable safe fuel prior to flight).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Discretionary Fuel.

The intent of this provision is for the PIC to have the authority to ensure sufficient fuel is on board the aircraft to commence or continue the planned flight safely, and to be able to authorize the loading of *Discretionary Fuel* if such fuel is required for the safe conduct of the flight and will not cause operating limits to be exceeded.

In a shared system of operational control, the PIC and the Flight Dispatcher/Flight Operations Officer share the responsibility to ensure operating limitations are not exceeded and sufficient fuel is on board to commence or continue the planned flight safely.

The extent of the re-analysis or adjustment specified in item ii) is commensurate with the scope and complexity of the planned operation.

FLT 3.7.3

The Operator shall have guidance that enables the flight crew to prepare and/or accept a load sheet with accurate aircraft weight/mass and balance calculations for each flight. Such guidance shall:

(i) Assign responsibility to the PIC for ensuring the load sheet content is satisfactory prior to each flight;

(ii) Incorporate flight crew procedures for preparing or accepting last minute changes (LMC) to the load sheet, to include guidance for the maximum allowable difference between planned and actual weights.

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures for PIC/flight crew preparation/acceptance of load sheet (focus: instructions for determination of accurate load sheet, preparing/accepting LMCs, maximum allowable difference between planned/actual weights).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: flight crew preparation/acceptance of accurate load sheet).
- ☐ **Other Actions** (Specify)

FLT 3.7.4 (Intentionally open)

FLT 3.7.5

The Operator shall have a description of the Air Traffic Services (ATS) Flight Plan, as well as guidance and instructions for its use, that is accessible to the flight crew during flight preparation and in flight. **(GM)**.

Auditor Actions

- ☐ **Identified/Assessed** OM description/guidance for preflight use of ATS flight plan (focus: availability to flight crew; instructions for use of ATS flight plan in preflight preparation).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: accessibility/use of ATS flight plan during flight preparation).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of ATS Flight Plan and Air Traffic Services (ATS).

FLT 3.7.6

The Operator shall have a description of the Operational Flight Plan (OFP) or equivalent document in the OM that includes an outline of OFP content as well as guidance and procedures that require:

(i) The OFP to be accessible to the flight crew during flight preparation and in flight;

(ii) The flight crew to:

(a) Verify that relevant information in the OFP is consistent with the filed ATS flight plan;

(b) Verify that relevant information in the OFP is consistent with data programmed into the navigation system;

(c) In flight, monitor flight time and fuel burn to identify trends and for comparison with the OFP. **(GM)**.

Auditor Actions

- ☐ **Identified/Assessed** description of OFP or equivalent document in OM.
- ☐ **Identified/Assessed** requirements for availability/accessibility/use of OFP or equivalent document by flight crew prior to/during flight.
- ☐ **Identified/Assessed** OM requirement/guidance for verifying consistency between OFP and ATS Flight Plan/navigation system data.
- ☐ **Identified/Assessed** OM requirement/guidance for monitoring of flight time/fuel burn to identify trends, for comparison to OFP.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected OFPs.
- ☐ **Observed** line flight and flight simulator operations (focus: use of the OFP; verification of consistency between OFP and ATS Flight Plan/data entered into navigation system (FMS); en route fuel monitoring/tracking).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of ATS Flight Plan and Operational Flight Plan (OFP).

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

The specification in item (ii) (a) typically requires the operator to identify a suitable ATS flight plan source reference for OFP verification (e.g. filing strip, flight plan form or other source as defined by the operator).

The specifications in item (ii) (b) of this provision refer to navigation data manually programmed by the flight crew or directly downloaded into the navigation system.

The specifications in item (ii) (c) of this provision ensure fuel and time trends are monitored by the flight crew and compared against the OFP. OFP guidance and procedures typically 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 data recording methods.

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

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)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures for PIC preflight acceptance of OFP (focus: instructions for PIC acceptance; requirement for signature/approved electronic method of acceptance).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: acceptance of OFP during flight preparation).
- ☐ **Examined** selected OFP records.
- ☐ **Other Actions** (Specify)

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. **(GM)**

Auditor Actions

- ☐ **Identified\Examined** OM guidance/procedures for flight crew identification of en route alternate airports (focus: availability to flight crew; instructions for identifying en route alternate airports).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: identification of en route alternate airports).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Alternate Airport, which includes a definition for En Route Alternate Airport.

FLT 3.7.9

If the Operator conducts isolated airport operations, the Operator shall have guidance and instructions for the flight crew to:

(i) Practically calculate or determine a point of safe return (PSR) for each flight into an isolated airport;

(ii) Ensure the flight does not continue past the actual PSR unless a current assessment of meteorological conditions, traffic, and other operational conditions indicate that a safe landing can be made at the estimated time of use. **(GM)**

Auditor Actions

- ☐ **Identified** aircraft fleets used in isolated aerodrome operations.
- ☐ **Identified/Assessed** OM guidance/procedures for flight crew calculation/consideration of PSR for isolated airport operations (focus: instructions for calculation/re-calculation of PSR; definition of conditions that permit continuation beyond PSR).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: calculation/use of PSR).
- ☐ **Other** Action (Specify)

Guidance

Refer to the IRM for the definitions of Isolated Airport and Point of Safe Return (PSR).

This provision, in combination with the fuel carriage requirements of DSP 4.3.11, is intended to mitigate some of the risks associated with operations to isolated airports that preclude the selection and specification of a destination alternate.

A PSR is the point of last possible diversion to an en route alternate. While this point can be calculated and specified on the OFP during the flight planning stage in accordance with DSP 4.1.7, such a calculation does not typically take into account discretionary fuel or the real-time changes in fuel consumption that will occur after departure. These factors typically result in an actual PSR that will be reached later in the flight than the point originally calculated on the OFP.

In order to conform to item i), an operator would provide practical instructions for the flight crew to re-calculate the position of the PSR while en route. These instructions usually involve using a fuel plotting chart or the calculating capabilities of the Flight Management System (FMS). Alternatively, the position of the actual PSR can be re-calculated by operational control personnel and relayed to the en route aircraft, which also satisfies the specification in item i).

A PSR may coincide with the Final Decision Point used in Decision Point Planning or the Pre-determined Point used in Pre-determined Point planning.

Guidance on flight planning methods including planning operations to isolated airports and guidance related to the determination of a PSR is contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

FLT 3.7.10

The Operator *should* have guidance for use by the flight crew to increase fuel state awareness. Such guidance *should* include one or more of the following:

(i) An approximate final reserve fuel value applicable to each aircraft type and variant in the Operator's fleet.

(ii) A final reserve fuel value presented on the OFP for each flight.

(iii) A display in the FMS of the planned or actual final reserve fuel for each flight. **(GM)**

Auditor Actions

☐ **Identified/Examined** OM guidance on fuel state awareness (focus: provides a final reserve fuel value for each aircraft type and variant; presented for use by the flight crew in flight).

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

☐ **Observed** line flight operations (focus: presentation of final reserve fuel value, use by flight crew).

☐ **Other Actions** (Specify)

Guidance

The intent of this provision is for an operator to provide the means for flight crew members to quickly determine an approximate final reserve fuel value 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 to heighten flight crew awareness 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 aircraft types and variants used in operations. Alternatively, the specifications of this provision may be satisfied by Flight Management Systems that can display the actual final reserve fuel figure.

Refer to the ICAO Flight Planning and Fuel Management Manual (Doc 9976) for examples of final reserve fuel tables or charts.

3.8 Aircraft Preflight and Airworthiness

FLT 3.8.1

The Operator shall have guidance and procedures that describe flight crew duties and responsibilities for the use and/or application of the ATL, MEL and CDL. Such guidance and procedures 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, and shall address, as a minimum, PIC responsibilities for:

(i) Determining the airworthiness status of the aircraft;

(ii) Ensuring, for each flight, a description of known or suspected defects that affect the operation of the aircraft is recorded in the ATL;

(iii) Precluding a flight from departing until any defect affecting airworthiness is processed in accordance with the MEL/CDL;

(iv) Ensuring the aircraft is operated in accordance with any applicable MEL/CDL Operational Procedure. **(GM)**

Auditor Actions

☐ **Identified/Assessed** OM guidance/procedures for flight crew use of ATL/MEL/CDL (focus: availability/accessibility to flight crew prior to/during flight; instructions for use of ATL/MEL/CDL, application of limitations).

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

☐ **Observed** line flight operations (focus: use/application of ATL/MEL/CDL).

☐ **Other Actions** (Specify)

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.

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures for use of ATL by flight crew (focus: availability to flight crew; instructions for entering information in ATL).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: use of ATL).
- ☐ **Other Actions** (Specify)

FLT 3.8.3

The Operator shall assign the PIC the authority to reject an aircraft prior to departure of a flight if dissatisfied with any aspect of the airworthiness and/or maintenance status of the aircraft. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures for acceptance/rejection of aircraft based on airworthiness assessment (focus: delegation of authority to PIC; instructions for assessment of airworthiness).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: use of ATL).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure that PIC acceptance of an aircraft is based on a review of the MEL/CDL, ATL and/or any other operator or State-approved sources of technical information attesting to the mechanical state of the aircraft.

FLT 3.8.4–3.8.5 (Intentionally open)

FLT 3.8.6A

The Operator shall ensure, prior to each flight, the satisfactory accomplishment of an exterior aircraft inspection (walkaround). This inspection shall be:

(i) Performed by a member of the flight crew, or

(ii) Delegated to a licensed aircraft maintenance technician, or

(iii) Delegated to another individual qualified in accordance with FLT 2.2.25. **(GM)**

Note: *The specifications of this provision are applicable to the exterior aircraft inspection (walkaround) typically defined by an aircraft manufacturer in the AOM and normally accomplished by the flight crew. The specifications are not applicable to an engineering airworthiness inspection, daily Inspection or any other inspection required by regulation, which must be carried out by a licensed aircraft maintenance technician.*

Note: *Operators that choose to delegate the exterior aircraft inspection to a licensed aircraft maintenance technician or another qualified individual shall ensure the flight crew is notified prior to flight that the inspection has been completed.*

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures for exterior aircraft inspection prior to each flight. (focus: requirement to be conducted by flight crew or delegated to licensed maintenance technician or another qualified individual; requirement for flight crew notification of completion if conducted by maintenance technician or other qualified individual).
- ☐ **Identified/Assessed** process to ensure non-flight crew members are trained and qualified (focus: training and checking requirements).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Coordinated** with GRH and/or MNT auditors.
- ☐ **Observed** line flight operations (focus: aircraft exterior inspection).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Exterior Aircraft Inspection (Walkaround).

Refer to the guidance associated with FLT 2.2.25 for a list of safety critical items typically addressed during an exterior aircraft inspection (walkaround).

FLT 3.8.6B

If the Operator delegates the accomplishment of the exterior aircraft inspection (walkaround) to qualified individuals as specified in FLT 3.8.6A (iii), the Operator shall ensure such delegation was subjected to safety risk assessment and mitigation performed in accordance with SMS principles as specified in FLT 1.12.2. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** safety risk assessment and mitigation program in flight operations (focus: delegated exterior aircraft inspection activity performed by other than a flight crew member or licensed aircraft maintenance technician has been justified by performance of an SRA in accordance with operator's SMS).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** person(s) that perform flight operations SRAs.
- ☐ **Examined** record of SRA having been performed (focus: hazards were identified; results of SRA indicate an acceptable level of risk associated with such delegation).
- ☐ **Other Actions** (Specify)

Guidance

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

The intent of this provision is to ensure the hazards relevant to the conduct of the exterior aircraft inspection (walkaround) to individuals other than a member of the flight crew, or to a licensed aircraft maintenance technician, are considered by the operator.

See guidance associated with FLT 2.2.25.

FLT 3.8.7A

The Operator shall have guidance, published in the OM or other document(s) available to the flight crew during flight preparation, that requires an exterior aircraft inspection (walk-around) that focuses on safety-critical areas of the aircraft and ensures, as a minimum:

(i) Pitot and static ports are not damaged or obstructed;

(ii) Flight controls are not locked or disabled (as applicable, depending on aircraft type);

(iii) Frost, snow or ice is not present on critical surfaces;

(iv) Aircraft structure or structural components are not damaged. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures for aircraft exterior inspection prior to each flight (focus: instructions for conduct of inspection; definition of safety-critical areas that must be included).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: aircraft exterior inspection).
- ☐ **Other Actions** (Specify)

Guidance

If the exterior aircraft inspection is delegated in accordance with FLT 3.8.6, conformity with this provision would require that guidance is contained in documents accessible to licensed maintenance technicians.

FLT 3.8.7B

The Operator shall have a procedure to ensure the availability, accessibility and serviceability of aircraft flight deck systems and emergency equipment. Such procedure shall include an interior preflight inspection of systems and equipment, which, as a minimum, is conducted by the flight crew prior to the first flight:

(i) Of the flight crew on an aircraft during a duty period;

(ii) On an aircraft after it has been left unattended by the flight crew, unless the Operator has a process or a procedure that ensures flight deck systems and emergency equipment remain undisturbed. **(GM)**

Note: *The specifications of this provision are applicable to commercial and/or non-commercial operations.*

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures for flight crew preflight inspection of flight deck emergency systems/equipment (focus: instructions for conduct of inspection; definition of emergency systems/equipment to be included).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: flight deck preflight inspection).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is for the flight crew to ensure the availability, accessibility and serviceability of aircraft flight deck systems and emergency equipment prior to flight.

Serviceability is typically assessed by checking fire extinguisher pressures, oxygen bottle pressures, PBE humidity indicators and/or other preflight checks specified by the aircraft or equipment manufacturers and documented in the operator's procedures.

An operator typically includes associated guidance to ensure action is taken to address a condition where systems or equipment are discovered as faulty, missing or does not satisfy operational requirements.

Discrepancies involving systems or equipment are normally documented in a technical log book or equivalent recording medium.

FLT 3.8.8

If the Operator conducts passenger flights or transports supernumeraries in the passenger cabin with or without cabin crew, the Operator shall have a procedure to ensure the availability, accessibility and serviceability of aircraft cabin emergency systems and equipment. Such procedure shall include a preflight inspection of such systems and equipment, which, as a minimum, shall be conducted by the flight crew or, if applicable, delegated to the cabin crew prior to the first flight:

(i) After a new cabin crew or, if no cabin crew is used, a new flight crew has assumed control of the aircraft cabin;

(ii) After an aircraft has been left unattended by a flight crew or cabin crew unless the Operator has a process or procedure that ensures aircraft cabin emergency systems and equipment remain undisturbed. **(GM)**

Note: *The specifications of this provision are applicable to commercial and/or non-commercial operations.*

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedure for flight/cabin crew preflight inspection of cabin emergency systems/equipment (focus: instructions for conduct of inspection; requirement for systems/equipment to be serviceable and available/accessible to passengers/supernumeraries; if applicable, process or procedure that ensures systems/equipment remain undisturbed when no flight or cabin crew on board).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: cabin preflight inspection).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is for a preflight inspection of cabin emergency systems and equipment to be accomplished by either the flight crew or cabin crew, as applicable, under the circumstances specified.

Serviceability is typically assessed by checking fire extinguisher pressures, oxygen bottle pressures, PBE humidity indicators and/or other items specified by the aircraft or equipment manufacturers and documented in the operator's preflight inspection procedures.

FLT 3.8.9

If the flight crew is required to conduct a preflight interior inspection of the cargo compartment and/or supernumerary compartment on cargo aircraft, or the passenger cabin of an aircraft being used to transport cargo without passengers, 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.*

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures for ensuring the 9G restraint system and smoke barrier are secured for the specified phases of flight.

- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: preflight inspection of cargo/supernumerary compartment or, if applicable, passenger cabin).
- ☐ **Examined** selected ATL records or other records (of completed cargo compartment and/or supernumerary compartment).
- ☐ **Other Actions** (Specify)

△ **FLT 3.8.10**

If the Operator transports passengers and/or supernumeraries without cabin crew, the Operator shall have procedures to ensure, prior to departure of a flight, passengers and/or supernumeraries, as applicable, have been briefed and are familiar with the location and use of safety equipment, to include:

(i) Seat belts;
(ii) Emergency exits;
(iii) Life jackets (individual flotation devices), if required
(iv) Lifesaving rafts, if required
(v) Oxygen masks;
(vi) Emergency equipment for collective use. **(GM)**

Note: *The specifications of this provision are applicable to commercial and/or non-commercial operations.*

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures for preflight briefing for passengers/ supernumeraries; orientation as to location/use of safety equipment (focus: instructions of conduct of briefing; definition of safety equipment to be addressed/included).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: preflight briefing/orientation for passengers/supernumeraries).
- ☐ **Other Actions** (Specify)

Guidance

The briefing related to the specification in item ii) also typically addresses any applicable requirements and restrictions for personnel seated adjacent to cabin emergency exits.

