

## Section 3 — Operational Control and Flight Dispatch (DSP)

### Applicability

[Section 3](#) addresses the requirements for operational control of flights conducted by multi-engine aircraft and is applicable to an operator that conducts such flights, whether operational control functions are conducted by the operator or conducted for the operator by an external organization (outsourced). Specific provisions of this section are applicable to an operator based on the operational system in use, the manner in which authority is delegated by the operator, and the responsibilities, functions, duties or tasks assigned to the personnel involved.

The IOSA standards and recommended practices (ISARPs) in [Section 3](#) are applicable only to those aircraft that are of the type authorized in the Air Operator Certificate (AOC) and used in commercial passenger and/or cargo operations, unless applicability is extended to encompass non-commercial operations as stated in a note immediately under the body of the provision.

Subsections [3.5](#), [4.1](#), [4.3](#), and [4.6](#) contain provisions that allow for the use of variations, including Operational Variations approved by the Authority, to achieve conformity with eligible aircraft tracking, alternate airport, fuel planning and EDTO specifications. General guidance related to the safety risk management (SRM) processes necessary to develop and use all such variations prefaces [subsection 4](#).

[Table 3.1](#) categorizes the personnel that are delegated the authority to exercise operational control, assigned the overall responsibility for the overall operational control of a flight, assigned the individual responsibility to carry out one or more functions, duties or tasks related to the operational control of a flight, or assigned the duty to provide administrative support to others with responsibilities related to operational control.

[Table 3.5](#) defines the competencies of operational control personnel appropriate to the assignment of overall responsibility for operational control and/or to carry out one or more operational control functions, duties or tasks according to their specific competencies.

All personnel used to perform operational control functions as defined in [Table 3.1](#), or that act in a manner consistent with the functional categories specified in [Table 3.1](#) and the competencies specified in [Table 3.5](#), irrespective of management or post holder title, are subject to specified training and qualification provisions in this section relevant to the operational control function performed.

Individual DSP provisions, and/or individual sub-specifications within a DSP provision, that:

- Do not begin with a conditional phrase are applicable to all operators unless determined otherwise by the Auditor.
- Begin with a conditional phrase (“If the Operator...” ) are applicable if the operator meets the condition(s) stated in the phrase. The conditional phrase serves to define or limit the applicability of the provision (e.g. “If the operator uses...” or “If an FOO or FOA is used...”).
- Begin with a conditional phrase that specifies the use of a Flight Operations Officer (FOO) by an operator are applicable when the operator assigns the FOO, as defined in the IRM and delegated authority in accordance with [Table 3.1](#), responsibility to carry out operational control functions, duties or tasks related to *all* of the competencies of operational control as specified in [Table 3.5](#).
- Begin with a conditional phrase that specifies the use of a Flight Operations Assistant (FOA) by an operator are applicable when the operator assigns the FOA, as defined in the IRM, responsibility to carry out operational control functions, duties or tasks related to one or more, *but not all*, competencies of operational control as specified in [Table 3.5](#).
- Are applicable to all systems of operational control, but with differences in application to each system, will have those differences explained in the associated Guidance Material (GM).
- Contain the phrase “personnel responsible for operational control” or “personnel with responsibility for operational control” refer to any suitably qualified personnel with responsibility for operational control as designated by the operator, to include the pilot-in-command (PIC) unless otherwise annotated.

- Contain training and qualification requirements are applicable to personnel, other than the PIC, that are assigned responsibilities related to the operational control of flights. PIC training and qualification requirements for all systems of operational control are specified in ISM [Section 2](#) (FLT).
- Are eligible for conformance using variations, including Operational Variations approved by the Authority, that contain a note referring to the additional SRM and safety monitoring requirements necessary to ensure an acceptable level of safety is maintained.

Where operational functions, duties or tasks associated with operational control are outsourced to external service providers, an operator retains overall responsibility for ensuring the management of safety in the operational control of flights and must demonstrate processes for monitoring applicable external service providers in accordance with [DSP 1.11.2](#).

## **General Guidance**

### ***Authority and Responsibility***

For the purposes of this section *authority* is defined as the delegated power or right to command or direct, to make specific decisions, to grant permission and/or provide approval, or to control or modify a process.

For the purposes of this section *responsibility* is defined as an obligation to perform an assigned function, duty, task or action. An assignment of responsibility typically also requires the delegation of an appropriate level of authority.

### ***Operational Control***

Operational control is defined as the exercise of authority to initiate, continue, divert or terminate a flight in the interest of the safety and security of the aircraft and its occupants. An operator may delegate the authority for operational control of a specific flight to qualified individuals, but typically retains overall authority to operate and control the entire operation. An operator may also assign the responsibility to carry out specific operational control functions, duties, or tasks related to the conduct of each flight to identifiable, qualified and knowledgeable individual(s), but would remain responsible (and accountable) for the conduct of the entire operation.

Any individuals delegated the authority to make specific decisions regarding operational control would also be responsible (and accountable) for those decisions. Additionally, individuals assigned the responsibility to carry out specific operational control functions, duties, or tasks related to the conduct of each flight are also responsible (and accountable) for the proper execution of those functions, duties, or tasks. In all cases, the authority and responsibility attributes of operational control personnel are clearly defined and documented by the operator and communicated throughout the organization.

It is important to note that when an operator assigns the responsibility for functions, duties or tasks related to the initiation, continuation, diversion and termination of a flight to employees or external service providers, such operator retains full responsibility (and accountability) for the proper execution of those functions, duties or tasks by ensuring:

- The training and qualification of such personnel meets any regulatory and operator requirements;
- Personnel are performing their duties diligently;
- The provisions of the Operations Manual are being complied with;
- An effective means of oversight is maintained to monitor the actions of such personnel for the purposes of ensuring operator guidance and policy, as well regulatory requirements, are complied with.

### ***Authority for the Operational Control of Each Flight***

In order to practically exercise operational control of flight operations, an operator typically delegates the authority for the initiation, continuation, diversion or termination of each flight to qualified individuals. Such delegation occurs in conjunction with an operator's overall system of operational control as follows:

- Shared systems, wherein operational control authority is shared between the pilot-in-command (PIC) **and** a flight operations officer/flight dispatcher (FOO) **or** designated member of management, such as the Director of Flight Operations (or other designated post holder);

**For example:** The FOO (or designated member of management, as applicable) has the authority to divert, delay or terminate a flight if in the judgment of the FOO, a designated member of management or the PIC, the flight cannot operate or continue to operate safely as planned or released.

- Non-shared systems, wherein operational control authority is delegated **only** to the PIC.

**For example:** Only the PIC has the authority to terminate, delay, or divert a flight if in the judgment of the PIC the flight cannot operate or continue to operate safely as planned.

### **Responsibility for Operational Control of Each Flight**

While an operator retains full responsibility (and accountability) for the entire operation, the responsibility for the practical operational control of each flight is typically assigned to qualified individuals. As with the delegation of authority, the assignment of responsibility related to the operational control of each flight occurs in conjunction with a system of operational control as follows:

- Shared systems, wherein operational control responsibility for each flight is shared between the PIC and an FOO, or between the PIC and a designated member of management such as the Director of Flight Operations (or other designated post holder). In either shared system, the PIC, FOO or designated member of management, as applicable, may be assisted by other qualified personnel assigned the individual responsibility (by the operator) to carry out specific operational control functions, duties or tasks. Such personnel, however, typically do not share operational control responsibility with the PIC, FOO or designated member of management, as applicable.

**For example:** The FOO (or designated member of management) and the PIC are jointly responsible (and accountable) for the functions, duties or tasks associated with the operational control of a flight, such as pre-flight planning, load planning, weight and balance, delay, dispatch release, diversion, termination, etc. In such systems, the FOO (or designated member of management) may carry out such responsibilities unassisted or be assisted by qualified personnel assigned the individual responsibility (by the operator) to carry out specific operational control functions, duties or tasks.

- Non-shared systems, wherein the PIC is solely responsible for all duties, functions, or tasks regarding operational control of each flight, and may carry out such responsibilities unassisted or be assisted by qualified personnel assigned the individual responsibility (by the operator) to carry out specific operational control functions, duties or tasks.

**For example:** The PIC is solely responsible (and accountable) for the duties, functions, duties or tasks associated with the operational control of a flight, and the PIC either acts unassisted or is assisted by qualified personnel in carrying out functions, duties or tasks such as preflight planning, load planning, weight and balance, delay, dispatch release, diversion, termination, etc.

### **Responsibility for Individual Operational Control Functions, Duties, or Tasks**

It is important to note that, except for purely non-shared (PIC-only) systems, and as illustrated by the examples in the previous paragraph, the assignment of responsibilities related to the operational control of each flight can be further subdivided among a number of qualified and specialized personnel. In such cases, the responsibility for individual or specific operational control functions, duties or tasks is typically assigned to FOA personnel who support, brief and/or assist the PIC, FOO personnel and/or designated member(s) of management, as applicable, in the safe conduct of each flight. Examples of such qualified personnel include Weather Analysts, Navigation Analysts/Flight Planning Specialists, Load Agents/Planners, Operations Coordinators/Planners/Controllers, Maintenance controllers and Air Traffic Specialists.

**Note:** Some operators might choose to assign the responsibility for specialized operational control functions, such as those described in the example, to fully qualified FOO personnel. In such cases, an FOO, although qualified in all competencies of operational control, would be functionally acting as an FOA. Therefore, for the purpose of an audit, FOO personnel acting in this limited capacity are assessed as FOA personnel.

**Note:** Load Agents/Planners/Controllers who perform load control functions within the scope of ground handling operations may not be considered FOAs if trained and qualified in accordance with ISM Section 6 (GRH), [Subsection 2.1](#), Training Program.

### **Administrative Support Personnel**

FOA personnel are not to be confused with administrative personnel that lack any operational control authority, have very limited operational control responsibilities, and who simply provide, collect or assemble operational documents or data on behalf of the PIC, the FOO, designated member of management or the operator.

Administrative personnel may be present in any system of operational control, are excluded from the initial and continuing qualification provisions of this section and may be qualified as competent through on-the-job training (OJT), meeting criteria as specified in a job description, or through the mandatory use of written instruments such as task cards, guidelines, or checklists.

**Additional Note**

For the purposes of this section, continuing qualification includes recurrent or refresher training as well as any training necessary to meet recency-of-experience requirements.

**Definitions, Abbreviations, Acronyms**

Definitions of technical terms used in this ISM [Section 3](#), as well as the meaning of abbreviations and acronyms, are found in the IATA Reference Manual for Audit Programs (IRM).

## 1 Management and Control

### 1.1 Management System Overview

**DSP 1.1.1**

The Operator shall have a management system that ensures:

- (i) Management of safety and security in flight operations;
- (ii) Supervision and control of all flights, operational control functions and other associated activities;
- (iii) Compliance with standards of the Operator and requirements of the State of the Operator (hereinafter, the State) and other applicable authorities. **(GM)** ◀

**Auditor Actions**

- ☐ **Identified/Assessed** management system structure for operational control systems.
- ☐ **Interviewed** manager with responsibility for operational control.
- ☐ **Assessed** status of conformity with all other DSP management system ISARPs.
- ☐ **Other Actions** (Specify)

**Guidance**

Refer to the IRM for the definitions of [Operational Control](#), [Operator](#) and [State](#).

Refer to Guidance associated with [ORG 1.1.1](#) located in ISM Section 1.

The specification in item i) ensures the management system addresses the elements of operational safety and security specifically related to the operational control of flights. Safety and security management at this operational level typically occurs within the greater context of the operator's overall or corporate safety and/or security management plan. For example, the overall requirements for the dissemination of security information would typically be specified in an operator's security plan, but the actual dissemination of such information to operational control personnel would occur under the supervision of those individuals with assigned responsibilities related to the operational control of flights (e.g. the transmission of security alerts to aircraft).

Applicable authorities as specified in item iii) refer to authorities that have jurisdiction over international operations conducted by an operator over the high seas or the territory of a state that is other than the State of the Operator.

### 1.2 (Intentionally open)

## 1.3 Accountability, Authorities and Responsibilities

### DSP 1.3.1A

The Operator shall ensure the management system for operational control defines the safety accountability, authorities and responsibilities of management and non-management personnel that perform functions relevant to the operational control of flights. 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 aircraft operations;
- (ii) Responsibilities for ensuring operational control is conducted in accordance with applicable regulations and standards of the Operator;
- (iii) Lines of safety accountability within the organization, including direct accountability for safety and/or security on the part of operational control senior management. **[SMS] (GM) ◀**

#### Auditor Actions

- ❑ **Identified/Assessed** defined safety accountability/authorities/responsibilities (focus: applicable to management/non-management personnel throughout operational control organization).
- ❑ **Interviewed** responsible operational control manager(s).
- ❑ **Examined** job descriptions of selected relevant management/non-management personnel in the operational control organization.
- ❑ **Other Actions** (Specify)

#### Guidance

Depending on the operator, there might be a dedicated management system for operational control or the management of operational control might rest with flight operations. In the latter case, it would be the flight operations management system that has responsibility for conformity with this provision. 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.

### DSP 1.3.1B

The Operator shall ensure accountability, authorities and responsibilities for the operational control of flights are defined and communicated throughout the organization, to include the authorities and responsibilities of the pilot-in command (PIC) and, as applicable, the:

- (i) Flight operations officer (FOO), who supports, briefs and/or assists the PIC or designated member of management regarding risk tolerability with respect to the safe conduct of each flight;
- (ii) Designated member of management or post holder that has joint authority with the PIC over the decision functions, duties or tasks associated with the operational control of each flight;
- (iii) Flight operations assistant (FOA) who supports, briefs and/or assists the PIC, FOO, or designated member of management in the safe conduct of each flight. **[SMS] (GM) ◀**

#### Auditor Actions

- ❑ **Identified/Assessed** defined accountability/authorities/responsibilities for personnel associated with operational control of flights (focus: definitions for PIC and FOO/FOA/designated management member positions/functions; communicated throughout organization).
- ❑ **Interviewed** responsible operational control manager(s).
- ❑ **Examined** job descriptions of selected operations control personnel (focus: definition of authority/responsibilities for role/position in operational control system).
- ❑ **Other Actions** (Specify)



### Guidance

Refer to the IRM for definitions of [Flight Operations Officer \(FOO\)](#), [Flight Operations Assistant \(FOA\)](#) and [Post Holder](#).