3.9 Ground Handling

☐ **FLT 3.9.1**

If the Operator conducts passenger flights without cabin crew, the Operator shall have a procedure to ensure verification that:

(i) Passenger and crew baggage in the passenger cabin is securely stowed;
(ii) If applicable, cargo packages and/or passenger items being transported in passenger seats are properly secured. **(GM)**

Auditor Actions

- ☐ **Identified** procedure for flight crew to verify cabin security (focus: baggage and cargo packages/passenger items are stowed or properly secured).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line cabin operations (focus: flight crew procedure to verify baggage and cargo packages/passenger items are stowed or properly secured).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is for an operator to have a procedure for verification by the flight crew that all baggage and, if applicable, cargo packages and/or passenger items being transported in passenger seats are stowed or properly secured.

Some operators might transport smaller cargo packages (e.g. mail, COMAT items) secured in cabin passenger seats.

Some operators might transport certain passenger items secured in cabin passenger seats. These types of items are typically large, valuable or fragile articles belonging to passengers that are not conducive to transport as checked baggage or appropriate for stowage in overhead bins/lockers (e.g. large musical instruments, certain electronic equipment, prominent trophies, works of art). Such items might thus be secured and carried in a dedicated cabin passenger seat (which might be purchased by the passenger-owner for the purpose of transporting the item).

Loading procedures and limitations for securing such items are defined in GRH 3.4.12, which is located in Section 6 (GRH).

△ **FLT 3.9.2**

If the Operator conducts passenger flights without cabin crew, the Operator shall have a process and/or procedures to ensure a coordinated and expeditious cabin evacuation during aircraft fueling operations with passengers embarking, on board or disembarking. Such procedures shall require:

(i) Cabin exits are designated for rapid deplaning or emergency evacuation, and routes to such exits are unobstructed;

(ii) The area outside designated emergency evacuation exits is unobstructed;

(iii) Qualified persons trained in emergency procedures are positioned near aircraft boarding door(s) or are otherwise in a position to monitor passenger safety and, if required, execute a cabin evacuation;

(iv) A suitable method of communication is established between qualified persons in a position to monitor passenger safety and personnel that have responsibility for fueling operations. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM process/procedures for coordinated cabin evacuation during aircraft fueling operations with passengers embarking/on board/disembarking (focus: description of required flight crew actions; description of required aircraft system configuration/exterior conditions/personnel positioning/method of communication).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Coordinated** with cabin/ground operations (focus: complementary processes/procedures for cabin evacuation).
- ☐ **Observed** line flight operations (focus: coordination for potential cabin evacuation).
- ☐ **Other Actions** (Specify)

Guidance

The principal intent of this provision is to ensure an expeditious and coordinated passenger evacuation regardless of the aircraft type, crew complement or complexity of the fueling operation. For example, the specifications of the provision could be implemented procedurally and exclusively by a flight crew supervising the refueling of a small aircraft. Complex air carrier fueling operations, on the other hand, may call for a process-based approach involving numerous appropriately positioned and qualified individuals that can collectively ensure conformity with the specifications of the provision as well as its principal intent.

The specification in item i) refers to the designation of exits for rapid deplaning or emergency evacuation, which typically considers:

- Aircraft type (e.g. some aircraft types might require the designation of over-wing exits for an emergency evacuation);

- The method being used for passenger boarding and/or deplaning (e.g. boarding bridge, air stairs);
- Exterior or interior obstructions that might render an exit unusable for an emergency evacuation.

The specifications in items i) and ii) refer to obstructions that would render an exit or area outside an exit unusable during an emergency evacuation.

The specification in item iii) refers to the positioning of persons trained and qualified to monitor passenger safety and execute a rapid deplaning or cabin evacuation. Such persons are typically positioned near the boarding door(s) when a passenger boarding bridge is being used or, when a boarding bridge is not in use, in the location(s) most suitable for monitoring the safety of passengers that are embarking, on board or disembarking the aircraft. Certain aircraft might be small enough to permit a qualified person to monitor the safety of passengers embarking, on board or disembarking from outside the aircraft.

The specification in item iv) refers to the procedures for establishing a suitable method of communication, which may be initiated by any applicable person. Acceptable procedural methods of initiating and maintaining communication may include one or more of the following:

- The use of the aircraft inter-communication system, or
- Direct person-to-person contact, or
- Any other method of communication that ensures the flight crew or other suitably qualified persons are able to expeditiously direct personnel to discontinue fueling operations for any reason.

The specification in item iv) may be fulfilled by a flight crew member or other suitably qualified person when aircraft refueling.

FLT 3.9.3

If the Operator conducts passenger flights without cabin crew and transports passengers that require special handling, the Operator shall have a policy and procedures for the acceptance or non-acceptance, as well as onboard handling, of such passengers by the flight crew. The policy and procedures shall be in accordance with applicable regulations and as a minimum address, as applicable:

(i) Intoxicated and/or unruly passengers;
(ii) Passengers with disabilities or reduced mobility;
(iii) Passengers with injuries or illness;
(iv) Infants and unaccompanied children;
(v) Inadmissible passengers;
(vi) Deportees;
(vii) Passengers in custody. **(GM)**

Auditor Actions

☐ **Identified/Assessed** OM policy/procedures for passengers that require special handling (focus: description of flight crew actions; definition of types of passengers that require special handling).
☐ **Interviewed** responsible manager(s) in flight operations.
☐ **Coordinated** with cabin/ground operations (focus: complementary policy/procedures for treatment of special handling passengers).
☐ **Observed** line flight operations (focus: treatment of special handling passengers).
☐ **Other Actions** (Specify)

Guidance

The principle intent of this provision is to ensure the appropriate acceptance or non-acceptance, as well as onboard, handling of passengers regardless of aircraft type, crew complement or complexity of the operation. An operator typically provides guidance to the flight crew, commensurate with any assigned responsibilities relative to passenger handling, to address the acceptance or non-acceptance of passengers requiring special handling as defined by this provision. Such guidance also typically defines the conditions necessary to accept or deny boarding to a passenger.

For intoxicated and/or unruly passengers as specified in item (1), the PIC typically has the authority to refuse carriage, order in-flight restraint or, depending on the severity of circumstances, divert a flight to an alternate airport for disembarkation and handover to authorities.

The specifications in items i), v), vi) and vii) might require guidance in the OM that addresses the proper use of restraint devices, unless such devices are prohibited by the Authority or their use is impractical due to lack of appropriate crew members.

FLT 3.9.4

If the carriage of weapons on board an aircraft is approved as specified in SEC 3.3.1, the Operator shall have a procedure to ensure the PIC is notified prior to the departure of a flight. Such notification shall include the number and seat locations of authorized armed persons on board the aircraft. **(GM)**

Note: *The content of the notification to the PIC may vary as specified in SEC 3.3.1.*

Auditor Actions

- ☐ **Identified/Assessed** OM policy/procedures for carriage of weapons by law enforcement/other persons as approved by State (focus: flight crew duties/responsibilities; requirement for/content of notification to flight crew).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Coordinated** with cabin/ground operations (focus: complementary policy/procedures for notification of onboard weapons).
- ☐ **Observed** line flight operations (focus: notification of onboard weapons).
- ☐ **Other Actions** (Specify)

Guidance

The term ‘weapon’ in the context of this provision is normally a firearm legally in the possession of a law enforcement officer or other authorized individual (e.g. an inflight security officer acting in the performance of his or her duties as an armed officer).

An agreed procedure with the relevant law enforcement agency is typically in place that permits the operator to notify the PIC (and other crew members as required by local requirements) of the presence of armed persons on board.

Operators will have differing methods to accomplish the booking, seating and notification to the flight crew of armed individuals on board. A clear communication protocol by the operator ensures a consistent booking-to-boarding process for such individuals. The content of the flight crew notification will differ among operators but will always include the number and seat assignment of armed persons on board.

In accordance with ICAO standards, states that could be relevant to an individual flight (i.e. states of departure, transit, arrival, potential diversion) will have laws that require special authorization for the carriage of weapons on board an aircraft.

Each Contracting State ensures that the carriage of weapons on board aircraft by law enforcement officers and other authorized persons acting in the performance of their duties requires special authorization in accordance with the laws of the States involved.

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.*

Auditor Actions

- ☐ **Identified/Assessed** OM policy/procedures for aircraft de-/anti-icing of aircraft (focus: availability/accessibility to flight crew prior to/during flight; description of flight crew authority/duties/responsibilities; statement that requires critical surfaces to be clear of ice prior to takeoff).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: operations in ground icing conditions; de-/anti-icing operations).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of De-/Anti-icing Program and Holdover Time.

The intent of this provision is to ensure flight crew members comply with the clean aircraft concept prior to takeoff anytime there is a potential for the accretion of ice on aircraft critical surfaces during ground operations.

Refer to GRH 4.2.1 located in ISM Section 6 for specifications and associated guidance related to the establishment and maintenance of a De-/Anti-icing Program.

Qualified ground personnel specified in item ii) are typically used to perform a visual wing check in instances when the wings are not visible to the flight crew from the interior of the aircraft (e.g., cargo aircraft operations).

The surfaces specified in item iii) include wings, flight controls, engine inlets, fuselage surfaces in front of engines or other areas defined in the AOM.

Additional guidance may be found in ICAO Doc 9640-AN/940, Manual of Aircraft Ground De-icing/Anti-icing Operations.

FLT 3.9.7

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.*

Auditor Actions

- ☐ **Identified/Assessed** OM guidance that addresses/prohibits operations in ground icing conditions (focus: availability/accessibility to flight crew prior to/during flight; description of conditions conducive to ground aircraft icing; statement that prohibits aircraft operations in conditions conducive to ground icing).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: operations in ground icing conditions).
- ☐ **Other Actions** (Specify)

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, the Operator shall ensure information and guidance that enable the flight crew to carry out duties and responsibilities related to the transport of dangerous goods is published or referenced in the OM and included in the onboard library. Such guidance shall include, as a minimum:

(i) General policies and procedures;
(ii) Duties and responsibilities;
(iii) As applicable, preflight acceptance requirements;
(iv) Flight crew written notification requirements;
(v) Dangerous goods incident and/or emergency response procedures. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures associated with transport of dangerous goods (focus: included in onboard library; description of flight crew duties/responsibilities; acceptance/notification requirements).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: provision/receipt/acknowledgement of onboard dangerous goods).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Dangerous Goods Regulations (DGR) and NOTOC (Notification to Captain).

An operator, in accordance with requirements of the Authority, typically develops flight crew guidance related to the transport of dangerous goods based on technical information from one or more source reference documents, to include:

△
- Dangerous Goods Regulations (DGR);
- ICAO Doc. 9481 AN/928, Emergency Response Guidance for Aircraft Incidents Involving Dangerous Goods;
- An equivalent dangerous goods manual, dangerous goods emergency response guide or other reference document approved or accepted by the Authority for the development of flight crew guidance related to the transportation of dangerous goods by air.

The specification in item iii) refers to procedures and information formulated to assist each applicable flight crew member in performing or directly supervising the acceptance of dangerous goods for transport on an aircraft. Such information might include, but not limited to:

- Details and locations of cargo compartments;
- The maximum quantity of dry ice permitted in each compartment;

- If radioactive materials are to be carried, instructions on loading;
- Dangerous goods reporting requirements.

Item iii) is only applicable to flight crew members assigned such responsibilities by the State or the operator.

The specification in item iv) refers to PIC and/or flight crew duties and responsibilities related to the acquisition and review of the NOTOC (Notification to Captain).

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.

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures that address response to dangerous goods incidents (focus: description of flight crew duties/responsibilities in the event of dangerous goods incidents).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected flight crew dangerous goods incident reports.
- ☐ **Other Actions** (Specify)

3.10 Airspace Rules

FLT 3.10.1

The Operator shall require all commercial flights to be conducted under an IFR Flight Plan in accordance with an IFR clearance and, if an instrument approach is required, in accordance with the approach procedures approved or accepted by the state in which the airport of intended landing is located. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM requirement for all flights to be conducted under IFR flight plan/in accordance with IFR clearance (focus: flight crew filing of IFR flight plan, acceptance of/adherence to IFR clearance).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: IFR flight plan/clearance; IFR operations).
- ☐ **Other Actions** (Specify)

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)**

Auditor Actions

- ☐ **Identified** authorization for portions of flights to be conducted under VFR.
- ☐ **Identified/Assessed** OM policy/procedures/limitations for portions of flights to be conducted under VFR (focus: operating under VFR for portion of flight; obtaining/cancelling IFR flight plan).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: partial VFR operations; obtaining/cancelling IFR flight plan).
- ☐ **Other Actions** (Specify)

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. Y for IFR first, then VFR or Z for VFR first, then IFR as designated 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)**

Auditor Actions

- ☐ **Identified/Assessed** OM requirement/guidance for standard radio phraseology in communication with ATC (focus: instructions/procedures for flight crew communications with ATC; definition/use of standard phraseology).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: ATC communications; use of standard phraseology).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is for an operator to have policies and procedures that ensure:

- The use of standard radio phraseology;
- ATC clearances are clearly understood during times of increased operational risk.

The specification in item ii) refers to situations when a missed or misunderstood clearance could pose a safety risk to the flight (e.g. inadequate terrain clearance, runway incursion, loss of separation). ATC clearances that have the potential to pose such safety risks, if misunderstood by the flight crew, typically include the following:

- Heading, altitude/flight level, assigned route/waypoint changes;
- Frequency changes during critical phases of flight;
- Instructions for any operation on or near a runway.

FLT 3.10.5

The Operator shall have a policy and/or procedures that require 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 (121.5 MHz):

(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)**

Auditor Actions

- ☐ **Identified/Assessed** OM policy/procedures for monitoring of radio frequencies appropriate to areas of operations (focus: instructions for flight crew monitoring of radio frequencies; definition of frequencies to be monitored).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: monitoring of radio frequencies).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for definitions of In-flight Broadcast Procedures (IFBP), Long-range Over-water Flights, 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 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)**

Auditor Actions

- ☐ **Identified/Assessed** OM procedures/limitations for operations into/out of uncontrolled airspace/airports (focus: flight crew actions/responsibilities for airspace/airport operations with no ATC).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: uncontrolled airspace/airport operations).
- ☐ **Other Actions** (Specify)

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)**

Auditor Actions

- ☐ **Identified/Assessed** OM requirement/guidance for determining differences in rules/procedures in airspace of intended use (focus: instructions for flight crew determination of airspace rules/procedures, differences between prevailing/local and ICAO rules).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Other Actions** (Specify)

Guidance

The specification of this provision ensures flight crews that operate in airspace(s) with different rules have those differences explained in the OM.

Airspace(s) of intended use typically includes ICAO, FAA, State or any other local airspace subject to the operations of the operator.

FLT 3.10.8

If the Operator conducts operations in en route remote airspace for which Strategic Lateral Offset Procedures (SLOP) are published in the relevant AIP, the Operator *shall* have guidance that enables the flight crew to implement SLOP when operating in such airspace. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance for implementation of SLOP for operations in en route remote airspace (focus: guidance enables flight crew to implement SLOP where applicable).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Aeronautical Information Publication (AIP).

The intent of this provision is to ensure flight crew implement SLOP in accordance with applicable requirements.

General guidance regarding the implementation of SLOP may be derived from:

- ICAO Doc 4444 – Procedures for Air Navigation Services, Air Traffic Management;
- ICAO Circular 331 - Implementation of Strategic Lateral Offset Procedures;
- FAA AC 91-70 B Change 1 - Oceanic and Remote Continental Airspace Operations.

Region-specific guidance regarding the implementation of SLOP may be derived from:

- State Aeronautical Information Publications (e.g., Australia, Canada, Ireland, United States);
- ICAO oceanic area guidance material (e.g., ICAO Nat Doc 007, North Atlantic Operations and Airspace Manual);
- ICAO Regional Supplementary Procedures, ICAO Doc 7030;
- State specific oceanic area resource guides (e.g., FAA WATRS, GOMEX, Caribbean Resource Guide for U.S. Operators, FAA North Atlantic Resource Guide for U.S. Operators, FAA Pacific Guide for U.S. Operators);
- State and/or Flight Information Region (FIR) specific advisory information (e.g., NOTAMS);
- Jeppesen Airway Manual country specific guidance.

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/RNAV. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM requirement/guidance for monitoring navigation performance/verifying present position/maintaining RNP (focus: description of flight crew actions/responsibilities for monitoring position/navigation performance).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: monitoring of navigation performance).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Receiver Autonomous Integrity Monitoring (RAIM).

There are various means to verify navigation accuracy, for example FMC display, “High Accuracy” FMS alerts, navigation radio accuracy checks (radial/DME).

Generally, navigation systems based on GPS with Receiver Autonomous Integrity Monitoring (RAIM) will not require accuracy checks.

FLT 3.11.2

If the Operator uses navigation systems that are subject to degradation over time, the Operator shall have procedures to ensure navigation accuracy is checked after prolonged in-flight operation when ground-based or space-based navigation facilities become available for such checks. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM requirement/guidance for verification of navigation accuracy after prolonged in-flight operation (focus: procedure/instructions for flight crew checking of navigation accuracy using ground-based or space-based facilities).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: verification of navigation accuracy).
- ☐ **Other Actions** (Specify)

Guidance

Prolonged operation may be defined by the operator or manufacturer and refers to navigation systems with accuracy that could degrade over time or are affected by the presence of external navigation aids.

Navigation accuracy may be established with DME/DME, VOR/DME, or VOR/VOR within the service volume of the applicable navaids.

The specifications of this provision may be satisfied by guidance that describes flight crew actions related to Flight Management Computer (FMC) automated navigational accuracy messages (e.g., UNABLE REQD NAV PERF or equivalent) or that instructs flight crews to compare Actual Navigation Performance (ANP) with Required Navigation Performance (RNP).

FLT 3.11.3

The Operator shall have a collision avoidance policy that encourages the flight crew to maintain vigilance for conflicting visual traffic ("see and avoid"). **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** collision avoidance policy that encourages vigilance for conflicting visual traffic (i.e. "see and avoid") (focus: availability to flight crew; instructions for flight crew traffic identification/avoidance).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: visual vigilance for conflicting traffic).
- ☐ **Other Actions** (Specify).

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)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance that specifies when descent below applicable prescribed minimum altitude is permissible (focus: availability of minimum altitude information to flight crew during flight; instructions/procedures for adherence to/descent below minimum altitudes all phases of flight).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: adherence to minimum altitudes).
- ☐ **Other Actions** (Specify)

Guidance

Minimum prescribed safety altitudes typically include:

- Minimum Safety Altitude (MSA);
- Minimum Descent Altitude/Height (MDA/H);
- Minimum En route Altitude (MEA);
- Minimum Obstruction Clearance Altitude (MOCA);
- Minimum Off-Route Altitude (MORA);
- Minimum Vectoring Altitude (MVA);
- Any other minimum altitudes prescribed by the Authority.

FLT 3.11.5

The Operator shall have a policy and/or procedures that require flight crews to monitor meteorological conditions during the en route phase of flight, to include current weather and forecasts for:

(i) Destination airport;

(ii) Destination alternate airport(s), if applicable;

(iii) En route alternate airports(s), if applicable. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM requirement/guidance for monitoring meteorological conditions during the en route phase of flight (focus: instructions for flight crew monitoring of en route meteorological conditions, current/forecast weather for destination/alternate airports).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: monitoring en route/airport weather conditions).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure flight crews monitor meteorological conditions at the destination airport and at each required alternate airport, and that current meteorological reports or a combination of current reports and forecasts indicate that the meteorological conditions will be, at the estimated time of use (ETU), at or above the operator's established airport operating minima for that operation. To fulfill monitoring requirements, flight crews may acquire meteorological information from approved ground sources or such information may be provided to the aircraft by the operator as specified in DSP 3.2.9A or DSP 3.2.9B.

FLT 3.11.6 (Intentionally open)

FLT 3.11.7

The Operator shall have a policy and/or procedures that require the flight crew to monitor fuel during flight to ensure a fuel quantity upon landing that is not less than final reserve fuel. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM requirement/guidance for monitoring en route fuel to ensure landing with not less than final reserve fuel (focus: instructions/procedure for flight crew fuel monitoring to ensure landing with final reserve fuel as specified in DSP 4.3.12).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: en route fuel monitoring/tracking).
- ☐ **Other Actions** (Specify)

Guidance

Refer to FLT 3.14.16 and FLT 3.14.17 for actions to be taken by the PIC in the event the final reserve minimum fuel quantity specified in DSP 4.3.12 cannot be protected in flight and preserved upon landing.

FLT 3.11.8A

If the Operator is authorized to conduct RVSM operations, 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 airborne equipment;

(ii) Operating limitations and procedures. **(GM)**

Auditor Actions

- ☐ **Identified** authorization to conduct RVSM operations.
- ☐ **Identified/Assessed** OM guidance/procedures for the conduct of RVSM operations (focus: definition of required ground/airborne equipment; operating limitations/procedures).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: conduct of RVSM operations).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Reduced Vertical Separation Minima (RVSM).

FLT 3.11.8B

If the Operator is authorized to conduct PBN operations in airspace that requires the maintenance of a particular navigation specification for PBN, 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)**

Auditor Actions

- ☐ **Identified** authorization to conduct PBN operations in airspace that requires maintenance of defined navigation performance.
- ☐ **Identified/Assessed** OM guidance/procedures for the conduct of PBN operations (focus: definition of required ground/airborne equipment, operating limitations/procedures, applicable operating minima).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: conduct of PBN operations).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Performance-based Navigation (PBN).

FLT 3.11.8C

If the Operator is authorized to conduct PBCS operations, 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 airborne equipment;
(ii) Operating limitations and procedures. **(GM)**

Auditor Actions

- ☐ **Identified** authorization to conduct PBCS operations.
- ☐ **Identified/Assessed** OM guidance/procedures for the conduct of PBCS operations (focus: definition of required airborne equipment and operating limitations/procedures).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: conduct of PBCS operations).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Performance-based Communication and Navigation Surveillance (PBCS).

FLT 3.11.9

If the Operator is authorized to conduct LVO, the Operator shall have guidance to ensure the proper conduct of such operations. Such guidance shall address, as a minimum:

(i) Required ground and airborne equipment;

(ii) Operating limitations and procedures;

(iii) Crew qualifications;

(iv) Operating minima (RVR). **(GM)**

Auditor Actions

- ☐ **Identified** authorization to conduct low visibility operations.
- ☐ **Identified/Assessed** OM guidance/procedures for the conduct of low visibility operations (focus: procedures/limitations for conduct of operations; requirements for ground/airborne equipment, crew qualifications, operating minima).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: conduct of low visibility operations).
- ☐ **Other Actions** (Specify)

Guidance

The operating limitations specified in item (ii) typically address crosswinds, runway condition and aircraft equipment capability.

FLT 3.11.10

If the Operator conducts flight operations beyond 60 minutes from a point on a route to an en route alternate airport, including ETOPS/EDTO, the Operator shall have guidance that includes:

(i) Procedures to ensure proper conduct of such operations;

(ii) For all aircraft, a requirement for flight crews to monitor meteorological information for any en route alternates during the en route phase of a flight;

(iii) Procedures to ensure, for aircraft with two-engines engaged in ETOPS/EDTO, the most up-to-date information provided to the flight crew indicates that conditions at identified en route alternate airports will be at or above the operator's established airport operating minima for the operation at the estimated time of use. **(GM)**

Auditor Actions

- ☐ **Identified** authorization to conduct ETOPS/EDTO/operations beyond 60 minutes from an alternate airport.
- ☐ **Identified/Assessed** OM guidance/procedures for the conduct of ETOPS/EDTO/operations beyond 60 minutes from alternate airport (focus: procedures/limitations for conduct of operations; requirements for monitoring en route alternate airport meteorological information; for two-engine aircraft, requirements for en route alternate airports).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: conduct of ETOPS/EDTO/operations beyond 60 minutes from alternate airport).
- ☐ **Other Actions** (Specify)

Guidance

The intent of item ii) of this provision is to ensure flight crew are knowledgeable about diversion airport options and prevailing weather conditions appropriate for the type of operation conducted.

The intent of item iii) of this provision is to ensure a larger strategy exists to protect a diversion regardless of whether the diversion is for technical (airplane system- or engine-related) or non-technical reasons.

An operator, in accordance with requirements of the Authority, typically uses technical guidance for the conduct of operations beyond 60 minutes, from a point on a route to an en route alternate airport,

including ETOPS/EDTO. Such guidance might be derived from one or more of the following source references, as applicable:

- ICAO Annex 6, Amendment 36, Attachment D: Guidance for Operations by Turbine Engine Aeroplanes Beyond 60 minutes to an En-route Alternate Aerodrome Including Extended Diversion Time Operations (EDTO);
- ICAO Flight Planning and Fuel Management Manual (Doc 9976);
- FAA Advisory Circular - AC No: 120-42B: Extended Operations (ETOPS and Polar Operations), Effective 6/13/08;
- EASA Air OPS (regulation 965/2012) ANNEX V (Part-SPA) Subpart F: Extended Range Operations with Two-Engine Aeroplanes (ETOPS);
- EASA AMC 20-6, Rev 2 to Air OPS (regulation 965/2012): Extended Range Operation with Two-Engine Aeroplanes ETOPS Certification and Operation;
- Any equivalent reference document approved or accepted by the Authority for the purpose of providing guidance for the conduct of flight operations by turbine engine aircraft beyond 60 minutes to an en route alternate airport including ETOPS/EDTO.

FLT 3.11.11

If the Operator engages in MNPS/NAT HLA and/or AMU operations, 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)**

Auditor Actions

☐ **Identified** authorization to conduct MNPS/NAT HLA/AMU operations.

☐ **Identified/Assessed** OM guidance/procedures for the conduct of MNPS/NAT HLA/AMU operations (focus: procedures/limitations for conduct of operations; requirements for ground/airborne equipment).

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

☐ **Observed** line flight and flight simulator operations (focus: conduct of MNPS/NAT HLA/AMU operations).

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Areas of Magnetic Unreliability (AMU) and Minimum Navigation Performance Specifications (MNPS/NAT HLA).

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.

Auditor Actions

☐ **Identified/Assessed** principles of CRM published in OM/other document (focus: availability to flight crew; requirement for application of CRM in line operations).

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

☐ **Observed** line flight and flight simulator operations (focus: application of CRM principles).

☐ **Other Actions** (Specify)

FLT 3.11.17

The Operator shall have a policy and procedures that define a sterile flight deck during critical phases of flight, to include:

(i) A protocol for intra-flight deck communication;

(ii) If the Operator conducts passenger flights with cabin crew, a protocol for communication between the flight crew and cabin crew;

(iii) The mandatory use of headsets and boom or throat microphones for communication with ATC below the transition level/altitude;

(iv) A restriction of flight crew activities to essential operational matters. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM policy/requirement/procedures for sterile flight deck (focus: procedures associated with sterile flight deck; definition of protocols/requirements/restrictions).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: adherence to sterile flight deck).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Sterile Flight Deck and Critical Phase of Flight.

The specifications of this provision require an operator to ensure the OM defines the specific phases of flight when the operational state of the flight deck is to be “sterile.”

FLT 3.11.18

The Operator shall have policies and guidance that define and address the division of duties related to the performance and prioritization of flight crew member operational tasks, to include, as a minimum:

(i) A requirement and procedures for the use of checklists prior to, during and after all phases of flight, and in abnormal and emergency situations;

(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)**

Auditor Actions

- ☐ **Identified/Assessed** OM policy/requirement/guidance for sharing/prioritization in performance of flight crew operational tasks (focus: guidance that addresses use of checklists; defines PF/PM duties/task sharing; defines flight/cabin crew duties/task sharing).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: application of flight crew task sharing/prioritization).
- ☐ **Other** Action (Specify)

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.

The term “abnormal” is used to describe a condition or situation (e.g. abnormal airframe vibration, abnormal landing configuration).

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

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

The term “emergency” used alone refers to declarations and non-AOM procedures.

FLT 3.11.19 (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 including landing gear, wing flaps and speedbrakes;

(ii) Altimeter bug and airspeed bug settings;

(iii) Altimeter subscale settings;

(iv) Altitude (window) selections;

(v) Transfer of control of the aircraft;

(vi) Changes to the Automated Flight System (AFS)/Flight Management System (FMS) and radio navigation aids during the departure and or approach phases of flight;

(vii) Weight/mass and balance calculations and associated AFS/FMS entries;

(viii) Performance calculations or inputs, including AFS/FMS entries. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM policy/requirement/procedures for crosscheck/confirmation in performance of critical actions during normal/abnormal/emergency situations (focus: procedures for flight crew crosscheck/confirmation when performing critical actions; definition of critical actions in normal/abnormal/emergency situations).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: flight crew crosscheck/confirmation when performing critical actions).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure flight crew actions, when considered critical to the safety of flight, are crosschecked and confirmed.

The specification in item (i) addresses the risk of a misconfiguration by requiring the flight crew to crosscheck and confirm certain critical manual and/or automatic configuration changes. It is important to note that the criticality of certain actions may be dependent on phase of flight (e.g. landing gear down before landing, correct flap selection before takeoff and landing, speedbrakes extended for a rejected takeoff (RTO) and after landing, speedbrakes retracted for takeoff, go-around and rejected landing).

The specification in item ii) applies to reference bugs that are set externally on the instrument face, manually using a control panel, or automatically/manually through the FMS.

The specification in item iii) refers to the barometric pressure setting to which altitude is referenced.

The term “abnormal” is used to describe a condition or situation (e.g. abnormal airframe vibration, abnormal landing configuration).

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

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

The term “emergency” used alone refers to declarations and non-AOM procedures.

FLT 3.11.21

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)**

Auditor Actions

- ☐ **Identified/Assessed** OM policy/procedures for standardized callouts (focus: procedures for flight crew use of standardized verbal callouts during all phases of flight).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: flight crew use of standardized verbal callouts).
- ☐ **Other Actions** (Specify)

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.

Auditor Actions

☐ **Identified/Assessed** OM policy/guidance/procedures for use of aircraft automated flight/navigation systems (focus: instruction/procedures for flight crew use/monitoring of automation, selection of appropriate mode of flight/navigation automation).

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

☐ **Observed** line flight and flight simulator operations (focus: management of flight automation; use of level appropriate for conditions).

☐ **Other Actions** (Specify)

FLT 3.11.23

The Operator shall have guidance that defines and specifies the requirements for the conduct and content of the briefings to be accomplished by the flight crew prior to departure and approach. Such required briefings shall address, 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) When applicable, flight deck jump seat occupant safety. **(GM)**

Note: *The briefing specified in item (iii) occurs prior to departure and as necessary for the remainder of the flight.*

Auditor Actions

☐ **Identified/Assessed** requirement/guidance for conduct of departure/approach briefing (focus: instruction/procedures for flight crew departure/approach briefing; definition of purpose/content of briefings).

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

☐ **Observed** line flight and flight simulator operations (focus: departure/approach briefings).

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Jump Seat.

Normal and non-normal departure and approach considerations applicable to flight crew typically include, as appropriate for each phase and each flight:

- Fuel status;
- Airport/taxi diagrams;
- Meteorological conditions;

- NOTAMS;
- LVO 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 applicable to the flight crew typically include items such as engine-out procedures, mountainous terrain and/or airspace constraints.

Briefings can be structured in order to encourage crew member and, as applicable, jump seat occupant 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)**

Auditor Actions

☐ **Identified/Assessed** OM policies/guidance/procedures that address altitude awareness (focus: instruction/procedures for flight crew focus on altitude awareness; definition of strategies for avoidance of altitude deviations).

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

☐ **Observed** line flight and flight simulator operations (focus: application of altitude awareness procedures).

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Altitude Deviation.

The intent of this provision is for the operator to provide policies, procedures and guidance in the OM designed to manage or mitigate potential risks related to the acceptance and maintenance of assigned altitudes.

As an example, OM guidance to address altitude awareness can include instructions for:

- A crosscheck that the assigned altitude is above the minimum safe altitude;
- “1000 to go” standard callout;
- Dual pilot response for ATC altitude clearance;
- “Double point” to altitude window (both pilots physically point to and confirm the new altitude set).

FLT 3.11.29

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)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures for use of the barometric altimeter (focus: instructions/procedures for flight crew use of barometric altimeter, altimeter reference setting appropriate for area of operations).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: use/setting of barometric altimeter).
- ☐ **Other Actions** (Specify)

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.

Auditor Actions

- ☐ **Identified/Assessed** OM requirement/guidance/procedures for barometric altimeter referenced to QNH for takeoff/approach/landing phases of flight (focus: instructions/procedures for flight crew to set QNH for takeoff/approach/landing).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: use/setting of QNH for takeoff/approach/landing).
- ☐ **Other Actions** (Specify)

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)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures for metric/imperial (ft) conversions for barometric altimeter readings (focus: instructions/procedures for flight crew use/application of barometric altimeter conversions).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: application of barometric altimeter conversion).
- ☐ **Other Actions** (Specify)

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)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance that addresses avoidance of potential altimetry errors (focus: instructions/procedures for flight crew avoidance of barometric altimeter errors; definition of maximum allowable barometric altimeter errors).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: avoidance of barometric altimeter errors).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure that potential errors in altimetry are identified and corrected when necessary.

The specification in item i) refers to temperature compensation corrections applied to ensure obstacle clearance in conditions of extreme cold (typically starting at -10 C). Such corrections may be applied manually by the flight crew (e.g. temperature correction charts) or automatically by onboard systems (e.g. Air Data Computer).

The operator may provide tables, charts or other means to address potential errors in altimetry.

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)**

Auditor Actions

- ☐ **Identified/Assessed** OM policies/procedures for operations in proximity of adverse weather/environmental conditions (focus: flight crew adverse weather/environmental conditions operating procedures; definition of adverse weather/environmental conditions).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: operations in proximity of adverse weather/environmental conditions).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure flight crew members have access to policies and procedures associated with the adverse weather or environmental conditions they might encounter in operations.

Active volcanic areas specified in item v) normally include the following: Pacific Ring of Fire, the Rift Valley in Africa, North and South America, Indonesia, Japan and Iceland.