The intent of this provision is to ensure the accountability, authorities and responsibilities of personnel that perform functions relevant to the operational control of flights and the safety of aircraft operations are communicated throughout the organization(s). The entities that receive such information are dependent upon the system of operational control but always include the flight operations organization.

PIC roles and responsibilities are specified in ISM [Section 2](#) (FLT).

Refer to [Table 3.1](#), which contains definitions, duties and responsibilities of relevant operational control personnel as well as examples of FOAs who might support or assist the FOO, designated member of management and/or PIC.

The specification in item ii) refers to a designated member of management in a shared system of operational control (e.g. director of flight operations or other designated post holder).

Refer to the legend of [Table 3.1](#) for examples of FOA personnel who support or assist the FOO and/or PIC.

The description of duties and responsibilities of an FOO, FOA, and/or designated member of management typically include a definition of the working relationship with the PIC (e.g. the joint responsibility of the PIC, FOO and, if applicable, designated member of management in a shared system of operational control).

Refer to Guidance associated with [ORG 4.2.1](#) located in ISM Section 1 regarding the need for internal communication.

### DSP 1.3.2A

The Operator shall have a process or procedure for the delegation of duties within the management system for operational control 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

Depending on the operator, there might be a dedicated management system for operational control or the management of operational control might rest with flight operations. In the latter case, it would be the flight operations management system that has responsibility for conformity with this provision.

The managers/post holders specified in this provision include, as a minimum, managerial personnel defined by the operator or Authority as required to ensure control and supervision within the organization responsible for the management of operational control.

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.

### DSP 1.3.2B

The Operator shall have a process or procedures for the delegation of duties within the management system for operational control that ensures managerial and operational control continuity is maintained and responsibility for operational control functions is assumed by qualified personnel when:

- (i) Managers directly responsible for the operational control of flights are unable to carry out work duties;
- (ii) If used in the system of operational control, FOO and/or FOA personnel are unable to carry out work duties. **(GM)**

#### Auditor Actions

- ☐ **Identified/Assessed** processes for management system delegation of duties for operational control personnel (focus: operational control managerial continuity is maintained, operational; control responsibilities are assumed by qualified personnel).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** example(s) of delegation of duties (focus: responsibilities for operational control are assumed by qualified personnel).
- ☐ **Other Actions** (Specify)

#### Guidance

The intent of this provision is to ensure an operator has a process or procedures for succession in cases when operational control personnel directly responsible for the operational control of flights are unable, for any reason, to carry out work duties. Such process or procedures typically also address a handover of responsibilities that ensures no loss of continuity in the operational control of flights.

The operational control personnel subject to the specifications of this provision include, as a minimum:

- Managerial personnel, as defined by the operator, with direct responsibility for ensuring the operational control of flights;
- If applicable, FOO or FOA personnel who are delegated authority and/or responsibility in accordance with [DSP 1.3.4](#) and [1.3.5](#) respectively.

### DSP 1.3.3

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

#### Auditor Actions

- ☐ **Identified** positions within operational control/flight dispatch with authority/responsibility for liaison with regulators/other external entities.
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Interviewed** selected operational control managers with authority for liaison with 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.

### DSP 1.3.4

The Operator shall delegate the authority for operational control of each flight only to the PIC in a non-shared system of operational control, or to a combination of suitably qualified individuals in a shared system of operational control, to include the PIC and either:

- (i) An FOO in a shared system of operational control that requires the use of FOO personnel, or
- (ii) A designated member of management or post holder in a shared system of operational control that requires the use of such management personnel. **(GM)**

## Auditor Actions

- ☐ **Identified** specific system for operational control of flights as required by regulations.
- ☐ **Identified/Assessed** operational control system (focus: specific type of shared/non-shared operational control system in accordance with regulatory requirements).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** job description for positions with delegated authority for operational control of flights (focus: authority/responsibilities appropriate for specific type of shared/non-shared system of operational control).
- ☐ **Observed** operational control/flight dispatch operations (focus: applicability/exercise of operational control authority).
- ☐ **Other Actions** (Specify)

## Guidance

Refer to the IRM for the definition of [Flight Monitoring](#).

Refer to General Guidance in the beginning this section for the definition of *Authority* in the context of operational control.

The intent of this provision is to ensure an operator delegates the authority to initiate, continue, divert or terminate a flight in the interest of the safety and security of the aircraft and its occupants (operational control) only to appropriately qualified individuals.

Examples of operational control systems are provided in the following table as a means to identify how authority is typically delegated by an operator.

System of Operational Control	Location	System Description
Shared system (General)	(i), (ii)	Operational control <b>authority</b> is shared between the PIC and a flight operations officer/flight dispatcher (FOO) or a designated member of management.
Full Shared System (PIC and FOO)	(i)	The PIC and FOO have <b>joint authority</b> over the decisions, functions, duties or tasks associated with the operational control of a flight. Such systems are characterized by the use of flight monitoring and a dedicated communications system (voice or electronic) separate from the ATC system in order to maintain shared authority.



System of Operational Control	Location	System Description
Partial Shared System (PIC and FOO)	(i)	The PIC and FOO have <b>joint authority</b> over all preflight decisions, functions, duties or tasks associated with the operational control of a flight, but during flight the PIC has sole authority. Such systems typically include an agreed point of transition from joint to sole responsibility (e.g. pushback or throttle advance for takeoff). This point of transition also typically coincides with the point when the MEL is no longer applicable and flight crew's transition to in-flight procedures. Partial shared systems are characterized by the use of flight monitoring if required by the Authority or desired by the Operator, and typically lack the dedicated communications system necessary to maintain shared authority in flight.
Shared System (PIC and Management)	(ii)	Functionally equivalent to a full shared system except that the PIC and a designated member of management, often the Director of Flight Operations or any suitably qualified and knowledgeable member of management designated by the operator, have <b>joint authority</b> over the decisions, functions, duties or tasks associated with the operational control of a flight.
Non-shared system (General)	Main standard	Operational control <b>authority</b> is delegated only to the PIC who may or may not be assisted by other support personnel.
Non-shared System (PIC-only)	Main standard	The PIC has <b>sole authority</b> over any and all decisions and completes all tasks (unassisted) related to the operational control of each flight. This does not preclude administrative personnel from providing, collecting or assembling operational documents or data related to each flight on behalf of the PIC and as defined in <a href="#">Table 3.1</a> . Such systems may employ flight monitoring if required by the Authority or desired by the operator.
Non-shared System (PIC-assisted)	Main standard	The PIC has <b>sole authority</b> over any and all decisions regarding operational control. However, the PIC is assisted by others (e.g. FOO, FOA or a member of management) that lack operational control authority but are assigned the responsibility to carry out specific functions, duties or tasks, such as flight planning, flight support, briefing and in-flight monitoring. Such systems employ flight monitoring if required by the Authority or desired by the operator.
<b>Note:</b> An FOA can be used in combination with FOOs or designated members of management in all systems of operational control except purely non-shared (PIC-only) systems. If such personnel are delegated authority in a shared system, however, it would be limited to their specific area of competency.		

[Table 3.1](#) categorizes operational control personnel, defines their authority, identifies their responsibilities and illustrates the relationship of such responsibilities to the operation as a whole.

## DSP 1.3.5

The Operator shall retain the overall responsibility for operational control of each flight and assign the responsibility to carry out functions, duties or tasks related to the operational control of each flight only to the PIC, or to a combination of suitably qualified personnel as defined in [Table 3.1](#), to include the PIC and, as applicable to the system of operational control responsibility:

- (i) If the Operator has a shared system of operational control responsibility, *either* of the following:
    - (a) An FOO, who shares overall operational control responsibility with the PIC and/or supports, briefs and/or assists the PIC in the safe conduct of each flight, *or*
    - (b) A designated member of management or post holder who shares overall operational control responsibility with the PIC and/or supports, briefs and/or assists the PIC or FOO in the safe conduct of each flight.
- Note:** FOA and/or administrative personnel can be used in combination with FOOs and/or designated members of management in a shared system of operational control, but neither would share operational control responsibility with the PIC, FOO or designated member of management.
- (ii) If the Operator has a non-shared system of operational control responsibility, one or more of the following:
    - (a) An FOO who supports, briefs and/or assists the PIC in the safe conduct of each flight, *or*
    - (b) A designated member of management or post holder who supports, briefs and/or assists the PIC or FOO in the safe conduct of each flight, *or*
    - (c) FOA personnel who support, brief and/or assist the PIC or FOO in the safe conduct of each flight, and/or
    - (d) Administrative personnel who do not support, brief and/or assist the PIC or FOO, but provide, collect or assemble operational documents or data relevant to the conduct of each flight. **(GM)**

**Note:** An operator may choose to assign limited responsibilities to fully qualified FOO personnel, or to use them only to carry out individual or specific operational control functions, duties or tasks. In such cases, an FOO would be functionally acting as an FOA.

### Auditor Actions

- ☐ **Identified/Assessed** operational control system (focus: operator has overall responsibility for operational control; responsibilities for individual functions/duties/tasks assigned to positions as specified in [Table 3.1](#)).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** job description for positions with responsibility for individual operational control functions/duties/tasks (focus: position responsibilities appropriate for specific type of shared/non-shared system of operational control).
- ☐ **Observed** operational control/flight dispatch operations (focus: responsibilities for individual functions/duties/tasks).
- ☐ **Other Actions** (Specify)

### Guidance

Refer to General Guidance in the beginning this section for the definition of *Responsibility* in the context of operational control.

The intent of this provision is to specify the various ways operational control responsibilities can be assigned by an operator and to ensure only suitably trained and qualified individuals, in addition to the PIC, are assigned overall responsibility for operational control or the responsibility to carry out one or more functions, duties or tasks related to the operational control of each flight.

The specifications of this provision apply irrespective of post holder titles or whether personnel positions are described in the OM. If personnel are assigned the responsibility to carry out operational control functions, duties or tasks, and act in a manner consistent with the specifications of this provision or the descriptions found in [Table 3.1](#), the specifications of this provision are applicable, as well as the specifications of ensuing provisions that require such personnel to be trained and qualified for the operational control responsibilities, functions, duties or tasks that they are performing.

Examples of operational control systems are provided in the following table as a means to identify how responsibility is typically assigned by an operator.

System of Operational Control	Item	System Description
Shared systems (General)	(i) (a), (i) (b)	Operational control responsibility is shared between the PIC and an FOO or designated member of management.
Full Shared System (PIC and FOO)	(i) (a)	The PIC and FOO are <b>jointly responsible</b> for the decisions, functions, duties or tasks associated with the operational control of a flight. Such systems are characterized by flight monitoring and a dedicated communications system (voice or electronic) separate from the ATC system in order to maintain joint responsibility.
Partial Shared System (PIC and FOO)	(i) (a)	The PIC and FOO are <b>jointly responsible</b> for all preflight decisions, functions, duties or tasks associated with the operational control of a flight, but during flight the PIC has sole responsibility. Such systems are characterized by the use of flight monitoring if required by the Authority or desired by the Operator and typically lack the dedicated communications system necessary to maintain shared responsibility in flight.
Shared System (PIC and Management)	(i) (b)	Functionally equivalent to a full shared system except that the PIC and a designated member of management, often the Director of Flight Operations or any suitably qualified and knowledgeable member of management designated by the operator are <b>jointly responsible</b> for the functions, duties or tasks associated with the operational control of a flight. The responsibility to carry out actual functions, duties or tasks such as flight planning, supporting/briefing the crew or flight monitoring is typically assigned to other non-management personnel (e.g. FOOs and/or FOAs).
Non-shared Systems (General)	(ii) (a)–(d)	Operational control responsibility is assigned only to the PIC who may or may not be assisted by other support personnel.
Non-shared System (PIC-only)	Parent provision and/or (ii) (d)	The PIC is <b>solely responsible</b> for completing all tasks (unassisted) related to the operational control of each flight. This does not preclude administrative personnel from providing, collecting or assembling operational documents or data related to each flight on behalf of the PIC as defined in <a href="#">Table 3.1</a> . Such systems employ flight monitoring if required by the Authority or desired by the operator.
Non-shared System (PIC-assisted)	(ii) (a)–(c)	The PIC is <b>solely responsible</b> for all decisions regarding operational control. However, the PIC may be assisted by others, such as an FOA, or an FOO or member of management that functions as an FOA, who is assigned the responsibility to carry out specific functions, duties or tasks, such as flight planning, support, briefing and in-flight monitoring. Such systems employ flight monitoring if required by the Authority or desired by the operator.

System of Operational Control	Item	System Description
<p><b>Note:</b></p> <ul style="list-style-type: none"> <li>FOOs can be present in shared or non-shared systems of operational control to support, brief and/or assist the PIC or designated member of management in all competencies of operational control.</li> <li>FOAs can be present in any system of operational control except purely non-shared (PIC-only) systems, but their responsibilities are limited to their area(s) of expertise.</li> <li>FOAs may be assigned specific flight responsibilities depending on area of expertise or general (non-flight specific) responsibilities in support of other operational control personnel or functions.</li> <li>The responsibilities of administrative personnel used in operational control functions are limited to the provision or collection of operational data.</li> </ul>		

Table 3.1 categorizes operational control personnel, defines their authority, identifies their responsibilities and illustrates the relationship of such responsibilities to the operation as a whole.