FLT 3.11.39

The Operator shall have guidance that includes policies and procedures for:

(i) Wind shear avoidance;

(ii) Wind shear encounter recovery;

(iii) As applicable, response to predictive and/or reactive alerts. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM policy/guidance for wind shear avoidance/encounter recovery/response to predictive/reactive alerts (focus: flight crew wind shear avoidance/recovery procedures).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: wind shear awareness/avoidance/recovery).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Airborne Wind shear Warning System, which includes definitions for Predictive Alert and Reactive Alert.

FLT 3.11.40

The Operator shall have guidance that addresses wake turbulence, to include procedures for encounter avoidance. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance for wake turbulence avoidance/encounter recovery (focus: flight crew wake turbulence avoidance/recovery procedures).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: wake turbulence awareness/avoidance/recovery).
- ☐ **Other Actions** (Specify)

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.

Auditor Actions

- ☐ **Identified/Assessed** OM provision of/requirement for compliance with operating limitations as defined by OEM (focus: guidance/procedures for flight crew compliance with operating limitations).
- ☐ **Interviewed** responsible manager(s) in flight operations.

- ☐ **Observed** line flight and flight simulator operations (focus: compliance with operating limitations).
- ☐ **Other Actions** (Specify)

FLT 3.11.47

The Operator shall have wind component limitations for takeoff, approach and landing that do not exceed the values demonstrated or recommended by the OEM and also address operations when the:

(i) Runway is contaminated;

(ii) Visibility is degraded;

(iii) Aircraft stopping capability is degraded. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM procedures for compliance with takeoff/approach/landing wind component limitations that do not exceed OEM limitations (focus: requirement/procedures for flight crew compliance with wind component limitations).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: compliance with wind component limitations).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Runway Excursion.

The specifications of this provision are directly related to the prevention of runway excursions.

The intent is to ensure the operator provides wind component limitations for the phases of flight specified in the body of the provision (e.g. maximum crosswind component for landing). Additionally, the provision ensures the operator provides wind component limitations under the conditions specified in the sub-specifications (e.g. maximum crosswind component for landing on a contaminated runway). In either case such values cannot exceed those demonstrated or recommended by the OEM.

Contaminated runways are typically defined by a specific contaminant type/depth or equivalent braking action report.

FLT 3.11.48

The Operator shall have guidance that specifies a minimum aircraft height above ground level (AGL) or above airport level (AAL) for commencing a turn after takeoff. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance that specifies a minimum aircraft height above ground level (AGL)/above airport level (AAL) for commencing a turn after takeoff (focus: requirement/ procedures for flight crew compliance with minimum altitude limitations for turn after takeoff).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: compliance with turn-after-takeoff altitude limitations).
- ☐ **Other Actions** (Specify)

Guidance

Values typically vary depending on the operator or could include exceptions covering special airport operations.

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 ft, *or*

(ii) If permitted by the State and applicable authorities, the cabin altitude exceeds 10,000 ft. for a period in excess of 30 minutes and for any period the cabin altitude exceeds 13, 000 ft. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM requirement/guidance for flight crew use of supplemental oxygen (focus: requirement/procedures for flight crew use of oxygen masks; definition of conditions that require use of oxygen).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: flight crew use of oxygen masks/supplemental oxygen).
- ☐ **Other Actions** (Specify)

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 3.11.50A

The Operator shall have a policy and/or procedures that require 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)**

Auditor Actions

- ☐ **Identified/Assessed** OM requirement/guidance for restricting descent rates when operating at low altitudes (focus: requirement/procedures for flight crew to restrict descent rates at low altitudes).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: compliance with descent rate restriction at low altitudes).
- ☐ **Other Actions** (Specify)

Guidance

The specifications of the provision are directly related to the prevention of CFIT.

The intent 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.

The specified guidance may be based on a Threat and Error Management (TEM) approach, a height versus vertical rate values (formula/table) or any other means that mitigates the risk of terrain closure rates that could significantly reduce recognition and response.

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.

Guidance associated with published minimum safe altitudes (MSAs) does not address or satisfy the specifications of this provision.

FLT 3.11.50B

The Operator *should* have procedures to limit the vertical speed of an aircraft to no more than 1,500 feet per minute for the last 1,000 feet climbing or descending to an assigned altitude or flight level when the pilots are aware of another aircraft at or approaching an adjacent altitude or flight level, unless otherwise instructed by air traffic control. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM requirement/guidance for restricting vertical speed when climbing or descending to an assigned altitude/flight level (focus: requirement/procedures for flight crew to restrict vertical speed to 1500 fpm or less).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: compliance with vertical speed restrictions when approaching an assigned altitude).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is the avoidance of unnecessary airborne collision avoidance system (ACAS/TCAS) resolution advisories when the aircraft is at or approaching adjacent altitudes or flight levels, especially with autopilot engaged.

Guidance concerning the development of the specified procedures is contained in the PANS-OPS (Doc 8168) Volume I, Part III, Section 3, Chapter 3.

☐ **FLT 3.11.50C**

The Operator *should* have a policy and/or procedures that address flight crew use of EGPWS terrain displays for the purposes of increasing terrain/obstacle awareness and the avoidance of Controlled Flight into Terrain (CFIT). **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM requirement/guidance for the use of terrain mode displays (focus: requirement/procedures for flight crew to use terrain displays).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: compliance with terrain display policy and procedures).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Controlled Flight into Terrain (CFIT), EGPWS, EGPWS Terrain Display, and Ground Proximity Warning System (GPWS) with a Forward-looking Terrain Avoidance (FLTA) Function.

The specifications in this provision are directly related to the prevention of CFIT.

Terrain display policy and/or procedures typically recommend at least one pilot selects the terrain display mode during phases of flight when altitude and terrain awareness is critical such as:

- during climb and descent below MSA.
- when the flight crew accepts responsibility for terrain/obstacle clearance.
- during the conduct of uncharted visual arrivals and approaches, especially at night and in mountainous terrain.
- during the conduct of RNAV/RNP approaches, circling approaches and charted visual approaches.

- in the event a landing at the nearest suitable airport is required.
- in the event of an emergency descent.

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)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance for use of data to determine/compute aircraft performance for all phases of the flight (focus: instructions/procedures for flight crew use of aircraft performance data).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: computation of relevant aircraft performance).
- ☐ **Other Actions** (Specify)

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 recorders (FDR, CVR and, as applicable, AIR and DLR) to ensure such flight recorders are:

(i) Not intentionally switched off during flight time by the flight crew;

(ii) Only switched off by the flight crew after a flight when required to preserve data in the event of an accident or serious incident. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance that addresses the use/control of flight recorders FDR/CVR, preservation of FDR/CVR data (focus: instructions/procedures for flight crew for ensuring required preservation of FDR/CVR data).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Airborne Image Recorder (AIR), Cockpit Voice Recorder (CVR), Data Link Recorder (DLR), Flight Data Recorder (FDR) and Flight Recorder, and additionally the definitions of 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.

Auditor Actions

- ☐ **Identified/Assessed** OM requirements/information/guidance/procedures that enables flight crew to determine conditions required to commence/continue an approach to landing (focus: flight crew procedures/requirements for commencing/continuing approach to landing).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: determination of conditions for approach/landing).
- ☐ **Other Actions** (Specify)

FLT 3.11.59 (Intentionally open)

FLT 3.11.59A

The Operator shall have a stabilized approach policy that is approved or accepted by the Authority and has associated guidance, criteria, and procedures to ensure the ongoing conduct of stabilized approaches. Such policy shall include:

(i) Criteria defining the stabilized condition, to include:
  (a) Aircraft configuration requirements specific to each aircraft type;
  (b) Checklist completion requirements;
  (c) Speed and thrust limitations;
  (d) Vertical speed limitations;
  (e) Acceptable vertical and lateral displacement from the normal approach path.

(ii) Required minimum height(s) AAL to achieve stabilization criteria:
  (a) Not lower than 1000 ft. for approaches in IMC or not lower than 500 ft. for approaches in IMC as designated by the operator and/or State where a lower stabilization height is operationally required, and a minimum stabilization height not lower than 500 ft. for approaches in VMC; or
  (b) Not lower than specific stabilization heights defined by the Operator and supported by a safety risk assessment in accordance with FLT 1.12.2 demonstrating acceptable risk for each defined height that is lower than any applicable height(s) specified in (ii) (a).

(iii) A requirement to abandon an approach or go around in accordance with its go-around policy as defined in FLT 3.11.60 unless stabilization criteria are met at the relevant heights specified in (ii) and can be maintained until touchdown;

(iv) A requirement that deviations from stabilized approach criteria must be pre-planned and require special briefings for designated unique approaches and/or abnormal conditions;

(v) A description of the duties and responsibilities of the PF and PM including countermeasures to human error. **(GM)**

Note: *The stabilized approach policy and associated implementation shall be subjected to the Operator's safety risk management (SRM) processes and safety performance monitoring to ensure an acceptable level of safety risk is achieved and maintained.*

Auditor Actions

- ☐ **Identified/Assessed** OM policy/guidance/procedures for the conduct of a stabilized approach (focus: flight crew procedures/definition of criteria for stabilized approach).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** safety risk assessments and data associated with Operator-specified AAL, as applicable.
- ☐ **Examined** selected output from FDA/FDM/FOQA program (if applicable) (focus: data that indicates status of fleet stabilized approach performance).
- ☐ **Examined** relevant safety objectives including SPIs/SPTs (focus: proactive measures in place for identifying and preventing unstabilized approaches).

- ☐ **Observed** line flight and flight simulator operations (focus: stabilized approach).
- ☐ **Other Actions** (Specify)

Guidance

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

The specifications of this provision are directly related to the prevention of controlled flight into terrain (CFIT), Loss of Control In-flight (LOC-I), and runway-related incidents/accidents.

The intent of this provision is for the operator to implement a stabilized approach policy, as well as have guidance, criteria and procedures that ensure the maintenance of the intended lateral and vertical flight path during approaches, including visual approaches and/or as depicted in published approach procedures, without excessive maneuvering. Such policy also typically provides guidance for bracketing and correcting deviations during the approach to ensure the aircraft will always be at the proper speed over the runway threshold and in a position to land in the touchdown zone.

Monitoring of stabilized approach performance through SMS in accordance with the Note is required for all operators and may be accomplished using FDA or through other reporting systems.

△ One or more minimum stabilization heights AAL as specified in (ii) may be established for the criteria defined in (i) (e.g., landing configuration may be required at 1,000 feet AAL while approach speed or vertical speed limitations may be required at 500 feet AAL). Selection of heights may also vary depending on aircraft type and operational characteristics (e.g., turbojet vs. turboprop). Finally, some Operators may choose not to distinguish between VMC and IMC approaches using one set of stabilization heights and associated criteria for both.

The criteria defining the stabilized condition are listed in item i) of the provision and are considered at the 1000 ft. AAL and 500 ft. gates as specified in item ii) a). Alternatively, the operator may specify stabilization heights appropriate to its operation as specified in item ii) b).

Operator stabilized approach policy and associated implementation is subject to SRM processes and safety performance monitoring. Operator-defined minimum stabilization heights which are lower than those specified in (ii) (a) require the conduct of a specific safety risk assessment in accordance with FLT 1.12.2 demonstrating an acceptable risk level for each defined height.

Refer to FLT 3.11.59B for factors related to the consistent conduct of stabilized approaches that would be taken into account by the operator's SRM processes (including required SRAs).

An operator conforming to item ii) a), in accordance with operational requirements approved or accepted by the Authority, to establish stabilization criteria for heights lower than 1000 ft. AAL, but no lower than 500 ft. AAL (IMC or VMC), for approaches designated by the operator and/or State where:

- Lower minimum approach stabilization heights are authorized for turbo-propeller aircraft operations (e.g., 500 feet AAL on VMC/IMC approaches), **and/or**
- Maneuvering at a lower height AAL is required to meet instrument or other charted approach constraints (e.g., RNAV/RNP approaches, circling approaches and charted visual approaches), **and/or**
- Aircraft are required to comply with ATC speed constraints on final approach, **and/or**
- Deviations from selected approach stabilization criteria at a height lower than 1000 feet AAL, are operationally required, and the operator can demonstrate pilot adherence to its stabilized approach policy via a continually monitored, managed and active flight data analysis (FDA) program. These criteria used also typically address the maneuvering that may be required in accordance with a charted visual or instrument approach procedure.

The specifications in item (v) address:

- Timely and effective PF briefings;
- PM stabilized approach criteria deviation callouts and compliance checks;
- PF/PM actions in the event of destabilization below stabilization height, to include monitoring by the PM for possible excessive deviations from flight path, airspeed, vertical speed, pitch or bank during the approach, during the transition from approach to landing and during flare and touchdown;

- As applicable, the role of additional flight crew members on the flight deck (e.g., augmented crew members).
- The Threat and Error Management (TEM) countermeasures to keep threats, errors, and undesired aircraft states from reducing margins of safety in flight operations. Examples of countermeasures include CRM training, SOPs, checklists, briefings, callouts, and other means that assist the flight crew in managing human error.
- OEM aircraft-specific descent and approach profiles can provide helpful guidance for flight crews to achieve a stabilized approach.
- An operator, in accordance with requirements of the Authority and consistent with OEM guidance, typically develops a stabilized approach policy, guidance, criteria and procedures based on one or more of the following source references:
- Global Action Plan for the Prevention of Runway Excursions Coordinated by EUROCONTROL and the Flight Safety Foundation – January 2021;
- Flight Safety Foundation Reducing the Risk of Runway Excursions – Report of the Runway Safety Initiative – May 2009;
- Flight Safety Foundation Runway Excursion Risk Awareness Tool;
- △ Federal Aviation Administration Advisory Circular – AC No. 91-79A – Change 2;
- Federal Aviation Administration - Runway Excursions Support Tool;
- European Action Plan for the Prevention of Runway Excursions (EAPPRE) Edition 1.0;
- ICAO Runway Safety Programme – Global Runway Safety Action Plan First Edition, November 2017;
- IATA/IFALPA/IFATCA/CANSO Unstable Approaches: Risk Mitigation Policies, Procedures and Best Practices, 3rd Edition;
- IATA Runway Safety Accident Analysis Report 2010-2014;
- Any equivalent reference document approved or accepted by the Authority for the development of flight crew guidance related to the prevention of unstable approaches and runway excursions.

FLT 3.11.59B

If the Operator has a stabilized approach policy that defines required minimum heights (AAL) to achieve stabilization criteria in accordance with FLT 3.11.59A, (ii) (b), that are lower than any applicable height(s) specified in (ii)(a), the Operator shall ensure the safety risk management processes required to achieve overall conformity with FLT 3.11.59A take into account the following factors:

(i) Precursors of unstable approaches and operational trends that are identified through the collection and analysis of available de-identified data (e.g., from FDA/FDM/FOQA and other non-punitive reporting programs);

(ii) Precursors of unstable approaches identified through observational procedures which cannot be captured by the traditional reporting or FDA;

(iii) Identification and analysis of hazards associated with human factors and piloting techniques;

(iv) Analysis of aircraft type-specific flight characteristics including energy management in the approach, landing, and go-around regimes;

(v) Operator's ability to work with ATSUs to implement procedural changes at specific airports with runways identified as higher risk by data analysis;

(vi) Flight crew training program content related to the implementation of stabilized approach policy;

(vii) The most current and relevant manufacturer's guidance, limitations, and recommendations related to the development and maintenance of stabilized approach policy. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM policy/guidance/procedures for the conduct of a stabilized approach (focus: flight crew procedures/definition of criteria for stabilized approach).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** safety risk assessments and data associated with Operator-specified AAL, as applicable.
- ☐ **Examined** selected output from FDA/FDM/FOQA program (if applicable) (focus: data that indicates status of fleet stabilized approach performance).
- ☐ **Examined** relevant safety objectives including SPIs/SPTs (focus: proactive measures in place for identifying and preventing unstabilized approaches).
- ☐ **Observed** line flight and flight simulator operations (focus: stabilized approach).
- ☐ **Other Actions** (Specify)

Guidance

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

The specifications of this provision are directly related to the prevention of controlled flight into terrain (CFIT), Loss of Control in-Flight (LOC-I), and runway related incidents/accidents.

△ Refer to FLT 1.12.2 and associated guidance material for additional information regarding safety risk assessments.

The intent of this specification is to ensure the operator's SRM processes take into account the factors related to the consistent conduct of stabilized approaches in accordance with operator policy. Additional hazard criteria and risk factors may be identified by the operator and incorporated into required risk assessments. Examples of observational procedures specified in (ii) include LOSA or data from regulatory line checks.

To further support SRM activities, an operator would also:

- Include and monitor aircraft parameters related to CFIT, LOC-I, and runway related incidents/accidents in their flight data analysis (FDA) program in accordance with provisions in ORG sub-section 3.3;
- Include unstable approaches followed by a landing as a reporting event by the flight crew;
- Minimize the need for the flight crew to report a go-around due to an unstable approach unless there is another significant event associated with the go-around (e.g., flap overspeed).

FLT 3.11.60

The Operator shall have a go-around policy with associated procedures and guidance to ensure flight crews discontinue or go around from an approach or landing in accordance with criteria established by the Operator. Such policy, procedures and guidance shall, as a minimum, address or define:

(i) Management support for flight crew decision making to discontinue an approach or execute a go-around;

△ (ii) Criteria that require a flight crew to discontinue or go around from an approach or landing (prior to the selection of reverse thrust) including when the aircraft is not stabilized in accordance with FLT 3.11.59A;

(iii) The go-around maneuver;

(iv) Duties and responsibilities of the PF and PM. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM policy/requirements for execution of a missed approach/go-around when approach not stabilized in accordance with established criteria (focus: flight crew guidance/procedures for execution of a missed approach/go-around).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected output from FDA/FDM/FOQA program (if applicable) (focus: data that indicates fleet status of missed approach/go-around from unstabilized approach).

- ☐ **Examined** (as applicable) relevant safety objectives including SPIs/SPTs (focus: proactive measures in place for identifying, assessing and addressing potential/actual go-arounds and discontinued approaches.
- ☐ **Observed** line flight and flight simulator operations (focus: flight crew awareness of/preparation for factors that could lead to a go-around or discontinued approach).
- ☐ **Other Actions** (Specify)

Guidance

The specifications of this provision are directly related to the prevention of approach and landing accidents (ALAs) such as CFIT and runway excursions.

The intent of this provision is to reduce the risk of ALAs by ensuring the flight crew will always discontinue or go around from an approach or landing (prior to the selection of reverse thrust) when a safe landing cannot be assured (e.g. aircraft not stabilized in accordance with criteria established by the operator) or a go-around is otherwise required (e.g. when instructed by ATC)

The specification in item (i) is intended to foster a culture that supports flight crew go-around decision making. It is typically expressed by senior management in a manner that:

- Promotes the go-around as a normal procedure;
- Encourages go-around preparedness and considers the risk of the go-around maneuver itself;
- Empowers the PM (or the SIC) to call for a go-around at any time during approach and landing until the selection of reverse thrust;
- Ensures that go-around decision making does not affect the PIC's emergency authority in the event of (impending) abnormal or emergency situations;
- Does not inhibit flight crew reporting of go-around related events.

The criteria referred to in item (ii), which would require a go-around or discontinuation of an approach, typically Include:

- The specifications for a stable approach defined in accordance with FLT 3.11.59A are not met at the relevant approach gate(s) or can no longer be maintained until touchdown.
- The visibility or ceiling is below the minimum required for the type of approach at the specified gates (e.g. outer marker, 1,000' AAL or at minimums).
- The appropriate visual references are not obtained or are lost at or below MDA (or minimum descent height) or DA (or decision height) and through flare and touchdown by either pilot.
- Prior to touchdown the wind is above the operational or pre-determined wind limit, or the runway status is below the limit determined by the flight crew's landing performance assessment.
- Technical defects or failures occur during approach that might inhibit a safe continuation of approach, landing or go-around.
- Doubts by either pilot about the aircraft's geographic or spatial position.
- Confusion by either pilot about the use or behavior of the automation.
- It is foreseeable that the go-around routing and path will not be sufficiently clear of adverse weather or restricting traffic.
- If instructed by ATC.
- If required for type-specific reasons as outlined in the respective AOM.
- If required by special considerations associated with a CAT II/III operation.

Note: *in establishing criteria for discontinuing or going around from an approach, consideration would be given to installed equipment (e.g. GPWS, automated callouts) and flight crew procedures to ensure a timely go-around decision can be made.*

The specification in item (iii) refers to the aircraft type-specific maneuver(s) for go around from a visual approach, an instrument approach or a landing prior to the selection of reverse thrust (i.e. rejected landing).

The specification in item (iv) typically addresses:

- Timely and effective PF briefings.
- PF/PNF consideration of all relevant aircraft performance guidance and data in accordance with FLT 4.1.1 and FLT 4.1.2.
- PM stabilized approach criteria deviation callouts and compliance checks.
- PF and/or PM go-around callouts and subsequent execution of the go-around maneuver.
- PF/PM go-around-related memory items.
- PM actions in the event of (subtle) PF incapacitation or delayed response to a go-around callout.
- PF/PM actions in the event of destabilization below stabilization height including PM monitoring for possible excessive deviations from flight path, speed, vertical speed, pitch or bank during the approach, during the transition from approach to landing and during flare and touchdown.
- As applicable, the role of additional flight crew members on the flight deck (e.g., augmented crew members).

To support SRM activities an operator would typically:

- Include and monitor aircraft parameters related to CFIT and runway excursions in their flight data analysis (FDA) program in accordance with provisions in ORG sub-section 3.3.
- Monitor go-around policy compliance through their FDA program and establish go-around safety performance indicators (SPIs). In addition to monitoring go-arounds, aircraft operators would also monitor discontinued approaches.
- Include unstable approaches followed by a landing as a reporting event by the flight crew.
- Minimize the need for the flight crew to report a go-around due to an unstable approach unless there is another significant event associated with the go-around (e.g. flap overspeed, altitude deviation).

An operator, in accordance with requirements of the Authority and consistent with OEM guidance, typically develops a go-around policy, guidance, criteria and procedures based on one or more of the following source references:

- Global Action Plan for the Prevention of Runway Excursions Coordinated by EUROCONTROL and the Flight Safety Foundation – January 2021;
- Flight Safety Foundation Go-Around Decision-Making and Execution Project Final Report March 2017;
- Flight Safety Foundation Reducing the Risk of Runway Excursions – Report of the Runway Safety Initiative – May 2009;
- IATA/IFALPA/IFATCA/CANSO Unstable Approaches: Risk Mitigation Policies, Procedures and Best Practices, 3rd Edition.
- BEA Study on Aeroplane State Awareness during Go-Around – August 2013

Any equivalent reference document approved or accepted by the Authority for the development of flight crew guidance related to the establishment of go-around policy and the prevention of unstable approaches and runway excursions.

FLT 3.11.61

The Operator shall have a policy and procedures to ensure the flight crew maneuvers the aircraft so as to touchdown within the touchdown zone or other defined portion of the runway, as specified by the Operator or the Authority. **(GM)**

Auditor Actions

☐ **Identified/Assessed** OM policy/procedures for landing aircraft in the defined touchdown zone (focus: flight crew guidance/procedures for landing aircraft in touchdown zone).

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

- ☐ **Examined** selected output from FDA/FDM/FOQA program (if applicable) (focus: data that indicates fleet status of landings in the defined touchdown zone).
- ☐ **Observed** line flight and flight simulator operations (focus: landing in touchdown zone).
- ☐ **Other Actions** (Specify)

Guidance

The specifications of this provision are directly related to the prevention of runway excursions.

The definition of the touchdown zone could vary, depending on the operator.

FLT 3.11.62

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. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM policy/procedures that address continuation of an instrument approach to landing beyond limits of specified operating minima (focus: flight crew requirement/procedures for maintaining adherence to operating minima).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: adherence to approach/landing operating minima).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure a transition to the missed approach is initiated at a designated point or height AAL that prevents infringing on the operating minima specified for the approach.

The standard specifies actions required from the flight crew when reaching the limit of the approach, (i.e. when reaching the DA(H) or MDA(H) or equivalent).

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)**

Auditor Actions

- ☐ **Identified/Assessed** OM policy/procedures that address required meteorological conditions for continuation of an instrument approach beyond a designated point (focus: flight crew requirement/procedures for determining/adhering to allowable meteorological conditions for approach continuation).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: adherence to approach/landing operating minima).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Approach Ban Point.

Designated points in the approach can be defined by the operator or applicable authority (e.g. initial approach fix, final approach fix, outer marker, approach ban point, established on final approach segment, a specified distance to touchdown, a specified height AAL).

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.

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures for acceptance of clearance and conduct of a visual approach (focus: flight crew requirements/procedures for accepting/conducting a visual approach).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: visual approach operations).
- ☐ **Other Actions** (Specify)

FLT 3.11.65

The Operator shall have guidance, criteria, and procedures for the acceptance of a clearance for a non-ILS (including non-precision) approach and the conduct of such approach, to include:

(i) Minimum weather conditions and visibility required to continue an approach;

(ii) Operating conditions that require a missed approach to be initiated;

(iii) Circling approach minima;

(iv) Approach-related duties of the PF and PM. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures/criteria for acceptance of clearance and conduct of a non-ILS approach (focus: flight crew procedures/definition of criteria for accepting/conducting a non-ILS approach).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: non-ILS approach operations).
- ☐ **Other Actions** (Specify)

Guidance

The term Pilot Monitoring (PM) has the same meaning as the term Pilot Not Flying (PNF) for the purpose of applying the specifications of this provision.

FLT 3.11.66

The Operator shall have a policy and procedures that require and ensure the proper use of a stabilized constant descent profile during the final segment of a non-ILS (including non-precision) approach. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM policy/procedures for conduct of stabilized constant descent profile for final segment of non-ILS approach (focus: flight crew procedures/use of descent profile for conduct of final segment of non-ILS approach).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: non-ILS approach operations; final segment profile).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure, to the extent reasonably practicable, the use of a stabilized constant descent profile inside the Final Approach Fix (FAF). It does not, however, preclude the definition of altitude gates such as Visual Descent Point (VDP) or level segments between the FAF and the runway where such constraints are deemed necessary and reflected in approach design.

Constant descent profiles during the final segment of an approach might be accomplished by various means to include:

- Vertical Navigation (VNAV);
- Flight Path Angle (FPA);
- Constant Path Angle (CPA);
- Constant Angle Non-Precision Approaches (CANPA);
- Other methods that provide a stabilized constant path angle for the final segment of a non-ILS approach.

FLT 3.11.67

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)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures/criteria for acceptance of clearance and conduct of an ILS approach (focus: flight crew procedures/definition of criteria for accepting/conducting an ILS approach).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: ILS approach operations).
- ☐ **Other Actions** (Specify)

Guidance

The specifications of the provision refer to ILS approaches authorized by the AOC (e.g. CAT I, II, III).

△ **FLT 3.11.68A**

The Operator shall have a policy and/or procedures that require 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)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance for determination of landing distance with adequate safety margin on runway of intended use (focus: flight crew procedures for assessing relevant factors/computing runway landing distance at expected ETA).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: assessment of factors, computation of landing distance).
- ☐ **Other Actions** (Specify)

Guidance

The specifications of this provision are directly related to the prevention of runway excursions.

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. autobrakes (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 3.11.68B**

The Operator shall have a policy and procedures to ensure an approach is not continued below 300 m (1 000 ft) AAL unless the PIC is satisfied that, with the runway surface condition information available, the aircraft landing performance assessment in accordance with FLT 3.11.68A indicates that a safe landing can be made. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** policy/procedures for discontinuing an approach if the runway surface condition would prevent a safe landing.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: flight crew discontinuing the approach based on the runway surface condition information).
- ☐ **Other Actions** (Specify)

Guidance

This specifications of this provision are directly related to the prevention of runway excursions.

△ Refer to the guidance associated with FLT 3.11.68A for factors that can affect landing performance.

△ **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 3.11.59A and address, as a minimum:

(i) Operating limitations and minima;

(ii) Stabilization criteria and go-around requirements;

(iii) Obstacle clearance requirements. **(GM)**

Auditor Actions

- ☐ **Identified** authorization to conduct circling approaches.
- ☐ **Identified/Assessed** OM requirements/guidance/procedures for conduct of circling approaches (focus: flight crew procedures/definition of criteria for conducting a circling approach).
- ☐ **Interviewed** responsible manager(s) in flight operations.

- ☐ **Observed** line flight and flight simulator operations (focus: circling approach operations).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Circling Approach, PANS-OPS and TERPS.

The specifications of this provision are directly related to the prevention of CFIT and runway excursions.

The intent of this provision is for the operator to provide guidance and procedures in the OM or other controlled document in order to manage or mitigate potential risks related to the conduct of circling approaches. Circling approaches may require maneuvering at low airspeeds in marginal weather at or near the minimum descent altitude/height (MDA/H) as established by the state in which an airport is located.

Guidance and procedures related to circling approaches typically address the following:

- The meteorological conditions (e.g. visibility, and if applicable, ceiling) required for commencement/continuation of circling;
- Approach category to be used or the maximum speed to be attained throughout the circling maneuver;
- Aircraft configuration at various stages of a circling approach;
- The use of flight control systems and automation to assist in the positioning of the aircraft during the approach procedure;
- Required visual references with the runway or runway environment required to descend below the MDA/H;
- The prohibition of descent below MDA/H until obstacle clearance can be maintained, the landing runway threshold has been identified and the aircraft is in a position to continue with a normal rate of descent and land within the touchdown zone;
- Go-around requirements and the missed approach procedure;
- The design criteria used to define containment areas and provide obstacle clearance (e.g. PANS-OPS, TERPs).

A side-step maneuver that culminates in a straight-in instrument procedure is not considered a circling approach, and thus is not addressed by this provision.

3.12 Flight Deck Policy and Procedures

FLT 3.12.1

The operator shall have a corrective lenses policy that addresses the need for flight crew members, who are required to use corrective lenses, to have a spare set of corrective lenses readily available. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** policy/requirement for flight crew members that require use of corrective lenses to have a spare set readily available (focus: flight crew requirement for availability of spare corrective lenses).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Other Actions** (Specify)

Guidance

Corrective lens requirements are typically listed on a medical certificate or license issued by the State.

FLT 3.12.2

The Operator shall have a 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.

Auditor Actions

- ☐ **Identified/Assessed** OM policy/requirements for flight crew use of seat belts/safety harnesses when at their assigned stations (focus: definition of requirements for flight crew members to have seat belts/safety harness fastened).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: compliance with seat belt/safety harness requirements).
- ☐ **Other Actions** (Specify)

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)**

Auditor Actions

- ☐ **Identified/Assessed** OM policy/procedures for that ensure active aircraft control by one pilot flight crew member in all situations (focus: flight crew procedures applicable to transfer of aircraft control/absence of one pilot crew member from flight deck).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: aircraft transfer of control procedures).
- ☐ **Other Actions** (Specify)

Guidance

The specifications of this provision refer to the transfer of control that 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)**

Auditor Actions

- ☐ **Identified/Assessed** OM policy/procedures that address flight crew members leaving duty stations during flight (focus: requirement that flight crew member may leave duty station only for performance of duties/physiological needs).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: crew members leaving duty station).
- ☐ **Other Actions** (Specify)

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 (AAL) for the purposes of transferring duties to another pilot flight crew member. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM policy/procedures that prohibit pilot flight crew members from leaving aircraft control seat below 10,000 ft for the purpose of transferring duties to another pilot flight crew member (focus: requirement that vacating control seat for transfer of duties must occur above 10,000 ft).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: flight crew members transfer of duties).
- ☐ **Other Actions** (Specify)

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

The Operator *should* have guidance published or referenced in the OM that addresses runway excursions, to include a description of the policies, processes, procedures, and flight crew actions necessary to prevent, or reduce the risk of a runway excursion occurring during takeoff or landing. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance for runway excursion prevention/risk reduction during taxi/takeoff/landing phases of flight (focus: definition of flight crew duties/responsibilities/ procedures/actions for runway excursion prevention/risk reduction).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected output from FDA program (if applicable) (focus: data that indicates efficacy of fleet runway excursion mitigation).
- ☐ **Observed** line flight and flight simulator operations (focus: runway excursion prevention/risk reduction).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure the Operator provides flight crews with guidance to identify risks associated with runway excursions and strategies to mitigate those risks. Mitigations that address the factors or combination of factors that could pose a higher risk of a runway excursion typically include the following, as applicable:

- Identification of critical runways and the definition of critical runway operations;
- Definition and implementation of runway excursion prevention training;
- Use of relevant aircraft onboard equipment to prevent runway excursions (e.g., HGS, EVS, SVS or CVS and, if available, ROAAS and runway veer off awareness and alerting systems);
- Definition and consistent use of: CRM, TEM, standard operating procedures, briefings, standard call-outs, and PF/PNF monitoring duties;
- Acquisition – via data-link systems, if feasible – of the latest weather, wind, and runway surface condition reports;

- Non-acceptance of ATC practices, procedures and/or clearances that have the potential to decrease safety margins and/or prevent adherence to published approach procedures or stabilized approach policy (e.g., late runway changes);
- Reporting to operator SMS and ANSPs of ATC practices, procedures and/or clearances that have the potential to decrease safety margins;
- Definition of crosswind/tailwind takeoff and landing limitations applicable under various conditions (e.g. contaminated runway operations);
- Use of relevant aircraft takeoff and landing techniques under varying conditions (e.g., crosswind takeoff and landing, touch down, use of all stopping devices including reverse thrust, recovery from hard and bounced landings and change of control during landing roll out;
- Definition of takeoff policies or procedures, which address lining up on the correct runway, accepting line-up, takeoff or backtrack clearances and rolling take-offs,
- Accurate completion of: aircraft performance calculations, mass and balance calculations, FMC data input and flight crew crosscheck before takeoff, landing and in the event of a runway change, as applicable;
- Definition of and consistent adherence to critical operating policies and procedures including: RTO, stabilized approach, go-around, contaminated runway and any other critical operating policies or procedures that, if improperly executed, could pose a greater risk of an excursion;
- In-flight assessments of: landing performance, policy/procedures for landing in the touchdown zone;
- Appropriate runway and approach type selection considering weather, runway condition, inoperable equipment, and visibility;
- Appropriate use of all stopping devices including reverse thrust under varying conditions (e.g. contaminated runway operations);

Additional risks and mitigations may result from the application of safety risk assessment and mitigation program in accordance with FLT 1.12.2. To support SRM activities an operator would typically include and monitor aircraft parameters related to potential runway excursions in their flight data analysis (FDA) program. Operators would also consider using observational procedures (e.g. Line Operations Safety Audits) to identify runway excursion safety risks precursors and best practices that cannot be captured by safety reporting or flight data analysis/monitoring.