Table 3.5 defines the competencies of individuals assigned the responsibility for operational control and/or the responsibility to carry out individual operational control functions, duties or tasks.

When operational control functions are outsourced to external service providers, an operator would retain overall responsibility for operational control and would ensure such service providers are subjected to contractual and monitoring processes as specified in DSP 1.11.1 and 1.11.2.

FOO and/or FOA responsibilities for operational control typically begin when assigned a flight during flight preparation and end after flight termination.

## DSP 1.3.6

If an FOO is used in the system of operational control, the Operator shall assign responsibility to such personnel for:

- (i) Assisting the PIC in flight preparation and providing required information;
- (ii) Assisting the PIC in preparing the operational and ATS flight plans;
- (iii) When applicable, signing the operational and ATS flight plans;
- (iv) Filing the ATS flight plan with the appropriate ATS unit;
- (v) Furnishing the PIC, while in flight, with appropriate information necessary for the safe conduct of the flight;
- (vi) If the Operator tracks aircraft position in accordance with DSP 3.5.2 and/or DSP 3.5.3, notifying the appropriate ATS unit when the position of the aircraft cannot be determined by an aircraft tracking capability, and attempts to establish communication are unsuccessful;
- (vii) In the event of an emergency, initiating relevant procedures as specified in the OM. **(GM)**

**Note:** An operator may choose to assign responsibility for one or more of the specified functions to an FOA, or the PIC may be assigned the responsibility for filing the flight plan in the case of iv) and/or for obtaining the necessary information in the case of v).

## Auditor Actions

- ☐ **Identified/Assessed** FOO responsibilities in operational control system (focus: definition of individual functions/duties/tasks assigned to FOO in specific type of shared/non-shared system of operational control).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** job description for FOO position (focus: position responsibilities appropriate for assigned functions/duties/tasks in specific type of shared/non-shared system of operational control).
- ☐ **Examined** training/qualification records of selected FOO personnel (focus: qualifications appropriate for assigned responsibilities in operational control system).

- ☐ **Observed** operational control/flight dispatch operations (focus: assignment of functional responsibilities/duties to FOO personnel).
- ☐ **Other Actions** (Specify)

## Guidance

Refer to the IRM for the definition of [Aircraft Tracking](#).

The specifications of this provision apply to each FOO qualified in all applicable competencies of operational control, whether licensed or not, who participates in an approved or accepted system of operational control and:

- Is delegated authority in accordance with [DSP 1.3.4](#), and/or
- Is assigned the responsibility in accordance with [DSP 1.3.5](#) to carry out operational control functions, duties or tasks related to all applicable competencies specified in [Table 3.5](#).

The authority and responsibilities of an FOO are defined in [Table 3.1](#).

The specification in item v) may be satisfied by the PIC if such information is available from other sources that can be accessed while in flight.

## DSP 1.3.7

The Operator shall have a process to be used in the event of an emergency situation that endangers the safety of the aircraft or persons, including those situations that become known first to the Operator. Such process shall ensure the FOO, FOA or other delegated person:

- (i) Initiates emergency procedures, as outlined in the OM, while avoiding taking any action that would conflict with ATC procedures;
- (ii) Notifies the appropriate authorities, without delay, of the nature of the situation;
- (iii) Requests assistance, if required;
- (iv) Conveys, by any available means, safety-related information to the PIC that may be necessary for the safe conduct of the flight, including information related to any necessary amendments to the flight plan. **(GM)**

## Auditor Actions

- ☐ **Identified/Assessed** OM procedure for implementation of emergency procedures/actions (focus: definition of operational control positions/persons with assigned responsibility for initiating emergency procedures/notifying authorities/requesting assistance).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: preparedness to implement emergency actions).
- ☐ **Other Actions** (Specify)

## Guidance

The specification in item ii) refers to notification to the appropriate authorities without delay and/or within a period(s) specified by each applicable authority.

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

Processes used for operational control of flights in the event of an emergency would typically be compatible with any operating procedures that have been established by the agencies providing system services for air traffic control. Such compatibility is necessary to avoid conflict and ensure an effective exchange of information between the operator and any of the service agencies.

During an operational emergency, the procedures specified in item i) would normally be designed to not conflict with ATC procedures, such as separation standards, controller instructions, minimum flight altitude assignments or any other restrictions imposed by ATC. During an emergency, however, the PIC may exercise emergency authority and take any action necessary in the interest of the safety of the passengers and aircraft.

It would also be important in this context for the PIC to convey relevant information to the FOO, FOA or other delegated person during the course of the flight with respect to the emergency situation.

## 1.4 Communication and Coordination

### DSP 1.4.1

The Operator shall have a system that enables effective communication of relevant safety and operational information throughout the operational control management system and in all areas where operational control is 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 operational center/office (focus: capability for communicating information relevant to operations among operational personnel involved).
- ❑ **Interviewed** responsible operational control manager(s).
- ❑ **Examined** examples of information communication/transfer in operational center/office.
- ❑ **Interviewed** selected non-management operational control personnel.
- ❑ **Other Actions** (Specify)

#### Guidance

The specifications of this provision may be satisfied by the flight operations organization and/or other organization(s) with responsibilities related to the operational control of flights.

This specification also applies to coordination among appropriate managerial personnel associated with supervision of operational control.

Refer to Guidance associated with [ORG 4.2.1](#) located in ISM Section 1.

### DSP 1.4.2

The Operator shall have a communication system that ensures operational control personnel are provided with or have access to information relevant to the safe conduct of each flight, to include information associated with:

- (i) The aircraft (MEL, maintenance);
- (ii) Meteorology;
- (iii) Safety, including current accident and incident notification procedures;
- (iv) Routes, including over water and critical terrain (NOTAMs, facilities, outages);
- (v) Air Traffic Services (ATS). **(GM)**

#### Auditor Actions

- ❑ **Identified/Assessed** system for dissemination of operational safety information in operational center/office (focus: capability for communicating safety information relevant to operational control personnel; definition of types of safety information required to be disseminated).
- ❑ **Identified/Assessed** accident/incident notification procedures for use by operational control personnel.
- ❑ **Interviewed** responsible operational control manager(s).
- ❑ **Examined** names/numbers of applicable personnel on mass messaging list.
- ❑ **Examined** examples of operational safety information disseminated in operational center/office.
- ❑ **Observed** operational control/flight dispatch operations (focus: operational control personnel have access to information relevant to safe conduct of flights, accident/incident notification procedures).
- ❑ **Other Actions** (Specify)



## Guidance

The specifications of this provision apply to the PIC, an FOO, a designated member of management and/or an FOA whose job functions require access to information in one or more of the areas specified.

An effective system ensures operational control personnel are in receipt of relevant and current information, as necessary, to complete operational control functions, duties or tasks.

Accident and incident notification procedures are typically contained in an operator's Emergency Response Plan or Manual, or in a dedicated checklist accessible in the Dispatch or Operations Control location.

## 1.5 Provision of Resources

### DSP 1.5.1

The Operator shall have the necessary facilities, workspace, equipment and supporting services, as well as work environment, to satisfy operational control safety and security requirements. **(GM)** ◀

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

### Auditor Actions

- ☐ **Observed** operational control/flight dispatch operations (focus: adequate facilities/workspace/equipment for operational control activities).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Other Actions** (Specify)

### Guidance

Refer to Guidance associated with [ORG 1.5.2](#) located in ISM Section 1.

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

The specifications of this provision may be satisfied by the flight operations organization and/or other organization(s) with responsibilities related to the operational control of flights.

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.

### DSP 1.5.2

The Operator shall have a selection process for management and non-management operational control 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/processes for selection of operational control personnel in functions relevant to safety of flights.
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Interviewed** personnel that perform operational control functions relevant to safety of flights.
- ☐ **Other Actions** (Specify)

### Guidance

The operational control positions subject to the specifications of this provision include, as a minimum:

- Managerial personnel, as defined by the operator, required to ensure control and supervision of flight operations in accordance with [DSP 1.1.1](#);
- Post holders as required by the Authority if applicable;

FOO knowledge, skill and experience requirements are in accordance with [DSP 1.5.6](#) and [1.5.7](#).

FOA knowledge, skill and experience requirements are in accordance with [DSP 1.5.7](#).

FOO and FOA training requirements are in accordance with the applicable provisions of [Subsection 2](#), Training and Qualification.

PIC knowledge, skill, experience and training requirements are in accordance with the applicable provisions of ISM Section 2 (FLT), [Subsection 2](#), Training and Qualification.

#### **DSP 1.5.3**

The Operator shall have a process to ensure applicants hired in operational control functions are required to demonstrate the capability of speaking and reading in a language that will permit communication with other areas within the organization relevant to operational control.

##### **Auditor Actions**

- ☐ **Identified/Assessed** requirement for language evaluation prior to hiring/selection of operational control personnel (focus: evaluation of speaking/reading skills; level of proficiency required that permits communication in subjects relevant to operational control of flights).
- ☐ **Identified** the language/methodology used for communication with staff in different areas across the operator's network on matters pertaining to operational control.
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** language evaluation syllabus (focus: demonstration of speaking/reading language proficiency).
- ☐ **Examined** selected operational control personnel selection records (focus: completion of language evaluation prior to selection).
- ☐ **Other Actions** (Specify)

#### **DSP 1.5.4**

If a licensed FOO is used in the system of operational control, the Operator shall ensure each FOO, prior to being assigned to operational control duties, holds a valid Flight Operations Officer or Flight Dispatcher license issued or recognized by the State. **(GM)**

##### **Auditor Actions**

- ☐ **Identified** use of FOO in operational control system (focus: applicable to FOO/Flight Dispatcher function as defined in [Table 3.1](#)).
- ☐ **Identified** regulatory requirement for FOO licensing.
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected FOO personnel selection records (focus: possession of valid license prior to assignment to perform FOO duties).
- ☐ **Observed** operational control/flight dispatch operations (focus: valid license for personnel that perform FOO function as defined in [Table 3.1](#)).
- ☐ **Other Actions** (Specify)

##### **Guidance**

The specifications of this provision apply only to each FOO qualified in all applicable competencies of operational control who participates in an approved or accepted system of operational control and:

- Is delegated authority in accordance with [DSP 1.3.4](#), and/or
- Is assigned the responsibility in accordance with [DSP 1.3.5](#) to carry out operational control functions, duties or tasks related to all applicable competencies specified in [Table 3.5](#), and
- Requires licensing or certification by the State in order to participate in an approved or accepted system of operational control.

#### **DSP 1.5.5** (Intentionally open)

## DSP 1.5.6

If an FOO is used in the system of operational control, the Operator *should* ensure personnel hired to perform the FOO functions are not less than 21 years of age and meet one or more of the following criteria:

- (i) Have, as a minimum, one year of experience as an assistant in the operational control of air transport flights, or
- (ii) Have satisfactorily completed a formal training course as a flight operations officer or flight dispatcher, or
- (iii) Have, as a minimum, a total of two years of service in any one or combination of the following:
  - (a) Flight crew member in air transport operations;
  - (b) Meteorologist in an organization dispatching aircraft;
  - (c) Air traffic controller;
  - (d) Technical supervisor of FOO personnel;
  - (e) Technical supervisor of air transportation systems. **(GM)**

### Auditor Actions

- ☐ **Identified** use of FOO in operational control system (focus: applicable to FOO/Flight Dispatcher function as defined in [Table 3.1](#)).
- ☐ **Identified/Assessed** age/training/experience prerequisites for personnel prior to selection/hiring as FOO (focus: definition of specific age/training/experience prerequisites that must be satisfied).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected FOO personnel training/qualification records (focus: completion/satisfaction of defined age/training/experience prerequisites prior to selection/hiring as FOO).
- ☐ **Other Actions** (Specify)

### Guidance

The specifications of this provision apply to each FOO qualified in all applicable competencies of operational control, whether licensed or not, who participates in an approved or accepted system of operational control and:

- Is delegated authority in accordance with [DSP 1.3.4](#), and/or
- Is assigned the responsibility in accordance with [DSP 1.3.5](#) to carry out operational control functions, duties or tasks related to all applicable competencies specified in [Table 3.5](#).

## DSP 1.5.7

If an FOO or FOA is used in the system of operational control, the Operator shall have a process to ensure such personnel, prior to being assigned duties in an operational control function:

- (i) As applicable, meet minimum age, knowledge, experience and skill requirements of the State;
- (ii) Are trained to a minimum competency level acceptable to the Operator and/or State;
- (iii) For FOAs, have demonstrated the ability to provide assistance in their area(s) of competency to, as applicable, the PIC and/or FOO. **(GM)**

### Auditor Actions

- ☐ **Identified** the use of FOO/FOA in operational control system (focus: applicable to FOA function as defined in [Table 3.1](#)).
- ☐ **Identified/Assessed** prerequisites for FOO/FOA personnel prior to assignment to perform operational control duties (focus: definition of specific prerequisites that must be satisfied; defined prerequisites include all regulatory requirements/knowledge/proficiencies as defined in [Table 3.5](#)/relevant operational control abilities).
- ☐ **Interviewed** responsible operational control manager(s).

- **Examined** selected FOO/FOA personnel training/qualification records (focus: completion/satisfaction of defined age/training/experience prerequisites prior to selection/hiring as FOO/FOA).
- **Other Actions** (Specify)

## Guidance

The specifications of this provision apply to FOO personnel (whether licensed or not) and/or FOA personnel who are delegated authority and/or assigned responsibilities in accordance with [DSP 1.3.4](#) and/or [DSP 1.3.5](#) respectively, and are assigned to carry out operational control functions, duties or tasks as an FOO or FOA as defined in [Table 3.5](#).

## 1.6 Documentation System

**DSP 1.6.1** (Intentionally open)

**DSP 1.6.2** (Intentionally open)

□

### DSP 1.6.3

The Operator shall have a system for the management and control of documentation and/or data used directly in the conduct or support of Dispatch 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/control of content/format of operational documentation/data used in operational control system.
- **Interviewed** responsible operational control manager(s).
- **Examined** selected parts of the OM (focus: legibility/accuracy/format; approval as applicable).
- **Other Actions** (Specify)

## Guidance

Refer to the IRM for the definitions of [Documentation](#), [Electronic Documentation](#) and [Paper Documentation](#). Refer to [ORG 2.5.1](#) and associated Guidance, and [Table 1.1](#), located in ISM Section 1.

### DSP 1.6.4

The Operator shall ensure the system for the management and control of operational control documentation as specified in [ORG 2.5.1](#) and [Table 1.1](#) addresses, as a minimum, the following documents from external sources:

△

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

## Auditor Actions

- ☐ **Identified/Assessed** system(s) for management/control of documentation/data used in operational control system (focus: system addresses documents from external sources; definition of applicable external documents).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected documents from external sources (focus: application of management/control elements).
- ☐ **Other Actions** (Specify)

## Guidance

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

The specifications of this provision may be satisfied by the flight operations organization documentation management and control system, if used in conjunction with the operator's system of operational control.

The specifications in item i) refer to:

- Applicable regulations imposed on an operator by the State that issues the Air Operator Certificate (AOC);
- Regulations issued by other states and/or authorities that actively regulate foreign operators, which may be done through issuance of an Operational Specification (OPS SPEC) or specific state legislation;
- Regulations, standards, recommended practices, supplemental procedures and/or guidance material that are applicable to the operations of the operator by any states or authorities with jurisdiction over the operations of the operator. Applicable authorities would include those that have jurisdiction over international operations conducted by an operator over the high seas or over the territory of a state that is other than the State of the Operator.

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

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

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

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

⊗

## 1.7 Operations Manual

### DSP 1.7.1

The Operator shall have an Operations Manual (OM) for the use of operational control personnel, which may be issued in separate parts, and which contains or references the policies, procedures and other guidance or information necessary for compliance with applicable regulations, laws, rules and Operator standards. As a minimum, the OM shall:

- (i) Be managed and controlled in accordance with DSP 1.6.1;
- (ii) Have all parts relevant to operational control personnel clearly identified and defined;
- (iii) Be in accordance with the specifications in [Table 3.2. \(GM\)](#)

**Auditor Actions**

- ☐ **Identified/Assessed** operational documents that comprise the OM (focus: external documents referenced in OM/used by operational control personnel).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected parts of OM (focus: contents in accordance with in [Table 3.2](#)).
- ☐ **Other Actions** (Specify)

**Guidance**

The intent of this provision is to ensure operational control personnel are able to find all information necessary to perform their functions either within the OM or within another document that is referenced in the OM. The OM is normally identified as a source of operational information approved or accepted for the purpose by the operator or the State.

Refer to the [FLT 1.7.4](#) and associated guidance for human factors principles observed in the design of the OM.

**DSP 1.7.2**

The Operator shall have a description of the Operational Flight Plan (OFP) or equivalent document that is published in the OM and includes:

- (i) Guidance for use by operational control personnel;
- (ii) An outline of the content in accordance with specifications in [Table 3.3](#). **(GM)**

**Auditor Actions**

- ☐ **Identified/Assessed** description of OFP in OM.
- ☐ **Examined** selected OFP(s).
- ☐ **Other Action** (Specify)

**Guidance**

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

**DSP 1.7.3** (Intentionally open)**DSP 1.7.4**

If an FOO or FOA is used in the system of operational control, the Operator shall have guidance and procedures to enable such personnel, as applicable, to comply with the conditions and limitations specified in the AOC. **(GM)**

**Auditor Actions**

- ☐ **Identified** use of FOO/FOA in operational control system (focus: applicable to FOO/FOA/designated management member functions as defined in [Table 3.1](#)).
- ☐ **Identified/Assessed** OM guidance/procedures used by FOO/FOA personnel (focus: procedures ensure compliance with AOC conditions/limitations).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: compliance with AOC conditions/limitations by FOO/FOA personnel).
- ☐ **Other Actions** (Specify)

**Guidance**

The specifications of this provision apply to FOO or FOA personnel who are delegated authority and/or assigned responsibilities in accordance with [DSP 1.3.4](#) and/or [DSP 1.3.5](#), respectively.

Refer to Guidance associated with [FLT 1.2.1](#) for information on the content of the AOC, to include conditions and limitations.



The intent of this provision is to ensure conditions and limitations of the AOC are available in documentation for use, as required, by flight operations officers/flight dispatchers (FOO) and/or flight operations assistants (FOA).

### 1.8 Records System

#### DSP 1.8.1

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

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

#### Auditor Actions

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

#### Guidance

Refer to guidance associated with [ORG 2.6.1](#) located in ISM Section 1.

#### DSP 1.8.2

The Operator shall ensure the system for the management and control of operational control records as specified in [DSP 1.8.1](#) addresses, as a minimum, records that document or include:

- (i) Operational information, communications and data for each flight specified in [DSP 1.8.4](#) and [Table 3.4](#);
- (ii) The fulfillment of FOO and/or FOA qualification requirements specified in [DSP 1.8.6](#), [1.8.8](#) and [1.8.9](#), as applicable;
- (iii) A signed copy of the OFP or equivalent document, as specified in [DSP 3.2.5](#).

#### Auditor Actions

- ☐ **Identified/Assessed** system for management/control of records in operational control system (focus: definition of information documented in records system).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected operational control records (focus: include information specified in [Table 3.4](#); communication records; FOO/FOA training/qualification records; OFP records).
- ☐ **Other Actions** (Specify)

#### Guidance

The specifications in item (i) may be satisfied by the flight operations organization records system, if used in conjunction with the operator's system of operational control.

#### DSP 1.8.3

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

**Auditor Actions**

- ☐ **Identified/Assessed** electronic system for management/control of records (focus: system includes backup process that defines a schedule for periodic file backup).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected records of backup files (focus: records periodically backed up in accordance with system process).
- ☐ **Other Actions** (Specify)

**Guidance**

Refer to Guidance associated with [ORG 2.6.2](#) located in ISM Section 1.

**DSP 1.8.4**

The Operator shall have a process or procedures to record and retain operational information, communications and data for each flight. As a minimum, such retained flight information and data shall be in accordance with the specifications in [Table 3.4](#) and retained for a period of time determined by the Operator or the Authority. **(GM)**

**Auditor Actions**

- ☐ **Identified/Assessed** process or procedures for management/control of records in operational control system (focus: retention of information/data for each flight as specified in [Table 3.4](#)).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected operational control records (focus: information/data for each flight as specified in [Table 3.4](#)).
- ☐ **Other Actions** (Specify)

**Guidance**

Operational information and data may be retained by different means (e.g. ACARS logs, paper logs, manually, computer systems).

Fuel and oil consumption records are typically maintained in accordance with [MNT 3.1.1](#).

The communications typically subject to the record keeping specifications of this provision include operational voice, text, or data communications to/from:

- Flights from the period beginning at the originating station when flight crew begins their duties on the flight deck until the flight crew finishes their duties on the flight deck at the terminating station;
- If applicable, the operations control center.

Aircraft tracking data is typically retained only for the purposes of determining an aircraft's position in the event of an accident.

**DSP 1.8.5** (Intentionally open)**DSP 1.8.6**

If an FOO or FOA is used in the system of operational control, the Operator shall ensure training records for such personnel, as applicable, are managed and maintained in accordance with [DSP 1.8.1](#), to include records that document completion of:

- (i) Initial qualification;
- (ii) Continuing qualification;
- (iii) Competency evaluations. **(GM)**

**Note:** Records that document the completion of competency evaluations shall be retained for a period in accordance with requirements of the Authority, but not less than one year.

## Auditor Actions

- ☐ **Identified** use of FOO/FOA in operational control system (focus: applicable to FOO/FOA functions as defined in [Table 3.1](#)).
- ☐ **Identified/Assessed** system for management/control of records in operational control system (focus: retention of FOO/FOA training/qualification information).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected operational control records (focus: FOO/FOA training/qualification information).
- ☐ **Other Actions** (Specify)

## Guidance

The specifications of this provision apply to FOO or FOA personnel that are delegated authority and/or assigned responsibilities in accordance with [DSP 1.3.4](#) and/or [DSP 1.3.5](#), respectively.

Initial qualification training records are typically retained permanently while an individual is employed by an operator, unless required otherwise by the Authority.

Continuing qualification training records are typically retained for three years to ensure that the subjects required in [DSP 2.2.2](#) have been covered during that time period.

PIC training records are addressed in ISM [Section 2](#) (FLT).

### DSP 1.8.7 (Intentionally open)

### DSP 1.8.8

If the Operator has a flight deck familiarization program for FOO personnel in accordance with [DSP 2.3.4](#), the Operator *should* have a procedure to retain a record of the operational flight deck familiarization activities completed by each FOO for a period of time in accordance with requirements of the Operator and/or Authority. **(GM)**

## Auditor Actions

- ☐ **Identified** use of FOO in operational control system (focus: applicable to FOO functions as defined in [Table 3.1](#)).
- ☐ **Identified/Assessed** procedure for retention of records (focus: retention of FOO operational flight deck familiarization activities; retention period in accordance with regulatory requirements).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected operational control records (focus: FOO operational flight deck familiarization activities).
- ☐ **Other Actions** (Specify)

## Guidance

Refer to [DSP 2.3.4](#) for the flight deck familiarization program specifications including recurrent training intervals.

In light of the [DSP 2.3.4](#) recurrent training interval, the minimum record retention period is typically 12 months unless a longer retention period is specified by the Authority.

### DSP 1.8.9

If a licensed FOO is used in the system of operational control, the Operator shall have a procedure to retain a copy of the license of each FOO for a period of time, in accordance with the requirements of the Operator and/or Authority. **(GM)**

## Auditor Actions

- ☐ **Identified** use of licensed FOO in operational control system (focus: applicable to FOO functions as defined in [Table 3.1](#)).
- ☐ **Identified/Assessed** procedure for retention of records (focus: retention of FOO license copy).
- ☐ **Interviewed** responsible operational control manager(s).

- ☐ **Examined** selected operational control records (focus: FOO license copy).
- ☐ **Other Actions** (Specify)

## Guidance

This provision is only applicable to operators that have a state requirement for licensing of FOO personnel in conjunction with an approved system of operational control.

## 1.9 (Intentionally open)

### 1.10 Quality Assurance Program

#### DSP 1.10.1

The Operator shall have a quality assurance program that provides for the auditing and evaluation of the management system and operational control functions at planned intervals to ensure the organization(s) with responsibility for operational control is (are):

- (i) Complying with applicable regulations and standards;
- (ii) Satisfying stated operational control needs;
- (iii) Identifying areas requiring improvement;
- (iv) Identifying hazards to operations;
- (v) Assessing the effectiveness of safety risk controls. **[SMS] (GM) ◀**

## Auditor Actions

- ☐ **Identified/Assessed** quality assurance program in operational control system (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.
- ☐ **Examined** selected operational control audit reports (focus: audit scope/process/organizational interface).
- ☐ **Other Actions** (Specify)

## Guidance

Refer to the IRM for the definition of [Quality Assurance \(QA\)](#).

Refer to [Table 3.1](#) for examples of operational control functions that could be subjected to audit and evaluation as part of an operator's quality assurance program.

Previous audit results could be made available by the operator as evidence of program implementation.

Audit records generated by the quality assurance program would be managed and controlled in accordance with [DSP 1.8.1](#).

The management systems responsible for operational control might vary according to the operator and/or State.

If operational control is under the flight operations management system, refer to ISM Section 2 (FLT), [Subsection 1.10](#).

Refer to Guidance associated with [ORG 2.1.1](#) located in ISM Section 1 for typical audit program requirements.

#### DSP 1.10.2

The Operator shall have an audit planning process and sufficient resources to ensure audits of operational control functions are:

- (i) Scheduled at intervals to meet regulatory and management system requirements;
- (ii) Conducted within the scheduled interval. **(GM) ◀**

### Auditor Actions

- ☐ **Identified/Assessed** quality assurance audit planning process in operational control system (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** responsible quality assurance program manager.
- ☐ **Crosschecked** audit plan with selected audit reports (focus: audits conducted in accordance with audit plan).
- ☐ **Other Actions** (Specify)

### Guidance

Intervals of surveillance activities might vary depending on the operator.

Previous outcomes would typically be considered in determining audit intervals.

Refer to Guidance associated with [ORG 2.1.5](#) located in ISM Section 1.

### DSP 1.10.3

The Operator shall have a process to ensure significant issues arising from operational control 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 operational control quality assurance issues (focus: continual improvement of quality assurance program).
- ☐ **Interviewed** responsible quality assurance program manager.
- ☐ **Examined** selected records/documents of management review of operational control quality assurance program issues (focus: specific issues/changes identified/implemented to improve quality assurance program).
- ☐ **Other Actions** (Specify)

### Guidance

Significant issues would be defined by the operator but are typically regarded as those issues that could affect the safety and/or quality of operations.

Refer to [ORG 4.1.1](#), [ORG 4.1.2](#), and associated Guidance located in ISM Section 1.

### DSP 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 operational areas;
- (iv) Evaluation of corrective action to determine effectiveness. **(GM)** ◀

### Auditor Actions

- ☐ **Identified/Assessed** process for addressing/closing operational control 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

### DSP 1.11.1A

If the Operator has external service providers conduct outsourced operational control 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 operational control.
- ☐ **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 operational control 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.