ISARPs in this section with applicable runway excursion mitigations contain a sentence in related GM (e.g., “The specifications in this provision are related to the prevention of runway excursions.”)

An operator, in accordance with requirements of the Authority, typically develops flight crew guidance.

- Related to the prevention of runway excursions based on one or more of the following source references;
- Global Action Plan for the Prevention of Runway Excursions (GAPPRE), coordinated by EUROCONTROL and the Flight Safety Foundation – January 2021;
- Flight Safety Foundation Reducing the Risk of Runway Excursions – Report of the Runway Safety Initiative – May 2009;
- Flight Safety Foundation Runway Excursion Risk Awareness Tool;
- Federal Aviation Administration Advisory Circular, AC No. 91-79A;
- Federal Aviation Administration - Runway Excursions Support Tool;
- European Action Plan for the Prevention of Runway Excursions (EAPPRE) Edition 1.0;
- ICAO Runway Safety Programme – Global Runway Safety Action Plan First Edition, November 2017;
- IATA Runway Safety Accident Analysis Report 2010-2014;
- Any equivalent reference document approved or accepted by the Authority for the development of flight crew guidance related to the prevention of runway excursions.

FLT 3.12.7

The Operator shall have guidance published or referenced in the OM that addresses runway incursions, to include a description of the policies, processes, procedures and flight actions necessary to prevent or reduce the risk of a runway incursion occurring during taxi, takeoff, and landing. Such guidance shall include:

(i) Instructions for the maintenance of situational awareness by the flight crew while operating in the airport environment, on the ground and in the air, to ensure an awareness of the aircraft position relative to the airport surface;

(ii) Operating policies and procedures for use during periods when there is a high risk of an incursion;

(iii) Specific instructions for the use of onboard equipment and aircraft lighting as a means to mitigate the risk of an incursion;

(iv) The identification, in documentation available to the flight crew, of areas on the airport surface that could pose a higher risk of an incursion;

(v) Specific reduced visibility and relevant LVO policies and procedures that minimize the risk of an incursion. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance for runway incursion prevention/risk reduction during taxi/takeoff/landing phases of flight (focus: definition of flight crew duties/responsibilities/ procedures/actions for runway incursion prevention/risk reduction).
- ☐ **Examined** selected output from FDA program (if applicable): (focus: data that indicates efficacy of fleet runway incursion mitigation).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: runway incursion prevention/risk reduction).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Runway Incursion.

The intent of this provision is to ensure an operator provides flight crews with guidance to identify risks associated with runway incursions and strategies to mitigate those risks. Mitigation strategies would address the factors or combination of factors that could pose a higher risk of a runway incursion occurring during taxi, takeoff and landing.

Other ISARPs in this section with applicable runway incursion mitigations contain a sentence in related GM (e.g. “The specifications in this provision are related to the prevention of runway incursions”).

Additional risks and mitigations may result from the application of a safety risk assessment and mitigation program in accordance with FLT 1.12.2. To support SRM activities, an operator would typically include and monitor aircraft parameters related to potential runway incursions in their flight data analysis (FDA) program. Operators would also consider using observational procedures (e.g., Line Operations Safety Audits) to identify runway incursion safety risks precursors and best practices that cannot be captured by safety reporting or flight data analysis/monitoring.

It is also the intent of this provision for an operator to ensure the OM incorporates an error mitigation strategy for reducing the risk of a runway incursion occurring during taxi, takeoff, and landing. Such error mitigation strategy would address each of the elements specified in this provision.

The specification in item i) refers to instructions that typically address:

- Specific methods used by the flight crew to maintain situational awareness in order to prevent or minimize the risks of runway incursions;
- The use of all available resources (heading indicators, airport diagrams, airport signs, markings lighting and air traffic control) to keep an aircraft on its assigned flight and/or taxi route;

- Reference to the airport diagram and airport signage;
- Taxi progress monitoring and/or verbal call-outs after taxiway passage;
- The development and/or discussion of a pre-taxi plan and taxi route briefing;
- The transcription of complex ATC taxi instructions;
- Not stopping on a runway and, if possible, taxiing off an active runway and then initiating communications with ATC to regain orientation;
- Visually clearing the final approach path prior to taxiing into the takeoff position on the runway.

The specification in item ii) refers to operating policies and procedures that typically address:

- Managing flight crew workload prior to takeoff and before landing;
- Procedures for deferring administrative tasks until non-critical phases of flight;
- Identifying checklist items that must be re-accomplished in the event of a runway change;
- Maintaining a “Sterile Flight Deck”;
- The use of standard R/T phraseology;
- Clearance read-back and confirmation of changes;
- Monitoring clearances given to other aircraft;
- Obtaining directions or progressive taxi instructions when taxi route in doubt;
- Takeoff and landing runway verification and crosscheck;
- Takeoff and landing clearance verification;
- Questioning clearances when holding or lined up in position for takeoff on the runway, and takeoff clearance has not been received within a specified period of time.

The specification in item iii) refers to instructions that typically address:

- Use of aircraft of lighting during taxi, runway crossing, takeoff, and landing;
- Appropriate transponder use at airports with ground surveillance radar;
- Appropriate use of TCAS when on the runway and holding in the takeoff position (e.g. center mode on Navigation Display to display traffic on final approach).

The specification in item iv) refers to areas on the airport that could be identified through:

- Delineation of potential incursion areas or points (e.g. hot spots) on airport diagrams;
- Use of operator data collection programs to identify potential incursion areas in other documentation available to the flight crew;
- The presence of Land and Hold Short Operations (LAHSO).

The specification in item v) refers to the provision of reduced visibility and relevant LVO policies and procedures, regardless of LVO authorization, such as:

- Methods for maintaining situational awareness at night and during times of reduced visibility;
- A recommendation that checklists be suspended or delayed until the aircraft is stopped;
- If authorized for LVO, methods for maintaining situational awareness during LVO;
- If authorized for LVO, CAT II/III Surface Movement Guidance System (SMGS) procedures.

An operator, in accordance with requirements of the Authority, typically develops flight crew guidance related to the prevention of runway incursions based on one or more of the following source references:

- ICAO Document 9870, Manual on the Prevention of Runway Incursions;
- European Action Plan for the Prevention of Runway Incursions (EAPPRI), Edition 1.0;
- FAA Advisory Circular AC No: 120–74B;
- Runway Safety; A Pilot's Guide to Safe Surface Operations, published by FAA Air Traffic Organization (ATO), Office of Safety Services;

- Communications; A key Component of Safe Surface Operations, published by FAA Air Traffic Organization (ATO), Office of Safety Services;
- Any equivalent reference document approved or accepted by the Authority for the development of flight crew guidance related to the prevention of runway incursions.

3.13 Flight Deck, Passenger Cabin, Supernumerary Compartment Coordination

FLT 3.13.1 (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.

Auditor Actions

- ☐ **Identified/Assessed** OM guidance that addresses persons authorized to occupy the flight deck jump seat (focus: definition of authorized persons; compliance with regulations).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: flight deck jump seat occupancy).
- ☐ **Other Actions** (Specify)

FLT 3.13.3

If the Operator conducts passenger flights with cabin crew, the Operator shall have procedures for communication and coordination between the flight crew and the cabin crew to ensure a combined and coordinated process in addressing:

(i) Passenger safety information;
(ii) Cabin readiness prior to first aircraft movement, takeoff and landing;
(iii) If applicable, arming or disarming of cabin door slides;
(iv) Preparation for an encounter with turbulence;
(v) Flight or cabin crew member incapacitation;
(vi) Emergency evacuation;
(vii) Abnormal situations;
(viii) Emergency situations. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM procedures for flight/cabin crew communication/coordination in addressing situations that require combined/coordinated action (focus: procedures for flight/cabin crew communication/coordination; definition of situations that require combined/coordinated action).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Coordinated** with cabin operations (focus: complementary procedures for communication/coordination).
- ☐ **Observed** line flight operations (focus: flight/cabin crew communication/coordination).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the Guidance associated with CAB 3.3.3 located in ISM Section 5.

Communication and coordination may be verbal or accomplished by an alternative means (e.g. chimes, lights).

Cabin crew coordination briefings could include security issues, aircraft technical issues affecting cabin service, en route weather, use of seat-belt sign, meal service.

Procedures defining communication/coordination could be part of specific non-normal/emergency procedures.

First aircraft movement as specified in item ii) is defined as pushback, powerback and/or taxi.

The operator may specify a non-communication period during critical phases of flight (e.g. during takeoff roll or during landing).

Refer to FLT 3.13.4 for operations that do not use cabin crew members.

The term “abnormal” is used to describe a condition or situation (e.g. abnormal airframe vibration, abnormal landing configuration).

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

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

The term “emergency” used alone refers to declarations and non-AOM procedures.

△ **FLT 3.13.4**

If the Operator transports passengers and/or supernumeraries in the passenger cabin or supernumerary compartment without cabin crew, the Operator shall have guidance and 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) Restrictions pertaining to onboard smoking;
(iii) Compliance with the Fasten Seat Belt sign and, if applicable, the No Smoking sign;
(iv) Cabin or supernumerary compartment readiness prior to first aircraft movement, takeoff and landing;
(v) If applicable, the arming or disarming of door slides;
(vi) Preparation for and an encounter with turbulence;
(vii) Medical situations;
(viii) Emergency evacuation;
(ix) Abnormal situations;
(x) Verification that baggage is stowed;
(xi) If applicable, information relevant to cargo being transported in the passenger cabin;
(xii) If applicable, verification that the 9G rigid barrier or 9G cargo net is secured. **(GM)**

Note: *The specifications of this provision are applicable to commercial and/or non-commercial operations.*

Auditor Actions

- ☐ **Identified/Assessed** OM procedures for flight crew communication with passengers/supernumeraries when there is no cabin crew (focus: procedures for flight crew communication with passengers/supernumeraries; definition of situations that require flight crew communication).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: flight crew communication with passengers/supernumeraries).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Cargo Restraint System, which addresses the 9G cargo net and 9G rigid barrier/bulkhead.

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.)

Item (xi) refers to communication with appropriately qualified supernumeraries on an aircraft that is transporting cargo in the passenger cabin, without passengers.

The specification in item iii) refers to appropriate communication from the flight crew to address the arming and disarming of door slides, if installed.

The term “abnormal” is used to describe a condition or situation (e.g. abnormal airframe vibration, abnormal landing configuration).

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

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

The term “emergency” used alone refers to declarations and non-AOM procedures.

FLT 3.13.5

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 verbiage, terminology, signals and/or verbal commands used for communication between flight crew and cabin crew during normal, abnormal and emergency situations. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM policy/procedures that address standardized communications between flight/cabin crew in normal/abnormal/emergency situations (focus: definition of standard verbiage/terminology/signals/verbal commands for flight/cabin crew communication).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Coordinated** with cabin operations (focus: complementary verbiage/terminology/signals/verbal commands for cabin/flight crew communication).
- ☐ **Observed** line flight and flight simulator operations (focus: standardized flight/cabin crew communication).
- ☐ **Other Actions** (Specify)

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.

The term “abnormal” is used to describe a condition or situation (e.g. abnormal airframe vibration, abnormal landing configuration).

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

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

The term “emergency” used alone refers to declarations and non-AOM procedures.

FLT 3.13.6

If the Operator transports passengers and/or supernumeraries, the Operator shall have a policy and/or procedures 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.*

Auditor Actions

- ☐ **Identified/Assessed** OM policy/procedure for announcements to passengers/supernumeraries to address safety matters (focus: procedure for flight/cabin crew safety announcements; definition of situations that require safety announcements).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Coordinated** with cabin operations (focus: complementary procedure for safety announcements).
- ☐ **Observed** line flight operations (focus: flight/cabin crew safety announcements).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure passengers and/or supernumeraries are made aware of matters related to safety.

The term “abnormal” is used to describe a condition or situation (e.g. abnormal airframe vibration, abnormal landing configuration).

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

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

The term “emergency” used alone refers to declarations and non-AOM procedures.

FLT 3.13.7 (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.*

Auditor Actions

- ☐ **Identified/Assessed** OM procedures for preparation of cabin/supernumerary compartment and notification to passengers/supernumeraries prior to takeoff/landing (focus: flight/cabin crew procedures for cabin/supernumerary compartment preparation; definition of situations that require flight/cabin crew notification).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Coordinated** with cabin operations (focus: complementary procedures for compartment preparation/notifications).

- ☐ **Observed** line flight operations (focus: flight/cabin crew notification prior to takeoff/landing).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure cabin or supernumerary compartment readiness under the conditions specified. Additionally, the provision requires that all applicable personnel are notified when in the specified phases of flight.

If cabin crew members are not used, preparation of the cabin prior to takeoff and landing would normally require the flight crew to verify certain conditions are in effect. Items checked by the flight crew will vary according to aircraft type and equipment carried, but might typically include:

- Passenger seat belts fastened;
- Tray tables and seat backs in a stowed and upright position;
- Cabin baggage and other carry-on items secure in designated areas;
- As applicable, in-flight entertainment system viewing screens off and stowed;
- Galleys and associated equipment stowed or restrained.

FLT 3.13.9

If the Operator carries cargo on the same deck as the flight deck and/or supernumerary compartment, the Operator shall have procedures to ensure the cargo restraint system and, if applicable, smoke barrier are closed/secured for:

(i) Taxi operations;

(ii) Takeoff;

(iii) Landing. **(GM)**

Note: *The specifications of this provision are also applicable to procedures for ensuring cargo restraint is secured on an aircraft that is being used to transport cargo in the passenger cabin, without passengers.*

Auditor Actions

- ☐ **Identified/Assessed** OM procedures for ensuring the 9G restraint system and smoke barrier are secured for the specified phases of flight.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: procedures implemented to ensure cargo restraint system and, if applicable, smoke barrier are secured).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Cargo Restraint System and Smoke Barrier.

FLT 3.13.10 (Intentionally open)

FLT 3.13.11

If the Operator conducts cargo and/or passenger flights without cabin crew, the Operator shall have flight crew procedures for:

(i) Opening and closing of aircraft cabin access doors;

(ii) As applicable, arming and disarming of door systems equipped with an automatic slide or slide/raft deployment system. **(GM)**

Auditor Actions

△

- ☐ **Identified/Assessed** OM procedures for cabin access door operations (focus: procedures address opening/closing and, if applicable, arming/disarming of cabin access doors in conjunction with GRH 3.2.5 and, as applicable CAB 4.2.1).
- ☐ **Interviewed** responsible manager(s) in flight operations.

- ☐ **Observed** line flight operations (focus: flight crew procedures for opening/closing and arming/disarming of cabin access doors).
- ☐ **Other Actions** (Specify)

Guidance

This standard addresses procedures for the normal, abnormal and emergency operation of cabin access doors by the flight crew. This includes 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 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.

Procedures would be designed to address and mitigate safety hazards such as fall from height, entrapment and personnel injury that could occur during door operation.

△ **FLT 3.13.12**

If the Operator transports passengers and/or supernumeraries, without 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.*

Auditor Actions

- ☐ **Identified/Assessed** OM procedures that address passenger/supernumerary ready access to emergency oxygen (focus: flight crew procedures for ensuring access to oxygen).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: flight crew procedures for ensuring passenger/supernumerary access to oxygen).
- ☐ **Other Actions** (Specify)

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, without 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. **(GM)**

Note: *The specifications of this provision are applicable to commercial and/or non-commercial operations.*

Auditor Actions

- ☐ **Identified/Assessed** OM procedures for ensuring passengers/supernumeraries are seated with seat belts/safety harness/other restraint device fastened for defined situations/phases of flight (focus: flight crew procedures for ensuring passengers/supernumeraries are seated/restrained; definition of situations/phases of flight that require seating/restraint).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: passengers/supernumeraries seated/restrained).
- ☐ **Other Actions** (Specify)

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.