### DSP 1.11.1B

If the Operator has external service providers conduct outsourced operational control functions, the Operator shall have a process to ensure a contract or agreement is executed with such external service providers. Such contract(s) or agreement(s) shall identify the application of specific documented requirements that can be monitored by the Operator, to ensure requirements that affect the safety of flight operations are being fulfilled by the service provider. **(GM)** ◀

#### Auditor Actions

- ☐ **Identified/Assessed** processes for contract/agreement production/execution with external service providers that conduct outsourced operational control functions.
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected operational control 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](#).

Examples of operational control functions that might be outsourced typically include flight planning, aircraft tracking, the provision of position information of flights in distress to appropriate organizations, flight monitoring, and/or weight and balance provision/computation.

Refer to Guidance associated with [ORG 1.6.2](#) located in ISM Section 1.

### DSP 1.11.2

If the Operator has external service providers conduct operational functions associated with the operational control of flights, the Operator shall have a process to monitor such external service providers, to ensure requirements that affect the safety of flight operations are being fulfilled. **(GM)** ◀

**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 operational control service providers (focus: monitoring process ensures provider is fulfilling applicable safety/security requirements).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected records/reports resulting from monitoring of operational control service providers (focus: monitoring process ensures provider is fulfilling applicable safety/security requirements).
- ☐ **Other Actions** (Specify)

### Guidance

Refer to Guidance associated with [ORG 2.2.1](#) located in ISM Section 1.

An operator would typically use external auditing in accordance with [DSP 1.11.5](#) as the preferred process for the monitoring and control of external organizations.

### DSP 1.11.3

The Operator *should* have 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 navigation data products as specified in [DSP 1.11.4](#)) meet the product technical requirements specified by the Operator prior to being used in the operational control of flights. **(GM)** ◀

### Auditor Actions

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

### Guidance

Conformity with this provision ensures databases and other internal and external sources of operational data provided for operational control are current, accurate and complete.

Examples of acquired operational control data or products typically include performance data, weight and balance data, aircraft tracking systems/products, meteorological reporting/monitoring and NOTAMs.

Refer to guidance associated with [ORG 2.3.1](#) located in ISM Section 1.

### DSP 1.11.4

If the Operator uses electronic navigation data products for application in operational control, the Operator shall have processes, approved or accepted by the State, if required, which ensure such electronic navigation data products acquired from suppliers, prior to being used in operations:

- (i) Are assessed for a level of data integrity commensurate with the intended application;
- (ii) Are compatible with the intended function of equipment in which it is installed. **(GM)**

### Auditor Actions

- ☐ **Identified/Assessed** processes for acceptance of electronic navigation data products acquired for application in operational control (focus: assessment for data integrity/functionality are compatible with intended use; processes have regulatory acceptance).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected product acceptance records (focus: products assessed for data integrity/functionality).
- ☐ **Other Actions** (Specify)

## Guidance

Refer to the IRM for the definition of [Navigation Data Integrity](#).

The responsibility of ensuring electronic navigation data is assessed for integrity and is compatible with the intended application rests with the operator.

Navigation database integrity can be assured by obtaining data from a supplier accredited in accordance with approved or accepted standards of data integrity and quality. Such standards include but are not limited to:

- RTCA/DO-200A, Standards for Processing Aeronautical Data, issued 09/28/98;
- RTCA/DO-201A, Standards for Aeronautical Information, issued 04/19/00;
- Advisory Circular (AC) 20-153, Acceptance of Data Processes and Associated Navigation Databases, issued 09/20/10.

The specifications in items i) and ii) may be satisfied by an operator, in accordance with State-approved or-accepted methods for assuring data integrity and compatibility, such as:

- Obtaining a letter of acceptance from an applicable authority stating the data supplier conforms to a recognized standard for data integrity and compatibility that provides an assurance level of navigation data integrity and quality sufficient to support the intended application, **or**
- The existence of operator validation processes to determine navigation data compatibility and accuracy that provide an assurance level of navigation data integrity and quality sufficient to support the intended application.

Monitoring and control of electronic navigation data products acquired from suppliers are also in accordance with [DSP 1.11.3](#).

### DSP 1.11.5

If the Operator has external service providers conduct operational functions associated with the operational control of flights, the Operator *should* include auditing as a process for the monitoring of external service providers in accordance with [DSP 1.11.2](#). **(GM)** ◀

## Auditor Actions

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

## Guidance

Monitoring and control of external organizations by an operator might 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

#### DSP 1.12.1

The Operator shall have a hazard identification program in the organization responsible for the operational control of flights that includes a combination of reactive and proactive methods of hazard identification. **[SMS] (GM)** ◀

## Auditor Actions

- ☐ **Identified/Assessed** safety hazard identification program in operational control system (focus: program identifies hazards to aircraft operations; describes/defines method(s) of safety data collection/analysis).

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

### Guidance

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

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

The specifications of this provision may be satisfied by the hazard identification program in the flight operations organization if such program includes the operational control system.

Hazard identification specific to an operational activity (e.g. aircraft tracking, alternate airport selection, fuel planning and/or ETOPS/EDTO) is an SRM process that is central to the development and use of variations, including Operational Variations approved by the Authority, in accordance with applicable provisions in subsections 3 and 4.

Refer to Guidance associated with [ORG 3.1.1](#) located in ISM Section 1.

### DSP 1.12.2

The Operator shall have a safety risk assessment and mitigation program in the organization responsible for the operational control of flights that specifies processes to ensure:

- (i) Hazards are analyzed to determine the corresponding safety risks to aircraft operations;
- (ii) Safety risks are assessed to determine the requirement for risk mitigation action(s);
- (iii) When required, risk mitigation actions are developed and implemented in operational control. **[SMS] [Eff] (GM) ◀**

### Assessment Tool

#### Desired Outcome

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

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

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

#### Effectiveness Criteria

- (i) All relevant operational control hazards are analyzed for corresponding safety risks.
- (ii) Safety risks are expressed in at least the following components:
  - Likelihood of an occurrence.
  - Severity of the consequence of an occurrence.
  - Likelihood and severity have clear criteria assigned.
- (iii) A matrix quantifies safety risk tolerability to ensure standardization and consistency in the risk assessment process, which is based on clear criteria.
- (iv) Risk register(s) across the operational control capture risk assessment information, risk mitigation (control) and monitoring actions.
- (v) Risk mitigation (control) actions include timelines, allocation of responsibilities and risk control strategies (e.g. hazard elimination, risk avoidance, risk acceptance, risk mitigation).

- (vi) Mitigation (control) actions are implemented to reduce the risk to a level of “as low as reasonably practical”.
- (vii) Identified risks and mitigation actions are regularly reviewed for accuracy and relevance.
- (viii) Effectiveness of risk mitigation (control) actions are monitored at least yearly.
- (ix) Personnel performing risk assessments are appropriately trained in accordance with [ORG 4.3.1](#).

## Auditor Actions

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

## Guidance

Refer to the IRM for the definitions of [Estimated Time of Use \(ETU\)](#), [EDTO \(Extended Diversion Time Operations\)](#), [Risk Registry](#), [Safety Risk](#), [Safety Risk Assessment \(SRA\)](#), [Safety Risk Management](#) and [Safety Risk Mitigation](#).

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

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

- Weather (e.g. adverse, extreme and space);
- Geophysical events (e.g. volcanic ash, earthquakes, tsunamis);
- Operations in airspace affected by armed conflict (i.e. Conflict Zones);
- ATM congestion;
- Mechanical failure;
- Geography (e.g. adverse terrain, large bodies of water, polar);
- Airport constraints (e.g. isolated, runway closure, rescue and RFFS capability);
- Alternate airport selection, specification and availability at the estimated time of use (ETU);
- Preflight fuel planning and in-flight fuel management;
- Critical fuel scenarios;
- ETOPS/EDTO;
- Variations to prescriptive regulations or international standards including Operational Variations approved by the Authority;
- Operational considerations (e.g. area of operations, diversion time);
- The capabilities of an individual aircraft (e.g. cargo smoke detection, fire suppression systems, open MEL items);
- The properties of items to be transported as cargo;
- The quantity and distribution of dangerous goods items to be transported;
- Criminal and/or unauthorized activities directed at manned aircraft or in the vicinity of manned aircraft operations (e.g. laser pointing, unauthorized UAS/RPAS operations);
- Flights using aircraft to transport cargo in the passenger cabin, without passengers;
- Any other condition(s) that could pose a safety risk to aircraft operations.

The specifications of this provision may be satisfied by the safety risk assessment and mitigation program in the flight operations organization if such program includes the operational control system.

Risk assessment and mitigation specific to an operational activity (e.g. aircraft tracking, alternate airport selection, fuel planning and/or ETOPS/EDTO) is an SRM process central to the development and use of variations in accordance with applicable provisions in subsections 3 and 4.

Refer to Guidance associated with [ORG 3.2.1](#) located in ISM Section 1.

## Operational Reporting

### DSP 1.12.3

The Operator shall have an operational safety reporting system in the organization responsible for the operational control of flights that:

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

#### Auditor Actions

- ☐ **Identified/Assessed** operational safety reporting system in operational control (focus: system urges/facilitates reporting of hazards/safety concerns; includes analysis/action to validate/address reported hazards/safety concerns).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Interviewed** person(s) that perform operational safety report review/analysis/follow-up in operational control.
- ☐ **Examined** data that indicates robustness of operational control safety reporting system (focus: quantity of reports submitted/hazards identified).
- ☐ **Examined** records of selected operational control safety reports (focus: analysis/follow-up to identify/address reported hazards/safety concerns).
- ☐ **Other Actions** (Specify)

#### Guidance

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

Safety reporting specific to an operational activity (e.g. aircraft tracking, alternate airport selection, fuel planning and/or ETOPS/EDTO) is an SRM process central to the development and use of variations in accordance with applicable provisions in subsections 3 and 4.

The specifications of this provision may be satisfied by the operational reporting system in the flight operations organization if such system includes the operational control system.

Refer to Guidance associated with [ORG 3.1.2](#) located in ISM Section 1.

### DSP 1.12.4

The Operator *should* have a confidential safety reporting system in the organization responsible for the operational control of flights that encourages and facilitates the reporting of events, hazards and/or concerns resulting from or associated with human performance in operations. **(GM) ◀**

#### Auditor Actions

- ☐ **Identified/Assessed** confidential safety reporting system in operational control (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 operational control manager(s).
- ☐ **Examined** records of selected operational control confidential safety reports (focus: report/reporter de-identification; analysis/follow-up to identify/address reported hazards/safety concerns).
- ☐ **Other Actions** (Specify)

**Guidance**

The specifications of this provision may be satisfied by a confidential reporting system in the flight operations organization if such system includes the operational control system.

Refer to Guidance associated with [ORG 3.1.3](#) located in ISM Section 1.

**Safety Performance Monitoring and Management****DSP 1.12.5**

The Operator shall have processes in the organization responsible for the operational control of flights 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 risk controls. **[SMS] (GM) ◀**

**Auditor Actions**

- ☐ **Identified/Assessed** program for setting SPIs and SPTs in operational control (focus: program defines the development and implementation of SPIs and SPTs that are aligned with safety objectives).
- ☐ **Interviewed** responsible manager(s) in operational control.
- ☐ **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 confirm monitoring of operational control SPIs and SPTs (focus: monitoring of 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 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.

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).

The specifications of this provision may be satisfied by processes in the flight operations organization if such processes include setting SPIs for the operational control system.

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



## 2 Training and Qualification

### General Guidance

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

### 2.1 Training and Evaluation Program

#### General

##### DSP 2.1.1

The Operator shall have a training program, approved or accepted by the Authority, to ensure the operational control personnel as specified in [Table 3.1](#), as applicable to the Operator, are competent to perform any assigned duties relevant to operational control in accordance with the applicable specifications of [Table 3.5](#) prior to being assigned to operational control duties. Such program shall, as a minimum, address:

- (i) Initial qualification;
- (ii) Continuing qualification. **(GM)**

#### Auditor Actions

- ☐ **Identified/Assessed** training program for operational control personnel (focus: program addresses initial/continuing qualification for functions specified in [Table 3.1](#)).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** training/qualification course curricula for operational control personnel (focus: course content as specified in [Table 3.5](#)).
- ☐ **Examined** training/qualification records of selected operational control personnel (focus: completion of initial/recurrent training).
- ☐ **Other Actions** (Specify)

#### Guidance

Refer to the IRM for the definitions of [Continuing Qualification](#), [State Acceptance](#) and [State Approval](#). Not all states require the approval or acceptance of a training program for operational control personnel. In such cases, state acceptance is considered implicit.

A training program for operational control personnel typically addresses:

- For FOO and FOA personnel, initial and continuing qualification in accordance with the specifications of [Table 3.1](#) and [Table 3.5](#);
- For FOO and FOA personnel, a method of qualification through written, oral and/or practical evaluation;
- For administrative support personnel as defined in [Table 3.1](#), on-the-job training (OJT), job descriptions, task cards, guidelines, checklists, training materials or other written means to establish competence.

The specifications of this provision apply to FOO or FOA personnel who are delegated authority and/or assigned responsibilities in accordance with [DSP 1.3.4](#) and/or [DSP 1.3.5](#), respectively.

FOO personnel who have completed training programs conducted in accordance with ICAO Doc 7192-AN/857, Part D, Training Manual—Flight Operations Officers/Flight Dispatchers, meet the specifications of this provision.

FOO initial training programs contain all of the competencies in [Table 3.5](#) that are relevant to the operations of the operator.

FOA initial training programs contain the competencies in [Table 3.5](#) that are relevant to their job function as determined by the operator.

#### DSP 2.1.2

If an FOO or FOA is used in the system of operational control, the Operator shall ensure the training program specifies minimum training hours for such personnel, as applicable, in accordance with requirements of the Operator and/or State. **(GM)**

##### Auditor Actions

- ☐ **Identified** use of FOO/FOA in operational control system (focus: applicable to FOO/FOA functions as defined in [Table 3.1](#)).
- ☐ **Identified/Assessed** training program minimum hours for FOO/FOA personnel (focus: hours in accordance with regulatory requirements).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** training/qualification course curricula for FOO/FOA personnel (focus: initial/recurrent program elements specify minimum training hours).
- ☐ **Examined** training/qualification records of selected FOO/FOA personnel (focus: completion of initial/recurrent training).
- ☐ **Other Actions** (Specify)

##### Guidance

The specifications of this provision apply to FOO or FOA personnel who are delegated authority and/or assigned responsibilities in accordance with [DSP 1.3.4](#) and/or [DSP 1.3.5](#), respectively.

The training curriculum normally specifies minimum training hours for each subject area and also indicates whether it has been mandated by the Authority or operator.

#### DSP 2.1.3

The Operator shall have a process to ensure course materials used in training programs for personnel responsible for operational control are periodically evaluated to ensure compliance with the qualification and performance standards of the Operator and/or Authority. **(GM)**

##### Auditor Actions

- ☐ **Identified/Assessed** process for periodic evaluation of course materials used in training program for operational control personnel (focus: evaluation addresses compliance with applicable qualification/performance standards).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected records of training courseware evaluation (focus: completion of periodic courseware evaluations).
- ☐ **Other Actions** (Specify)

##### Guidance

Such process typically provides:

- Continual improvement and effectiveness;
- Incorporation of the latest regulatory and operational changes in a timely manner.

#### DSP 2.1.4–2.1.6 (Intentionally open)

## Instructors and Evaluators

### DSP 2.1.7

If an FOO or FOA is used in the system of operational control, the Operator shall have a process to ensure those individuals designated to evaluate the competency of such personnel, as applicable, are current and qualified to conduct such evaluations. **(GM)**

#### Auditor Actions

- ☐ **Identified** use of FOO/FOA in operational control system (focus: applicable to FOO/FOA functions as defined in [Table 3.1](#)).
- ☐ **Identified/Assessed** qualification program for FOO/FOA evaluators (focus: curriculum based on defined competency standards/criteria).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** training/qualification records of selected FOO/FOA evaluators (focus: completion of evaluator qualification program).
- ☐ **Other Actions** (Specify)

#### Guidance

The specifications of this provision apply to FOO or FOA personnel who are delegated authority and/or assigned responsibilities in accordance with [DSP 1.3.4](#) and/or [DSP 1.3.5](#), respectively.

The intent of this provision is to ensure:

- Personnel delegated to evaluate FOO personnel are themselves current and qualified as an FOO in accordance with requirements of the State and/or operator;
- Personnel delegated to evaluate FOA personnel are themselves current and qualified in the applicable competencies of operational control in accordance with requirements of the State and/or operator.

The specifications of this provision refer to personnel delegated to evaluate the competency of operational control personnel only. The qualifications for individuals delegated to train operational control personnel are in accordance with requirements of the State and/or operator.

## 2.2 Training Elements

### DSP 2.2.1 (Intentionally open)

### DSP 2.2.2

If an FOO or FOA is used in the system of operational control, the Operator shall ensure such personnel receive recurrent training in the applicable competencies of operational control, as specified in [Table 3.5](#). Recurrent training shall be completed on a frequency in accordance with requirements of the Authority, if applicable, but not less than *once during every 36-month period plus or minus one month from the original qualification anniversary date or base month*. **(GM)**

#### Auditor Actions

- ☐ **Identified** use of FOO/FOA in operational control system (focus: applicable to FOO/FOA functions as defined in [Table 3.1](#)).
- ☐ **Identified/Assessed** recurrent training/evaluation program for FOO/FOA personnel (focus: curriculum addresses knowledge/proficiency in competencies as specified in [Table 3.5](#); training interval not greater than 36 months).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** training/qualification records of selected FOO/FOA personnel (focus: completion of recurrent training/evaluation every 36 months).
- ☐ **Other Actions** (Specify)

### Guidance

The specifications of this provision apply to FOO or FOA personnel who are delegated authority and/or assigned responsibilities in accordance with [DSP 1.3.4](#) and/or [DSP 1.3.5](#), respectively.

Human factors training is accomplished in accordance with [DSP 2.2.3](#).

Dangerous goods training is accomplished in accordance with [DSP 2.2.4](#).

The intent of this provision is to ensure:

- The recurrent training program for FOO personnel addresses all of the competencies that are relevant to the operations of the operator as specified in [Table 3.5](#);
- The recurrent training program for FOA personnel addresses each of the competencies relevant to their specific job function and to the operations of the operator as specified in [Table 3.5](#).

Different methods of conducting recurrent training are acceptable, including formal classroom study, home study, computer-based training, seminars and meetings. All recurrent training, regardless of method, is documented and retained in accordance with [DSP 1.8.1](#).

### DSP 2.2.3

If an FOO is used in the system of operational control, the Operator shall ensure such personnel receive training in human factors on a frequency in accordance with requirements of the Authority, if applicable, but not less than *once during every 36-month period plus or minus one month from the original qualification anniversary date or base month*. **(GM)**

### Auditor Actions

- ☐ **Identified** use of FOO in operational control system (focus: applicable to FOO function as defined in [Table 3.1](#)).
- ☐ **Identified/Assessed** human factors training program for FOO personnel (focus: training interval not greater than 36 months).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** training/qualification records of selected FOO personnel (focus: completion of human factors training every 36 months).
- ☐ **Other Actions** (Specify)

### Guidance

Refer to the IRM for the definition of [Human Factors](#).

The specifications of this provision apply to each FOO qualified in all applicable competencies of operational control, whether licensed or not, who participates in an approved or accepted system of operational control and:

- Is delegated authority in accordance with [DSP 1.3.4](#), and/or
- Is assigned the responsibility in accordance with [DSP 1.3.5](#) to carry out operational control functions, duties or tasks related to all applicable competencies defined in [Table 3.5](#).

### DSP 2.2.4

If the Operator transports dangerous goods as cargo, and an FOO or FOA is used in the system of operational control with duties or responsibilities related to the carriage of dangerous goods, the Operator shall ensure such personnel receive training and evaluation in dangerous goods during initial ground training and subsequently during recurrent training on a frequency in accordance with requirements of the Authority, if applicable, but not less than once during every 24-month period. **(GM)**

### Auditor Actions

- ☐ **Identified** use of FOO/FOA in operational control system (focus: applicable to FOO/FOA functions as defined in [Table 3.1](#)).
- ☐ **Identified** FOO/FOA duties/responsibilities related to transport of dangerous goods.

- ❑ **Identified/Assessed** dangerous goods training program for FOO/FOA personnel (focus: curriculum addresses knowledge/proficiency in dangerous goods; training interval not greater than 24 months).
- ❑ **Interviewed** responsible operational control manager(s).
- ❑ **Examined** training/qualification records of selected FOO/FOA personnel (focus: completion of dangerous goods training every 24 months).
- ❑ **Other Actions** (Specify)

## Guidance

The specifications of this provision apply to FOO or FOA personnel who are delegated authority and/or assigned responsibilities in accordance with [GRH 3.4.2](#), [GRH 3.4.3](#), [DSP 1.3.4](#) and/or [DSP 1.3.5](#) respectively, and perform or directly supervise job functions related to the carriage of dangerous goods as defined by the Authority.

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

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

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

Refer to the General Guidance at the beginning of this section for additional information regarding the application of the recurrent training interval.

## 2.3 Line Qualification

### DSP 2.3.1

If an FOO, FOA or designated member of management is used in the system of operational control, the Operator shall have a line qualification program to ensure such personnel, prior to being assigned to operational control duties, have demonstrated proficiency in the competencies of operational control as specified in [Table 3.5](#), as applicable to the Operator, and have demonstrated the ability to:

- (i) Assist the PIC in flight preparation and provide the relevant information required;
- (ii) File a flight plan with the appropriate ATS unit;
- (iii) Furnish the PIC in flight, by appropriate means, with information that may be necessary for the safe conduct of the flight;
- (iv) Initiate, in the event of an emergency, applicable procedures as outlined in the OM. **(GM)**

### Auditor Actions

- ❑ **Identified** use of FOO/FOA/designated management personnel in operational control system (focus: applicable to FOO/FOA functions as defined in [Table 3.1](#)).
- ❑ **Identified/Assessed** line qualification program for FOO/FOA/designated management personnel (focus: curriculum includes evaluation of competencies as defined in [Table 3.5](#)).
- ❑ **Interviewed** responsible operational control manager(s).
- ❑ **Examined** training/qualification records of selected FOO/FOA/designated management personnel (focus: completion of line qualification prior to operational control duty assignment).
- ❑ **Other Actions** (Specify)

## Guidance

The specifications of this provision apply to designated members of management, as well as FOO or FOA personnel, who are delegated authority and/or assigned responsibilities in accordance with [DSP 1.3.4](#) and/or [DSP 1.3.5](#), respectively.

Competencies of operational control are defined in [Table 3.5](#).

Demonstrations of proficiency are recorded in accordance with [DSP 1.8.1](#).

The intent of this provision is to ensure:

- FOO personnel demonstrate the ability to perform all duty functions;
- FOA personnel demonstrate the ability to perform specific duty functions associated with their assigned area(s) of responsibility;
- A designated member of management that is directly involved with or directly performs the functions specified in this provision demonstrates the same functional abilities as specified for an FOO or FOA. Where the performance of one or more functions specified in this provision is delegated to others (e.g. to FOOs or FOAs), a designated member of management would typically demonstrate the knowledge necessary to accept the specified responsibilities and have an understanding of how such functions are associated with the operational control of flights.

Item ii) refers to planning activities that involve ATS (e.g. flight plan filing, re-routes during flight, traffic flow management and/or slot controls).

### DSP 2.3.2 (Intentionally open)

#### DSP 2.3.3

If an FOO is used in the system of operational control, the Operator shall ensure such personnel who have not performed duties as an FOO for a period of 12 consecutive months are not assigned to perform FOO duties until re-qualified, by demonstrating knowledge and/or proficiency in accordance with [DSP 2.1.1](#). **(GM)**

## Auditor Actions

- ☐ **Identified** use of FOO in operational control system (focus: applicable to FOO/Flight Dispatcher functions as defined in [Table 3.1](#)).
- ☐ **Identified/Assessed** re-qualification program for FOO personnel (focus: applicable when FOO duties have not been performed for 12 months; curriculum addresses knowledge/proficiency in competencies as specified in [Table 3.5](#)).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** training/qualification records of selected FOO personnel (focus: completion of re-qualification prior to re-assignment to operational control duty).
- ☐ **Other Actions** (Specify)

## Guidance

The specifications of this provision apply to each FOO qualified in all applicable competencies of operational control, whether licensed or not, who participates in an approved or accepted system of operational control and:

- Is delegated authority in accordance with [DSP 1.3.4](#), and/or
- Is assigned the responsibility in accordance with [DSP 1.3.5](#) to carry out operational control functions, duties or tasks related to all applicable competencies defined in [Table 3.5](#).

#### DSP 2.3.4

If an FOO is used in the system of operational control, the Operator shall ensure such personnel are not assigned to FOO duties unless, within the preceding 12 months *plus or minus one month from the original qualification anniversary date or base month*, they have *either*:

- (i) Observed one familiarization flight from the flight deck of an aircraft over any area or route segment where responsibility for operational control will be exercised, *or*



- (ii) If approved by the State and/or if access to the aircraft flight deck is restricted by the Authority, observed a Line Operational Simulation (LOS) profile accomplished in a representative flight simulator approved for the purpose by the State, and such profile addresses the areas or route segments where responsibility for operational control will be exercised. **(GM)**

## Auditor Actions

- ☐ **Identified** use of FOO in operational control system (focus: applicable to FOO/Flight Dispatcher functions as defined in [Table 3.1](#)).
- ☐ **Identified/Assessed** flight familiarization program for FOO personnel (focus: flight familiarization required every 12 months; requires observation over representative area/route during line flight/simulator LOS).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** training/qualification records of selected FOO personnel (focus: completion of flight familiarization every 12 months).
- ☐ **Other Actions** (Specify)

## Guidance

The specifications of this provision apply to each FOO qualified in all applicable competencies of operational control, whether licensed or not, who participates in an approved or accepted system of operational control and:

- Is delegated authority in accordance with [DSP 1.3.4](#), and/or
- Is assigned the responsibility in accordance with [DSP 1.3.5](#) to carry out operational control functions, duties or tasks related to all applicable competencies defined in [Table 3.5](#).

Operators subject to laws or regulations of the State that prohibit the application of specification i) of this provision, and that cannot comply with specification ii) of this provision due to the non-existence of a representative flight training device, may demonstrate an equivalent method of ensuring the specifications of this provision are satisfied.

The familiarization flight or LOS is typically representative of the operational environment within which the FOO will be working. Examples of a representative environment include-ultra long haul, long haul, short haul, over water, mountainous terrain, ETOPS/EDTO, areas of special navigational requirements, or passenger versus cargo flights.

Familiarization flights typically include at least one takeoff and landing as well as a minimum of 2.5 to 5 hours on the flight deck. If a flight is operating a long-haul segment of more than 5 hours, the FOO is typically permitted to take a break during the cruise portion of the flight.

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

## 2.4 Special Qualification

### DSP 2.4.1

If the Operator uses FOO personnel and the Operator's method of Operational Control requires shared responsibility between an FOO and the PIC, the Operator *should* ensure FOO personnel complete resource management training that addresses issues of mutual concern to FOOs and flight crew members. Such training *should* be conducted for the purposes of enhancing coordination, ensuring a mutual understanding of the human factors involved in joint operational control and achieving common learning objectives as set out by the appropriate operational control and flight operations management personnel. **(GM)**

## Auditor Actions

- ☐ **Identified** use of FOO in operational control system (focus: applicable to FOO/Flight Dispatcher functions as defined in [Table 3.1](#)).