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/requirements/procedures for transport of supernumeraries in passenger cabin/cargo compartment (focus: requirement/procedure for all cargo compartment seats to be treated the same as emergency exit row seats; definition of requirements/restrictions that must be met by supernumeraries).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: procedures for transport of passengers/supernumeraries).
- ☐ **Other Actions** (Specify)

FLT 3.13.15 (Intentionally open)

FLT 3.13.16

If the Operator uses aircraft equipped with a flight deck door, the Operator shall have policies and/or procedures that are in accordance with the requirements of the Authority and, as a minimum, define:

(i) When the flight deck door must remain locked;

(ii) If the Operator conducts passenger flights with cabin crew, the means used and actions necessary for cabin crew members to:

(a) Notify the flight crew in the event of suspicious activity or security breaches in the cabin;

(b) Gain entry to the flight deck. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM policies/procedures that address flight deck security (focus: requirements for door being locked/unlocked; methods for cabin crew to provide security notifications; process for cabin crew entry to flight deck).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Coordinated** with cabin operations (focus: complementary procedures for security communication/flight deck entry).
- ☐ **Observed** line flight operations (focus: flight deck door operation; cabin crew entry).
- ☐ **Other Actions** (Specify)

Guidance

The principal intent of this provision is to ensure the security of the flight deck by providing the flight crew and cabin crew with complementary policies and/or procedures for use when a lockable flight deck door is installed. Such policies and/or procedures define the means used and actions necessary to address the specifications of this provision.

Policies and/or procedures related to flight deck security may be considered sensitive information and provided to relevant personnel in a manner that protects the content from unnecessary disclosure.

△ **FLT 3.13.17**

If the Operator uses aircraft equipped with an approved flight deck door as specified in (MNT) Table 4.11 (xxvi) (c) (d) and/or Table 4.14 (v), the Operator shall provide guidance, procedures

and instructions for the use of such door by the flight crew to ensure the security of the flight deck. Such guidance shall include, as a minimum, the procedural means by which the crew:

(i) Prevents access to the flight deck by unauthorized personnel;

(ii) Identifies authorized personnel requesting entry into the flight deck. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM policies/procedures that address flight deck security (focus: requirements/procedures for flight crew use of door; procedures for identification of persons requesting flight deck entry).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Coordinated** with cabin operations (focus: complementary procedures for gaining flight deck entry).
- ☐ **Observed** line flight operations (focus: flight deck door operation; identification of persons requesting entry).
- ☐ **Other Actions** (Specify)

Guidance

The principal intent of this provision is to ensure the security of the flight deck by providing the flight crew with appropriate guidance, procedures and instructions for use when a reinforced flight deck door is installed, regardless of the aircraft configuration (passenger, cargo, combi).

Guidance, procedures and instructions related to flight deck security are considered sensitive information and are normally provided to relevant personnel in a manner that protects the content from unnecessary disclosure.

Tables 4.11 and 4.14 in ISM Section 4 (MNT) contain specifications related to requirements and recommendations for the installation of reinforced flight deck doors. This provision, however, contains specifications only related to the use of such doors when installed.

△ **FLT 3.13.18**

If the Operator conducts international passenger flights using aircraft equipped with an approved flight deck door as specified in (MNT) Table 4.11 (xxvi) (c) (d) and/or Table 4.14 (v), the Operator shall have procedures to:

(i) Ensure the flight deck door is closed and locked from the time of engine start or commencement of pushback until engines are shut down or any external aircraft door is opened for disembarkation except when necessary to permit access or egress by authorized persons;

(ii) Monitor, using visual or procedural means, the entire area outside the flight deck door to identify persons requesting entry and to detect suspicious behavior or potential threat. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM policies/procedures that address flight deck security (focus: requirements for door being locked/unlocked; procedures for monitoring area outside door).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: door locked/unlocked; monitoring area outside door).
- ☐ **Other Actions** (Specify)

Guidance

The principal intent of this provision is to ensure the security of the flight deck by providing the flight crew with appropriate procedures for use when a reinforced flight deck door is installed.

Procedures related to flight deck security may be considered sensitive information and provided to relevant personnel in a manner that protects the content from unnecessary disclosure.

For monitoring the area outside the flight deck door, a closed-circuit television (CCTV) system is an acceptable method of conformance. However, a CCTV system is not required in order to conform to

this provision. Implementation of other procedural methods in accordance with applicable regulations is also considered acceptable.

Any means used by an operator for such monitoring ensures that the cabin area outside the flight deck door, and any persons that might be in that area, would be identifiable to the extent necessary to meet the requirements of this standard.

FLT 3.13.19

If the Operator conducts passenger operations and does not use a flight deck door, the Operator shall have measures in place to ensure unauthorized persons are prevented from entering the flight deck. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures that address flight deck security (focus: measures/procedures for flight deck entry control/prevention).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: prevention of unauthorized flight deck entry).
- ☐ **Other Actions** (Specify)

Guidance

The principal intent of this provision is to ensure the security of the flight deck, and refers specifically to aircraft that:

- Do not have a flight deck door, or
- Are equipped with flight deck door that cannot be locked, or
- Are equipped with a smoke barrier.

Measures referred to in this provision are in place to address the potential for *unauthorized personnel* to gain entry to the flight deck or gain access to the control seats and/or flight controls. Such measures may include, but are not limited to:

- Defining authorized personnel (e.g. jump-seat occupants, supernumeraries);
- Authorizing personnel for flight deck access;
- Airline Security programs (as defined by the authority);
- Briefings, announcements, placards;
- Any other measure designed to ensure unauthorized personnel are not permitted access to the flight deck, control seats, or flight controls.

3.14 Non-Normal/Abnormal and Emergency Operations

FLT 3.14.1 (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.

Auditor Actions

- ☐ **Identified/Assessed** OM policy that prohibits in-flight simulated emergencies with passengers/cargo on board the aircraft.
- ☐ **Interviewed** responsible manager(s) in flight operations.

- ☐ **Examined** training/qualification program for instructors/evaluators/line check airmen (focus: prohibition of in-flight simulated emergencies with passengers/cargo on board the aircraft).
- ☐ **Other Actions** (Specify)

FLT 3.14.3

The Operator shall have a policy and guidance that defines the execution of abnormal/non-normal and emergency procedures and that ensures a crosscheck and verbal confirmation by two flight crew members (dual response) occurs before the actuation of any critical aircraft system controls. Such guidance shall identify critical systems, as defined by the OEM, and address, as a minimum:

(i) Engine thrust levers;

(ii) Fuel master or control switches;

(iii) Engine fire handles or switches;

(iv) Engine fire extinguisher discharge switches (if not automatically armed in conjunction with the associated fire handle or switch);

(v) IDG/CSD disconnect switch. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM policy/guidance that addresses execution of abnormal/non-normal/emergency procedures (focus: procedures for dual flight crew crosscheck/verbal confirmation prior to actuation of critical aircraft system controls; definition of critical aircraft systems).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: execution of abnormal/non-normal/emergency procedures).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure the operator's policy and guidance defines how abnormal/non-normal and emergency procedures are executed, and additionally ensures that the critical actions taken during the execution of such procedures are crosschecked and verbally confirmed by at least two flight crew members. Such critical actions are defined by the OEM and typically addressed in operating policy and guidance associated with the use of abnormal/non-normal and emergency checklists. This does not preclude, however, an OEM or operator from procedurally addressing critical actions in the checklists themselves.

The specification in item iv) need only be addressed if required by the OEM when the arming of a fire extinguisher discharge switch (or button) is not linked to the actuation of the associated fire handle or switch.

The term “abnormal” is used to describe a condition or situation (e.g. abnormal airframe vibration, abnormal landing configuration).

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

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

The term “emergency” used alone refers to declarations and non-AOM procedures.

FLT 3.14.4

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.

Auditor Actions

- ☐ **Identified/Assessed** OM procedures for aircraft emergency evacuation (focus: procedures for each aircraft type; definition of flight/cabin crew member functions/actions during emergency evacuation; procedures include sharing/prioritization of tasks).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Coordinated** with cabin operations (focus: complementary procedures for emergency evacuation).
- ☐ **Observed** line flight and flight simulator operations (focus: flight/cabin crew emergency evacuation procedures).
- ☐ **Other Actions** (Specify)

△ **FLT 3.14.5**

If the Operator transports passengers and/or supernumeraries, without 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 used on board an aircraft during commercial and/or non-commercial operations.*

Auditor Actions

- ☐ **Identified/Assessed** OM procedures for aircraft emergency evacuation (focus: procedures for each aircraft type; definition of flight crew member functions/actions during emergency evacuation; procedures for treatment of passengers/supernumeraries).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: flight crew emergency evacuation procedures).
- ☐ **Other Actions** (Specify)

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.

Auditor Actions

- ☐ **Identified/Assessed** OM policies/procedures that address rejected takeoff (focus: procedures for each aircraft type; definition of considerations associated with low/high speed rejected takeoff; procedures include flight crew sharing/prioritization of tasks).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: rejected takeoff procedures/considerations).
- ☐ **Other Actions** (Specify)

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.

Auditor Actions

- ☐ **Identified/Assessed** OM policies/procedures that address engine fire/failure after V1 (focus: procedures for each aircraft type; flight crew procedures that address engine fire/failure after takeoff; procedures include flight crew sharing/prioritization of tasks).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: engine fire/failure after V1 procedures).
- ☐ **Other Actions** (Specify)

FLT 3.14.8

The Operator shall have policies and procedures in accordance with FLT 3.11.18, applicable to each aircraft type, that are to be applied when a TCAS/ACAS resolution advisory (RA) is displayed by onboard equipment. Such guidance shall, as a minimum:

(i) Specify a TCAS escape maneuver;

(ii) Require flight crews to follow a TCAS RA guidance even if it conflicts with ATC instructions.

Auditor Actions

- ☐ **Identified/Assessed** OM policies/procedures that address reaction to display of TCAS/ACAS resolution advisory (RA) (focus: procedures for each aircraft type; requirement for flight crew to follow TCAS/ACAS guidance; definition of/procedure for TCAS/ACAS escape maneuver; procedures include flight crew sharing/prioritization of tasks).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: TCAS/ACAS RA procedures).
- ☐ **Other Actions** (Specify)

FLT 3.14.9

The Operator shall have policies and procedures in accordance with FLT 3.11.18, applicable to each aircraft type, that are applied during a GPWS or other terrain avoidance alert provided by onboard equipment. Such guidance shall, as a minimum, define a CFIT escape maneuver as an aggressive pitch up maneuver that maximizes the performance of the aircraft. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM policies/procedures that address reaction to GPWS/terrain avoidance alert/warning (focus: procedures for each aircraft type; definition of/procedure for aggressive pitch-up escape maneuver; procedures include flight crew sharing/prioritization of tasks).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: GPWS/terrain alert/warning procedures).
- ☐ **Other Actions** (Specify)

Guidance

The specifications in this provision are directly related to the prevention of CFIT.

FLT 3.14.10

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.

Auditor Actions

- ☐ **Identified/Assessed** OM procedures that address emergency descent (focus: procedures for each aircraft type; definition of/procedure for emergency descent maneuver; procedures include flight crew sharing/prioritization of tasks).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: emergency descent procedure).
- ☐ **Other Actions** (Specify)

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. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures that address communications during abnormal/emergency situations (focus: definition of communication terminology; procedures for radio failure/lost communication; protocols for intercept by military aircraft).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: abnormal/emergency communication procedures).
- ☐ **Other Actions** (Specify)

Guidance

The term “abnormal” is used to describe a condition or situation (e.g. abnormal airframe vibration, abnormal landing configuration).

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

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

The term “emergency” used alone refers to declarations and non-AOM procedures.

FLT 3.14.12

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.

Auditor Actions

- ☐ **Identified/Assessed** OM procedures that address onboard medical emergencies (focus: procedures include flight/cabin crew communication/coordination, flight crew sharing/prioritization of tasks).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Coordinated** with cabin operations (focus: complementary procedures for onboard medical emergency).
- ☐ **Observed** line flight operations (focus: medical emergency procedures).
- ☐ **Other Actions** (Specify)

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.

Auditor Actions

- ☐ **Identified/Assessed** OM procedures that address flight crew incapacitation (focus: procedures include flight/cabin crew communication/coordination, flight crew sharing/prioritization of tasks).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Coordinated** with cabin operations (focus: complementary procedures for flight crew incapacitation).
- ☐ **Observed** line flight and flight simulator operations (focus: flight crew incapacitation).
- ☐ **Other Actions** (Specify)

FLT 3.14.14

The Operator shall have guidance and procedures that ensure the proper reset of circuit breakers after a system malfunction or trip. Such guidance shall, as a minimum, specify when and how often tripped circuit breakers may be reset.

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures that address reset of circuit breakers after system malfunction/trip (focus: procedures define when/how often tripped circuit breakers may be reset).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: circuit breaker re-set procedures).
- ☐ **Other Actions** (Specify)

FLT 3.14.15

The Operator shall have an in-flight fuel management policy that requires the PIC to request air traffic delay information from ATC when unanticipated circumstances may result in landing at the destination airport with less than *either*:

(i) The final reserve fuel plus any fuel required to proceed to an alternate airport, *or*

(ii) The fuel required to operate to an isolated airport. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM policy/procedures for in-flight fuel management (focus: flight crew procedures for monitoring en route fuel usage/identifying trends; requirement for flight crew to request airport delay information when trend indicates landing with less than final reserve plus alternate fuel, or isolated airport fuel).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: in-flight fuel management procedures).
- ☐ **Other** Action (Specify)

Guidance

Refer to the IRM for the definition of Fuel (Flight Planning), which includes the definition of Final Reserve Fuel.

The intent of this provision is to ensure an operator defines the conditions that require the PIC to request air traffic delay information from ATC. Such operator policy is typically part of the overall in-flight fuel management strategy to ensure planned reserves are used as intended or required. It also typifies the beginning of a process that could ultimately preclude a landing with less than final reserve fuel on board.

It should be noted that the request for air traffic delay information is a procedural means for the flight crew to determine an appropriate course of action when confronted with unanticipated delays. There is no specific phraseology recommended for use in this type of communication with ATC as each situation may be very different.

Guidance on in-flight fuel management and requesting delay information from ATC is contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

FLT 3.14.16

The Operator shall have an in-flight fuel management policy that requires the PIC to advise ATC of a minimum fuel state:

(i) When, having committed to land at a specific airport, the PIC calculates that any change to the existing clearance to that airport may result in landing with less than planned final reserve fuel;

(ii) By declaring “MINIMUM FUEL.” **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM policy/procedures for in-flight fuel management (focus: flight crew procedures for monitoring en route fuel usage/identifying trends; requirement for flight crew to declare minimum fuel when minimum fuel for landing at destination airport might be less than planned final reserve fuel).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: in-flight fuel management procedures).
- ☐ **Other** Action (Specify)

Guidance

The intent of a "MINIMUM FUEL" declaration is to inform ATC that the flight has committed to land at a specific airport and any change to the existing clearance may result in landing with less than planned final reserve fuel. This is not an emergency situation, but rather an indication that an emergency situation is possible should any additional delay occur.

Guidance on in-flight fuel management, including minimum fuel declarations, is contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

FLT 3.14.17

The Operator shall have an in-flight fuel management policy that requires the PIC to declare a situation of fuel emergency:

(i) When the calculated usable fuel predicted to be available upon landing at the nearest airport where a safe landing can be made is less than the planned final reserve fuel;

(ii) By declaring "MAYDAY, MAYDAY, MAYDAY, FUEL." **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM policy/procedures for in-flight fuel management (focus: flight crew procedures for monitoring en route fuel usage/identifying trends; requirement for flight crew to declare an emergency when minimum fuel for landing at nearest airport is calculated to be less than planned final reserve fuel).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: in-flight fuel management procedures).
- ☐ **Other** Action (Specify)

Guidance

The intent of this provision is to specify the last procedural step in a series of steps to ensure the safe completion of a flight. The "MAYDAY, MAYDAY, MAYDAY, FUEL" declaration provides the clearest and most urgent expression of an emergency situation brought about by insufficient usable fuel remaining to protect the planned final reserve. It communicates that immediate action must be taken by the PIC and the air traffic control authority to ensure that the aircraft can land as soon as possible. It is used when all opportunities to protect final reserve fuel have been exploited and in the judgment of the PIC, the flight will now land with less than final reserve fuel remaining in the tanks. The word fuel is used as part of the declaration simply to convey the exact nature of the emergency to ATC.

Guidance on in-flight fuel management including emergency fuel declarations is contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

3.15 Flight Crew Reporting Requirements

FLT 3.15.1 (Intentionally open)

FLT 3.15.2

The Operator shall have a policy that requires the PIC to report any hazardous flight condition to the appropriate ATC facility without delay. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** policy for flight crew ATC hazard reporting (focus: flight crew procedures for reporting occurrences that could potentially have adverse effect on safety of flight operations).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** selected flight crew members.
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure hazards with the potential to pose safety risks to the reporting aircraft or flight operations are appropriately identified and reported to the applicable ATS unit as soon as possible. Such required reports are typically defined by the State or applicable authorities and may include types of hazards as described in the following table.