- ❑ **Identified** shared operational control system (focus: PIC+FOO share responsibility for safety of flight).
- ❑ **Identified/Assessed** resource management training program for FOO personnel (focus: curriculum includes jointly developed learning objectives; addresses human factors issues involved in shared operational control).
- ❑ **Interviewed** responsible operational control manager(s).
- ❑ **Examined** training/qualification records of selected FOO personnel (focus: completion of PIC-FOO resource management training).
- ❑ **Other Actions** (Specify)

## Guidance

The specifications of this provision apply to each FOO qualified in all applicable competencies of operational control, whether licensed or not, who participates in an approved or accepted shared (including partial shared) system of operational control and:

- Is delegated authority in accordance with [DSP 1.3.4](#);
- Is assigned the responsibility in accordance with [DSP 1.3.5](#) to carry out operational control functions, duties or tasks related to all applicable competencies defined in [Table 3.5](#).

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

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

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

## 2.5 SMS Training

### DSP 2.5.1

The Operator shall have a program that ensures its operational control 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 operational control functions.

### Auditor Actions

- ❑ **Identified/Assessed** SMS training program for operational control (focus: program ensures training for the operator's operational control personnel as appropriate to individual SMS involvement).
- ❑ **Interviewed** responsible operational control manager(s).
- ❑ **Examined** initial/recurrent training curricula/syllabi for management/non-management operational control personnel (focus: training in individually relevant SMS duties/responsibilities).
- ❑ **Examined** selected management/non-management operational control 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.

The specifications of this provision may be satisfied by a training program in the flight operations organization if such program includes SMS training for operational control personnel.

Refer to Guidance associated with [ORG 4.3.1](#) located in ISM Section 1.

## DSP 2.5.2

If the Operator outsources operational control 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 operational control (focus: program ensures training for operational control 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 General

#### DSP 3.1.1 (Intentionally open)

#### DSP 3.1.2

The Operator shall have a process or procedures to ensure the PIC is provided with all documents, information and data necessary for the safe conduct of the flight. **(GM)**

## Auditor Actions

- ☐ **Identified/Assessed** operational control process/procedure for provision of documentation to flight crew (focus: definition of required documents/information/data provided to flight crew).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: PIC provided with documents/information/data necessary for safe conduct of flight).
- ☐ **Other Actions** (Specify)

## Guidance

The OM typically specifies the documents required by the PIC for the safe conduct of each flight. This list of required documents may also be replicated on the folder/envelope containing such documents or displayed in the operational control/flight dispatch center/office for reference purposes.

Additionally, the process or procedures associated with the provision of flight documents typically includes safeguards to ensure all of the required documents are provided to the PIC prior to each flight.

## 3.2 Flight Preparation and Planning

### DSP 3.2.1 (Intentionally open)

#### DSP 3.2.2

If an FOO or FOA is used in the system of operational control, the Operator shall have a process or procedures to ensure such personnel, as applicable, and the PIC use a common set of flight documents for each planned flight. **(GM)**

#### Auditor Actions

- ☐ **Identified** use of FOO/FOA in operational control system (focus: applicable to FOO/FOA functions as defined in [Table 3.1](#)).
- ☐ **Identified/Assessed** process/procedures for development/issuance of documents for each flight (focus: documents issued to PIC are common with those used by FOO/FOA personnel).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: common flight planning documents used by PIC and FOO/FOA personnel).
- ☐ **Other Actions** (Specify)

#### Guidance

The specifications of this provision apply to FOO or FOA personnel who are delegated authority and/or assigned responsibilities in accordance with [DSP 1.3.4](#) and/or [DSP 1.3.5](#) respectively.

Refer to [Table 2.2](#) found in ISM Section 2 (FLT) for OM documentation requirements.

#### DSP 3.2.3

The Operator shall have a procedure to ensure an Operational Flight Plan (OFP) and Air Traffic Services (ATS) Flight Plan is generated for every intended flight. **(GM)**

**Note:** *The specifications of this provision are applicable to commercial and/or non-commercial operations.*

#### Auditor Actions

- ☐ **Identified/Assessed** procedure for production/issuance of Operational/ATS flight plans (focus: both OFP and ATS flight plans are produced/issued for each flight).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: production/issuance of OFP and ATS flight plan for each flight).
- ☐ **Other Actions** (Specify)

#### Guidance

The intent of this provision is to ensure the generation of an OFP and ATS flight plan for all flights conducted by the operator.

#### DSP 3.2.4

If an FOO or FOA is used in the system of operational control, the Operator shall have guidance and procedures to ensure such personnel, as applicable, assist the PIC in flight preparation, furnish required operational information as necessary and *either*:

- (i) Prepare the OFP and ATS flight plan, *or*
- (ii) Assist the PIC in the preparation of the OFP and ATS flight plan. **(GM)**

#### Auditor Actions

- ☐ **Identified** use of FOO/FOA in operational control system (focus: applicable to FOO/FOA functions as defined in [Table 3.1](#)).

- ❑ **Identified/Assessed** guidance/procedures for FOO/FOA personnel to provide PIC with assistance in flight preparation (focus: procedures include preparation of the OFP/ATC flight plan).
- ❑ **Interviewed** responsible operational control manager(s).
- ❑ **Observed** operational control/flight dispatch operations (focus: FOO/FOA assistance to PIC in flight preparation).
- ❑ **Other Actions** (Specify)

## Guidance

The specifications of this provision apply to FOO or FOA personnel who are delegated authority and/or assigned responsibilities in accordance with [DSP 1.3.4](#) and/or [DSP 1.3.5](#) respectively.

In a non-shared system of operational control, the ATS flight plan may be prepared by the PIC.

## DSP 3.2.5

The Operator shall have guidance and procedures that ensure the original OFP or equivalent document is accepted and signed by the following personnel, using either manuscript or an approved electronic method:

- (i) The PIC for all systems of operational control;
- (ii) The FOO for a shared system of operational control;
- (iii) Designated member of management or post holder in a shared system of operational control that requires the use of such management personnel. **(GM)**

## Auditor Actions

- ❑ **Identified** type of operational control system (focus: shared or non-shared system).
- ❑ **Identified/Assessed** guidance/procedures for acceptance of OFP (focus: method of signature acceptance for OFP amendments).
- ❑ **Interviewed** responsible operational control manager(s).
- ❑ **Observed** operational control/flight dispatch operations (focus: acceptance of OFP by PIC and, if applicable, FOO or designated member of management).
- ❑ **Coordinated** with FLT Auditor (focus: complementary procedure for PIC acceptance of OFP).
- ❑ **Other Actions** (Specify)

## Guidance

In a shared system of operational control, the signatures (manuscript or electronic) of both the PIC and the FOO or, if applicable, the designated member of management, are required on the OFP or equivalent document (e.g. dispatch release).

The specification in item iii) refers to a designated member of management in a shared system of operational control (e.g. director of flight operations or other designated post holder).

Refer to [Table 3.1](#) for the definitions of authorities and responsibilities associated with operational control personnel.

## DSP 3.2.6

If an FOO is used in a full shared system of operational control, the Operator shall have guidance and procedures to ensure en route amendments to the OFP are coordinated and verified through:

- (i) A signature (manuscript or approved electronic method) by the FOO or other person responsible for operational control;
- (ii) A recorded agreement of the PIC. **(GM)**

## Auditor Actions

- ❑ **Identified** use of FOO in shared operational control system (focus: applicable to FOO/FOA functions as defined in [Table 3.1](#)).
- ❑ **Identified/Assessed** guidance/procedures for coordination/verification of en route amendments to OFP (focus: PIC-FOO coordinate en route OFP amendments/verification recorded).

- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: en route OFP amendment coordination).
- ☐ **Coordinated** with FLT auditor (focus: coordination of en route amendments to OFP between PIC and FOO).
- ☐ **Other Actions** (Specify)

## Guidance

Refer to the guidance associated with [DSP 1.3.4](#) for the definition of a full shared system of operational control.

The specifications of this provision apply to each FOO qualified in all applicable competencies of operational control, whether licensed or not, who participates in an approved or accepted shared (except partial shared) system of operational control and:

- Is delegated authority in accordance with [DSP 1.3.4](#);
- Is assigned the responsibility in accordance with [DSP 1.3.5](#) to carry out operational control functions, duties or tasks related to all applicable competencies specified in [Table 3.5](#).

FOO personnel that participate in a partial shared system typically lack the dedicated equipment necessary to ensure en route amendments to the OFP can be coordinated and verified.

## DSP 3.2.7

If an FOO or FOA is used in the system of operational control, the Operator shall have a process or procedures to ensure Operator changes in an ATS flight plan are, when practicable, coordinated with the appropriate ATS unit before transmission to the aircraft by the FOO, FOA or other delegated person. **(GM)**

## Auditor Actions

- ☐ **Identified** use of FOO/FOA in operational control system (focus: applicable to FOO/FOA functions as defined in [Table 3.1](#)).
- ☐ **Identified/Assessed** process/procedures for coordination of ATC flight plan changes (focus: FOO/FOA coordinates changes with ATC prior to flight plan transmission to flight crew).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: coordination of changes to ATS flight plan by FOO/FOA).
- ☐ **Other Actions** (Specify)

## Guidance

The specifications of this provision apply to FOO or FOA personnel who are delegated authority and/or assigned responsibilities in accordance with [DSP 1.3.4](#) and/or [DSP 1.3.5](#) respectively.

The intent of this provision is to ensure ATS flight plan changes that occur prior to departure and/or en route are, when practicable, coordinated with the appropriate ATS unit prior to transmission to the aircraft. When such coordination is not possible, the flight crew remains responsible for obtaining an appropriate clearance from an ATS unit, if applicable, before making a change in flight plan.

## DSP 3.2.8A

The Operator shall have guidance and procedures to ensure a flight will not be commenced unless it has been ascertained, by every reasonable means available, that conditions and ground facilities required for the flight are adequate for the type of operation. **(GM)**

## Auditor Actions

- ☐ **Identified/Assessed** guidance/procedures for assessment of required conditions/ground facilities prior to flight departure (focus: flight planning accounts for adequacy of conditions/facilities for type of flight operation).
- ☐ **Interviewed** responsible operational control manager(s).



- ☐ **Observed** operational control/flight dispatch operations (focus: assessment of relevant conditions/ground facilities prior to flight departure).
- ☐ **Coordinated** with FLT auditor (focus: flight crew preflight assessment of conditions/facilities).
- ☐ **Other Actions** (Specify)

### Guidance

The term “reasonable means” used in this standard is intended to denote the use, at the point of departure, of information available to the operator either through official information published by the aeronautical information services or readily obtainable from other sources.

A review of factors to determine if the conditions at the airport(s) of operation are acceptable for operations typically includes, as applicable:

- Navigation aids;
- Runways, taxiways, ramp areas;
- Curfews;
- PPR (prior permission required);
- Field conditions;
- Lighting;
- ARFF/RFFS (airport rescue and firefighting/rescue and firefighting services);
- Applicable operating minima.

Guidance for assessing the level of RFFS deemed acceptable by aircraft operators using airports for differing purposes is described in ICAO Annex 6. Part 1, Attachment I.

### DSP 3.2.8B

The Operator shall ensure a flight will not commence or continue as planned unless it has been ascertained by every reasonable means available that the airspace containing the intended route from the airport of departure to the airport of arrival, including the intended take-off, destination and en route alternate airports, can be safely used for the planned operation. **(GM)**

**Note:** *If the Operator conducts operations over or near areas of armed conflict, a risk assessment shall be conducted and appropriate risk mitigation measures taken to ensure a safe flight.*

### Auditor Actions

- ☐ **Identified/Assessed** flight planning process and procedures (focus: flights are not commenced or continued unless intended airspace/airports of use have been assessed and determined to be safe for the planned operations).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: airspace/airports of intended use are assessed for safe operations prior to and during the conduct of a flight).
- ☐ **Coordinated** with FLT auditor (focus: flight crew preflight and en route assessment of airspace/airports of intended use).
- ☐ **Other Actions** (Specify)

### Guidance

The term “reasonable means” in this standard is intended to denote the use, at the point of departure or while the aircraft is in flight, of information available to the operator either through official information published by the aeronautical information services or readily obtainable from other sources.

Guidance on safety risk assessments is contained in the Safety Management Manual (SMM) (Doc 9859).

The Risk Assessment Manual for Civil Aircraft Operations Over or Near Conflict Zones (Doc 10084) contains further guidance on risk assessment for air operators when flying over or near conflict zones.

**DSP 3.2.9A**

If the Operator is authorized to conduct certain portions of a commercial flight under visual flight rules (VFR), the Operator shall have guidance and procedures that:

- (i) Specify the type of flight plan to be filed with the appropriate ATS unit;
- (ii) Require current meteorological reports, or a combination of current reports and forecasts, to indicate that meteorological conditions along the portion of the flight to be flown under VFR will, at the appropriate time, be such as to make compliance with VFR possible. **(GM)**

**Auditor Actions**

- ☐ **Identified** authorization for portions of flights to be conducted under VFR.
- ☐ **Identified/Assessed** guidance/procedures applicable to conducting portions of flights under VFR (focus: flight planning accounts for type of flight plan to be filed/required meteorological conditions; determination of expected times when meteorological conditions will permit compliance with VFR).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: guidance/procedures for control of flights to be conducted under partial VFR, availability of meteorological reports, determination of expected times/conditions that will permit compliance with VFR).
- ☐ **Other Actions** (Specify)

**Guidance**

The intent of this provision is to ensure:

- Operations that require compliance with VFR are practicable under the anticipated meteorological conditions;
- The operator has guidance and procedures for determining expected times when meteorological conditions will permit compliance with VFR.