Generic Hazard	Report Description
Meteorological Conditions	Un-forecast or severe weather, icing, wind shear, severe turbulence
Geophysical Events	Volcanic ash observed or encountered
Security Breaches	Air Piracy or other hostile acts that threaten the safety of the aircraft or its passengers
Wildlife	Birds or large animals in the vicinity of the airport or runways
Facilities and Infrastructure	Inadequacy of navigational facilities or undesirable navigational aid performance or other irregularity in navigational or ground facilities
Aircraft Performance	Unable to accept or maintain RVSM and reason (e.g. turbulence, mountain wave, wake turbulence, etc.), loss of navigational capability
Lasers	Illumination activities, events or exposure
Dangerous Goods	Dangerous goods on board the aircraft in the case of an in-flight emergency and for the information of airport authorities.
GPS Anomalies	Locations of GPS interference/jamming

△
□

Note: *Previously promulgated hazard information (e.g., via NOTAM) would not typically require additional reporting by the PIC.*

FLT 3.15.3

The Operator shall have a policy that assigns responsibility to the PIC for notifying the nearest authority, by the quickest available means, of any accident or serious incident resulting in injury, death, or substantial aircraft damage. (**GM**)

Auditor Actions

- ☐ **Identified/Assessed** policy for flight crew accident/incident reporting (focus: flight crew responsibility/procedures for reporting accidents/serious incidents to the nearest authority by the quickest available means).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** selected flight crew members.
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure the appropriate authority in the state where an event occurred and any other organization required by such state are expeditiously informed of any accident or serious incident resulting in injury, death, or substantial aircraft damage. Such authority and organization(s) are typically defined in the applicable Aeronautical Information Publication (AIP) and may refer to one or more entities including but not limited to local law enforcement agencies, emergency service providers, the Civil Aviation Authority (CAA) and related air accident branches, safety bureaus or boards (e.g., NTSB).

The PIC, if able, typically reports an applicable event to the operator who then forwards it to the appropriate authority and other relevant organization(s).

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. (**GM**)

Auditor Actions

- ☐ **Identified/Assessed** policy for flight crew emergency action reporting (focus: flight crew responsibility/procedures for reporting to the appropriate authorities any emergency situation that necessitated action in violation of local regulations and/or procedures).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** selected flight crew members.
- ☐ **Other Actions** (Specify)

Guidance

The intent of item (i) is to ensure the appropriate authority, as specified in local instructions, is notified when an in-flight emergency requires the PIC to deviate from a local rule or procedure to the extent required to meet that emergency. Such notifications are typically made through the appropriate air traffic services (ATS) unit and involve a deviation from an assigned clearance or instrument procedure.

The intent of item (ii) is to ensure required occurrence/incident reporting takes place in accordance with local regulations or procedures. This includes reports submitted to the ATS unit concerned for occurrences/incidents specifically related to the provision of air traffic services.

△ **FLT 3.15.5**

The Operator shall have a policy that requires the PIC to report the runway braking action special air-report (AIREP) when the runway braking action encountered is not as good as reported. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM policy for runway braking action reporting by the flight crew.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: flight crew reporting of the runway braking action).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Air-report (AIREP).

Refer to ICAO PANS-ATM (Doc 4444), Chapter 4 and Appendix 1, for reporting instructions and guidance that addresses special air-reports regarding runway braking action and the format for transmitting such reports by voice or data link.

Refer to ICAO Circular 355 AN/211 for ATS actions when receiving AIREPs concerning braking action that is not as good as that reported.

4 Operations Engineering Specifications

4.1 Aircraft Performance

FLT 4.1.1

The Operator shall have a process, performed by Operations Engineering, to determine and maintain guidance, procedures and performance data in the OM, applicable to each aircraft type, for applicable departure, destination and alternate airports. Such guidance and data shall enable the flight crew to determine or compute:

(i) Maximum structural weights (taxi, takeoff, landing);

(ii) Takeoff performance (accelerate - stop, close-in obstacles) that also ensures charting accuracy is accounted for, when necessary, in assessing takeoff performance in the event of a critical power unit failing at any point in the takeoff;

(iii) Maximum brake energy and minimum cooling time;

(iv) Climb performance (distant obstacles);

(v) Landing performance (minimum landing distance, go-around). **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures/data for flight crew calculation of aircraft performance for taxi/takeoff/climb/landing at departure/destination/alternate airports (focus: performance data provided for all aircraft types; OM contains performance data as specified in standard).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** selected operations engineering personnel (focus: process for development of OM performance information/data).
- ☐ **Observed** line flight operations (focus: use of taxi/takeoff/climb/landing performance information/data).
- ☐ **Other Actions** (Specify)

Guidance

The specifications in this provision are related to the prevention of CFIT and runway excursions.

The intent is to ensure the operator has a process or processes to obtain or determine the specified performance data for use by flight crew. Such process(s) also address the maintenance and publication of guidance, procedures, and performance data in the OM.

Data may be tailored for airports of intended use (e.g. runway analysis).

The specifications in items ii) and v) may necessitate the inclusion of guidance and/or patterns to be followed in case of engine failure during takeoff, approach and go-around.

Tailored data is not always available for emergency alternate airports.

FLT 4.1.2

The Operator shall have a process, performed by Operations Engineering, to determine and maintain guidance, data and procedures in the OM, applicable to each aircraft type, that enable the flight crew to determine and/or compute aircraft performance for all phases of flight. Such guidance and data shall ensure the flight crew considers all relevant factors affecting aircraft performance, to include:

(i) Aircraft weight (mass);

(ii) Operating procedures;

(iii) Pressure altitude appropriate to the airport elevation;

(iv) Temperature;

(v) Wind;

(vi) Runway gradient (slope);

(vii) Runway surface condition at the expected time of use;

(viii) Obstacle data;
(ix) NOTAMs (including airport NOTAMs);
(x) As applicable, MEL/CDL information;
(xi) Aircraft configuration (wing flap setting);
(xii) Anti-ice usage and, when applicable, ice accretion;
(xiii) As applicable, runway length used for aircraft alignment prior to takeoff;
(xiv) As applicable, fuel freeze considerations during extended operations. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures/data for flight crew calculation of aircraft performance for all phases of flight (focus: performance data provided for all aircraft types; OM guidance/data incorporates relevant factors/limitations as specified in standard).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** selected operations engineering personnel (focus: process for development of OM performance information/data).
- ☐ **Observed** line flight operations (focus: determination of relevant factors affecting aircraft performance).
- ☐ **Other Actions** (Specify)

Guidance

The specifications in this provision are related to the prevention of CFIT, runway excursions and in-flight loss of control.

The intent is to ensure the operator has a process or processes to obtain or determine the specified performance data for use by flight crew. Such process(s) also address the maintenance and publication of guidance, procedures, and performance data in the OM.

The specification in item vii) could be defined by a specific contaminant type/depth (e.g. snow, slush, water, ice) or an equivalent braking action report.

The specifications in xiii) refers to a determination of the length of the runway available, taking into account the loss, if any, of runway length due to alignment of the aircraft prior to takeoff.

The specifications in xiv) apply to considerations regarding the use of standard fuel freeze temperatures, fuel temperature analysis and en route fuel temperature monitoring for the specific fuels used in operations. Such considerations allow the flight crew to determine the actual fuel freeze temperature during extended operations (e.g. polar operations) in order to prevent in-flight freezing of fuel.

FLT 4.1.3

The Operator shall have a process, performed by Operations Engineering, to determine and maintain guidance, data and procedures in the OM, applicable to each aircraft type, that enable the flight crew to determine and/or compute en route aircraft engine-out performance. Such guidance, data and procedures shall include, as a minimum, aircraft engine-out:

(i) Service ceiling;
(ii) Drift down altitudes, as well as specific guidance and procedures that assure terrain clearance along the route to the destination airport or to an en route alternate airport. **(GM)**

Auditor Actions

- ☐ **Identified** OM guidance/procedures/data for flight crew calculation of en route aircraft engine-out performance (focus: performance data provided for all aircraft types; OM contains engine-out performance data as specified in standard).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** selected operations engineering personnel (focus: process for development of OM performance information/data).

- ☐ **Observed** line flight operations (focus: use of en route engine-out performance information/data).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure an operator has a process or processes to obtain or determine the specified performance data for use by flight crew. Such process(s) also address the maintenance and publication of guidance, procedures, and performance data in the OM.

The specification in item ii) refers to those areas were adequate terrain clearance cannot be assured at the engine-out service ceiling of the aircraft without following specific guidance and procedures for drift down.

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 performance can be achieved during the departure phase of flight under the existing conditions. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM instructions/data for use by flight crew to determine/achieve safe all-engine departure climb performance (focus: performance data provided for all aircraft types).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: use of all-engine climb performance information/data).
- ☐ **Other Actions** (Specify)

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 performance);
- Specific thrust and/or flight control configuration settings to exceed the minimum climb 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 performance specified in a SID), or
- Instructions for the PIC to use FMC predicted altitude information for the purpose of determining all-engine climb performance, 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 would normally include all-engine takeoff climb performance 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 (Intentionally open)

FLT 4.2.2

The Operator shall have a process, performed by Operations Engineering, to ensure completion of an analysis that addresses relevant operational factors prior to operating over any new route or into any new airport. Such analysis shall take into account:

(i) Obstacle clearance for all phases of flight (minimum safe altitudes);
(ii) Runway (width, length and pavement loading);
(iii) Navigation aids and lighting;
(iv) Weather considerations;
(v) Emergency services;
(vi) Fuel burn calculations;
(vii) As applicable, fuel freeze considerations;
(viii) As applicable, ETOPS/EDTO requirements;
(ix) Air Traffic Services;
(x) Critical engine inoperative operations;
(xi) Depressurization over critical areas;
(xii) (Special) airport classification. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** process for analysis to identify/address relevant operational factors prior to conducting operations over new routes/into new airports (focus: analysis includes/addresses factors as specified in standard).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** selected operations engineering personnel (focus: process for analysis of new routes/airports).
- ☐ **Examined** selected examples of new route/airport analyses.
- ☐ **Other Actions** (Specify)

Guidance

The specifications are related to the prevention of CFIT and runway excursions.

The specifications in:

- Item vii) refers to a determination if the occurrence of fuel freeze during extended operations is operationally relevant when planning a new route. If operationally relevant, the specification vii) of this provision requires the operator to determine and designate the methods used by the flight crew to determine fuel freeze points in accordance with the specifications of FLT 4.1.2.
- Item xi) refers to carriage of fuel to respect oxygen requirement after depressurization.
- Item xi) may be satisfied by depressurization routes, charts and/or tables that consider oxygen requirements over high terrain and fuel burn over remote areas.
- Item xii) may be satisfied by standardized criteria for the determination and classification of special airports (e.g., EU-OPS).

FLT 4.2.3

If the Operator conducts operations over remote or sparsely populated land areas, the Operator *should* provide information in the OM that identifies and describes en route emergency airports associated with operations over such areas. **(GM)**

Note: *The en route emergency airports specified in this provision refer to airports that are applicable to the operation being conducted (i.e. within flying range from the route being flown and potentially usable for the aircraft type).*

Auditor Actions

- ☐ **Identified** operational routes over remote/sparsely populated areas.
- ☐ **Identified/Assessed** OM information that identifies en route emergency airports associated with operations over remote or sparsely populated areas (focus: description of en route emergency airports).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Other Actions** (Specify)

Guidance

The specifications of this provision refer to emergency airports identified and described by the operator in the OM that are not subject to the acceptability specifications of the new airport analyses specifications of FLT 4.2.2.

Such information is provided for consideration by the PIC in the event that an emergency over a remote or sparsely populated land area precludes continuation to an en route alternate airport (appropriate for the aircraft type). Any deficiencies in airport(s) with respect to the specifications of FLT 4.2.2 are 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)**

Auditor Actions

- ☐ **Identified** OM information that specifies minimum safe altitudes for all phases of flight (focus: information addresses all areas/airports used in operations).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** selected operations engineering personnel (focus: guidance/procedures/data used to determine minimum safe altitudes).
- ☐ **Other Actions** (Specify)

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 establish 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. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM information that specifies operating minima for all airports used in operations (focus: operating minima not lower than minima specified by state of airport location).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** selected operations engineering personnel (focus: sources of airport operating minima).
- ☐ **Other Actions** (Specify)

Guidance

In establishing operating minima for any particular operation, an operator typically takes into account the following factors (relevant ISARPs):

- Type, performance and handling characteristics of the aircraft and any conditions or limitations stated in the AFM.
- Composition of the flight crew, their competence and experience.
- Dimensions and characteristics of the runways which may be selected for use.
- Adequacy and performance of the available visual and non-visual ground aids.
- Equipment available on the aircraft for the purpose of navigation, acquisition of visual references and/or control of the flight path during the approach, landing and the missed approach.
- Obstacles in the approach and missed approach areas and the obstacle clearance altitude/height for the instrument approach procedures.
- Means used to determine and report meteorological conditions.
- Obstacles in the climb-out areas and necessary clearance margins.
- Conditions prescribed in the operations specifications and FLT 1.1.2, FLT 1.2.1, FLT 1.7.1, DSP 1.7.1.
- Minima that may be promulgated by the State of the Airport.

Guidance on the establishment of airport operating minima is contained in ICAO Doc 9365, Manual of All-Weather Operations (Doc 9365).

FLT 4.2.6

If the Operator uses 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)**

Auditor Actions

- ☐ **Identified/Assessed** processes for acceptance/internal distribution of electronic navigation data products.
- ☐ **Identified** suppliers of electronic navigation data products (focus: suppliers accredited in accordance with approved/accepted standards of data integrity/quality).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected product acceptance records (focus: products assessed for data integrity, currency and compatibility with intended function).
- ☐ **Examined** selected aircraft data insertion records (focus: current/unaltered data inserted on all applicable aircraft).
- ☐ **Coordinated** with MNT auditor (focus: verification of currency of aircraft navigation databases).
- ☐ **Other Actions** (Specify)

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 4.2.7**

If the Operator uses aircraft equipped with a GPWS with a Forward-looking Terrain Avoidance Function, the Operator shall have a process and/or procedures to ensure terrain and, if applicable, obstacle data acquired from an external vendor or supplier are:

(i) Periodically reviewed for currency and applicability to the Operator's routes and airports, and updated as required;

(ii) Distributed in a manner to allow the insertion of unaltered data into all aircraft for which it is required. **(GM)**

Auditor Actions

☐ **Identified/Assessed** processes for internal distribution of terrain/obstacle data acquired for use on aircraft with GPWS with FLTA function.

☐ **Identified** suppliers of terrain/obstacle data.

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

☐ **Examined** selected terrain/obstacle data insertion records (focus: insertion of unaltered data into all applicable aircraft).

☐ **Other Actions** (Specify)

Guidance

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

The intent of this provision is to ensure operators develop the means to 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.

4.3 Aircraft Systems and Equipment Specifications

FLT 4.3.1

The Operator shall ensure all aircraft in its fleet have the following systems and equipment as necessary to satisfy operational requirements for the routes and/or airspace of intended operations including, as applicable, PBN, MNPS/NAT HLA, RVSM and PBCS:

(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 and surveillance requirements, including emergency communication;

(iii) Avionics, equipment and/or components necessary to satisfy applicable navigation requirements and provide necessary redundancy;

(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.

Auditor Actions

☐ **Identified/Assessed** fleet installation of aircraft instrumentation/navigation/communication systems and equipment (focus: installation on all aircraft; aircraft configured/equipped as necessary to meet operational requirements for intended areas of intended operations).

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

☐ **Coordinated** with maintenance operations (focus: verification that instrumentation/navigation/communication systems and equipment are in accordance with certification/regulatory requirements).

☐ **Observed** line flight operations or inspected static aircraft (focus: flight deck instrumentation/navigation/communication systems and equipment).

☐ **Other Actions** (Specify)

FLT 4.3.2–4.3.4 (Intentionally open)

FLT 4.3.5

If the Operator uses aircraft operated at flight altitudes greater than 10,000 feet, but pressurized to maintain a cabin altitude of less than 10,000 feet, the Operator shall have guidance and procedures to ensure flights are not commenced unless 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)**

Note: *Supplemental oxygen guidance and procedures shall take into account, as applicable, any additional supplemental oxygen requirements and/or escape routes necessary when operating over areas of high terrain.*

Auditor Actions

- ☐ **Identified/Assessed** oxygen systems for aircraft operated at flight altitudes greater than 10,000 ft but pressurized to maintain cabin altitude of less than 10,000 ft (focus: applicable aircraft carry stored supplemental oxygen as specified in standard).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Coordinated** with maintenance operations (focus: verification that oxygen systems are in accordance with certification/regulatory requirements).
- ☐ **Other Actions** (Specify)

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.

Additionally, conformity with the specifications of this provision ensures flight crew and, as applicable, other operational control personnel with oxygen carriage responsibilities related to flight planning or aircraft scheduling are provided with the necessary information regarding oxygen carriage requirements. Such information is necessary to appropriately match an aircraft to a planned route. This would include information referring to the supplemental oxygen requirements necessary in the case of a decompression that takes into account the escape routes necessary in areas of high terrain.

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, 4.3.9;
- EASA Air Ops CAT.IDE.A.235 Supplemental oxygen—pressurized aeroplanes and associated AMC/GM;
- 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.