The specification in item i) refers to the type of flight plan to be filed in instances where certain portions of a flight will be conducted under VFR. In some cases, it may be possible to identify VFR portions in a predominantly instrument flight rules (IFR) flight plan (e.g. Y and Z designation on an ICAO flight plan). In other cases, an IFR Flight Plan is normally filed for all flights and an instrument clearance obtained or cancelled en route in accordance with [FLT 3.10.2](#).

Guidance related to the filing of a composite ICAO flight plan, and the use of the Y designation for flights initially operated under IFR and Z designation for flights initially operated under VFR, is contained in Amendment 1 to the Procedures for Air Navigation Services–Air Traffic Management (PANS-ATM, Doc 4444).

**DSP 3.2.9B**

The Operator shall have guidance and procedures to ensure a flight to be conducted in accordance with IFR *does not*:

- (i) Take off from the departure airport unless the meteorological conditions are at or above the operator's established airport takeoff operating minima for that operation; **and**
- (ii) Take off, or continue beyond the point of in-flight re-planning, unless at the airport of intended landing or at each required alternate airport, current meteorological reports or a combination of current reports and forecasts indicate that the meteorological conditions will be, at the estimated time of use (ETU), at or above the operator's established airport operating minima for that operation. **(GM)**

**Auditor Actions**

- ☐ **Identified/Assessed** guidance/procedures for the assessment of airport meteorological conditions prior to departure of IFR flights (focus: flight planning determines that conditions at departure/destination/alternate airports meet all applicable requirements).
- ☐ **Interviewed** responsible operational control manager(s).

- ☐ **Observed** operational control/flight dispatch operations office (focus: procedures for monitoring/assessing meteorological conditions for operational airports).
- ☐ **Coordinated** with FLT auditor (focus: flight crew assessment of meteorological conditions for operational airports).
- ☐ **Other Actions** (Specify)

## Guidance

Refer to the IRM for the definitions of [Alternate Airport](#), [In-flight Re-planning Point](#) and [Estimated Time of Use \(ETU\)](#).

The intent of this provision is to ensure:

- Flights do not take off or continue beyond the point of in-flight re-planning unless the meteorological conditions at each airport specified in i) or ii), are or will be at or above the operator's established airport operating minima for the operation at the ETU;
- The operator has guidance and procedures for determining the ETU.

The ETU specified in (ii) is typically the estimated time of arrival derived from the OFP. However, some operators may apply a time margin as required by the State.

The specification in item ii) would require the definition and application of alternate airport planning minima in accordance with [DSP 3.2.9C](#).

## DSP 3.2.9C

The Operator shall have guidance and procedures, approved or accepted by the State, for determining whether an approach and landing can be safely conducted at each required alternate airport at the ETU. Such guidance and procedures shall specify the appropriate incremental values for visibility (and ceiling, if required), to be added to the Operator's established airport operating minima. **(GM)**

## Auditor Actions

- ☐ **Identified/Assessed** guidance/procedures for the application of safety margins in the assessment/selection of planned alternate airports (focus: flight planning takes into account defined additives/margins to alternate airport operating minima/times of arrival to account for forecast uncertainties, determination of ETU).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: procedures for monitoring/assessing approach/landing suitability for planned alternate airport, determination of ETU).
- ☐ **Coordinated** with FLT auditor (focus: flight crew assessment of suitability of planned alternate airports).
- ☐ **Other Actions** (Specify)

## Guidance

The intent of this provision is for the operator to have a means to ensure, with a reasonable degree of certainty, that at the ETU of an alternate airport, the meteorological conditions will be at or above the operator's established operating minima for an instrument approach. This is practically accomplished through guidance and procedures for the definition and application of alternate planning minima and the determination of an ETU.

The specified visibility (and, if required, ceiling) additives are typically dependent on the approach facility configuration and State requirements for a ceiling to be taken into account.

The ETU for alternate airports is normally determined in accordance with the type of operational control system and requirements of the State:

- In a non-shared system of operational control, the ETU is typically expressed as a time margin (e.g. one hour before to one hour after the ETA at the alternate airport);

- In a shared system of operational control, the ETU is typically considered to be a specific point in time coupled with a requirement to ensure the alternate airport remains at or above appropriate minima for the duration of the flight.

Specific requirements for en route alternate airports are addressed in [DSP 3.6.5](#).

When determining an ETU, the operator might use a variable time margin based on specific flight parameters that can be monitored after departure by an FOO or FOA and communicated to the PIC.

An operator, in accordance with the requirements of the Authority, typically uses technical guidance for the development or application of alternate airport planning minima. Such guidance might be derived from one or more of the following source references, as applicable:

- ICAO Flight Planning and Fuel Management Manual (Doc 9976).
- Commission Regulation EC No. 965/2012.
- FAR 121.625–Alternate Airport Weather Minima.
- FAR 121.631(b)–Original Dispatch or Flight Release, Redispatch or Amendment of Dispatch or Flight Release.
- FAA OPSPEC C055 Table.
- Any equivalent reference document approved or accepted by the Authority for the development or application of alternate planning minima designed to conform to the specifications of the provision.

## 3.3 Aircraft Performance and Load Planning

### DSP 3.3.1

The Operator shall have guidance and procedures to ensure a planned flight does not exceed:

- The maximum performance takeoff, en route and landing weight limits, based upon environmental conditions expected at the times of departure, along the route of flight and at arrival;
- The aircraft structural ramp, takeoff and landing weight limits. **(GM)**

#### Auditor Actions

- ☐ **Identified/Assessed** guidance/procedures for application of aircraft performance data for planned flights (focus: flight planning accounts for aircraft takeoff/en route/landing performance weight limitations).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: guidance/procedures/restrictions that ensure flights do not exceed aircraft performance weight limitations).
- ☐ **Coordinated** with FLT auditor (focus: preflight consideration of aircraft performance limitations).
- ☐ **Other Actions** (Specify)

#### Guidance

The intent of this provision is to ensure the presence of guidance and procedures for the calculation of maximum takeoff and landing weights, based on takeoff, en route, landing performance, structural limitations as well as any applicable MEL restrictions. Additionally, such guidance and procedures address the means used to prevent an aircraft from being loaded in a manner that precludes a flight from being operated overweight (e.g. notification of weight restrictions to a Load Control Center/office or equivalent).

### DSP 3.3.2 (Intentionally open)

### DSP 3.3.3

The Operator shall ensure qualified personnel perform weight and balance calculations. **(GM)**

#### Auditor Actions

- ☐ **Identified** specific personnel that perform weight/balance calculations.
- ☐ **Identified/Assessed** weight/balance training/qualification program for operational control personnel (if applicable) (focus: applicable to personnel that perform weight/balance calculations; program includes demonstration of competence in weight/balance calculation).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** training/qualification records of selected operational control personnel (if applicable) (focus: completion of weight/balance training program by operational control personnel that perform weight/balance calculations).
- ☐ **Coordinated** with FLT auditor (if applicable) (focus: flight crew members are qualified to perform weight/balance calculations).
- ☐ **Coordinated** with ground handling operations (if applicable) (focus: load control personnel are qualified to perform weight/balance calculations).
- ☐ **Other Actions** (Specify)

#### Guidance

Weight and balance calculations may be delegated to a FOO or an appropriately qualified FOA.

The PIC may complete weight and balance calculations, if qualified in accordance with ISM Section 2 (FLT), [Subsection 2.1](#), Training and Evaluation Program.

Load control personnel that perform functions within the scope of ground handling operations may complete weight and balance calculations if qualified in accordance with ISM Section 6 (GRH), [Subsection 2.1](#), Training Program.

## 3.4 Icing Conditions

### DSP 3.4.1

The Operator shall have guidance and procedures to ensure a flight to be operated in known or expected icing conditions shall not be commenced unless the aircraft is certificated and equipped to be operated in such conditions. **(GM)**

#### Auditor Actions

- ☐ **Identified/Assessed** guidance/procedures for consideration of aircraft type for flights planned into expected in-flight icing conditions (focus: flight planning accounts for aircraft certified/equipped for icing conditions).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected flight planning records (focus: aircraft certified/equipped for flight into icing conditions).
- ☐ **Coordinated** with MNT auditor (focus: verification of fleet(s) certified/equipped for in-flight icing conditions; identification of any exceptions).
- ☐ **Other Actions** (Specify)

#### Guidance

The intent of this provision is to ensure flights planned to operate in known icing conditions are only conducted using appropriately certificated and equipped aircraft, which includes consideration of inoperative items on the Minimum Equipment List (MEL). Additionally, if the operator uses a mixed fleet including aircraft that are and are not suitably equipped for operations in icing conditions, the operator would have a means to preclude unequipped aircraft from being used on flights in known icing conditions.

**DSP 3.4.2** (Intentionally open)**DSP 3.4.3**

If the Operator conducts flights from any airport when conditions are conducive to ground aircraft icing, the Operator shall have guidance and procedures to ensure a flight planned to operate in known or suspected ground icing conditions is subjected to the following:

- (i) The aircraft has been inspected for ice accretion;
- (ii) If necessary, the aircraft has been given appropriate de/anti-icing treatment. **(GM)**

**Note:** The specifications of this provision are applicable to commercial and/or non-commercial operations.

**Auditor Actions**

- ☐ **Identified** the operation of commercial/non-commercial flights at airports/stations during times when there is potential for ground icing conditions.
- ☐ **Identified/Assessed** guidance/procedures for flights planned into airports with known/suspected ground icing conditions (focus: flight planning accounts for possibility of required aircraft de-/anti-icing operations).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected flight planning records (focus: consideration of requirement for aircraft de-/anti-icing operations).
- ☐ **Observed** operational control/flight dispatch operations (focus: procedures for flights planned to operate in known/suspected ground icing conditions).
- ☐ **Other Actions** (Specify)

**Guidance**

Refer to [GRH 4.2.1](#) located in ISM Section 6 for specifications and associated Guidance related to the establishment and maintenance of a De-/Anti-icing Program.

Additional guidance may be found in ICAO Doc 9640-AN/940, Manual of Aircraft Ground De-icing/Anti-icing Operations.

**3.5 Aircraft Tracking****DSP 3.5.1**

The Operator shall have an aircraft tracking capability to track its aircraft throughout its areas of operations. **(GM)**

**Note:** A specific tracking interval or reporting method is not defined by this provision.

**Auditor Actions**

- ☐ **Identified/Assessed** Aircraft tracking capability for duration of all flights (focus: operational control procedures/capability for the determination of aircraft position).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: aircraft tracking process).
- ☐ **Coordinated** with FLT auditor (focus: verification of flight crew responsibilities, if any, related to Aircraft tracking).
- ☐ **Other Actions** (Specify)

**Guidance**

Refer to the IRM for the definition of [Aircraft Tracking](#).

The intent of this provision is to ensure operators implement the ground-based capability to track their aircraft throughout their planned (i.e. actual) area(s) of operations rather than all areas of potential operations as defined in the Air Operator Certificate (AOC) and related operations specifications.



This “core” tracking capability refers to a process that maintains and updates, at standardized intervals, a ground-based record of the four-dimensional (4D) position of individual aircraft in flight. For the purposes of aircraft tracking the 4D position of an aircraft is defined by latitude, longitude, altitude, and time.

Aircraft tracking may be accomplished by obtaining aircraft position information from sources including, but not limited to, ACARS position reports, ADS-B position data, ADS-C position data, HF Radio position reports or Air Traffic Services Units (ATSUs). Use of commercial aircraft tracking services to track airplanes will generally suffice as a means to implement this ISARP if the service can track the aircraft across the operations.

This provision establishes the foundation that will support the implementation of the aircraft tracking provisions that follow.

Guidance on aircraft tracking implementation is contained in:

- ICAO Annex 6, Part 1.
- ICAO Aircraft Tracking Implementation Guidelines (Cir 347).
- ICAO Global Aviation Distress Safety System Concept of Operations Document.
- Commission Regulation EC No. 965/2012 CAT.GEN.MPA.205 and related AMC and GM.

## DSP 3.5.2

The Operator *should* track the position of an aircraft through automated reporting at least every 15 minutes for the portion(s) of the planned in-flight operation(s) under the following conditions:

- (i) The aircraft has a maximum certificated takeoff mass of over 27,000 kg and a seating capacity greater than 19, and
- (ii) Where an Air Traffic Services Unit (ATSU) obtains aircraft position information at greater than 15-minute intervals. **(GM)**

**Note:** Variations to automated reporting intervals may be applied provided risks to the operation resulting from such variations are managed using a risk management process.

**Note:** An Operator in conformity with the specifications of this provision is deemed in conformity with [DSP 3.5.3](#).

## Auditor Actions

- ☐ **Identified/Assessed** Aircraft tracking capability for duration of applicable flights (focus: operational control procedures/capability for the determination of aircraft position).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: aircraft tracking process).
- ☐ **Coordinated** with FLT auditor (focus: verification of flight crew responsibilities, if any, related to Aircraft tracking).
- ☐ **Other Actions** (Specify)

## Guidance

Refer to the IRM for the definition of [Aircraft Tracking](#), which includes definitions for [4D/15 Service](#) and [4D/15 Tracking](#).

The intent of this recommendation is to encourage operators to obtain aircraft position data under the conditions stipulated. The provision recommends that four-dimensional aircraft position information be obtained by the operator using automated reporting means at 15-minute intervals (4D/15) or less when an ATSU obtains this information at greater than 15-minute intervals. It is important to note that this is a recommended practice applicable in all planned (i.e. actual) area(s) of operations rather than all areas of potential operations as defined in the Air Operator Certificate (AOC) and related operations specifications. It is also applicable to a wide range of aircraft given the low takeoff mass threshold.

The risk management process specified in this provision is intended to be strategic in nature and scope. It is not intended, for example, that a specific risk assessment be conducted on a tactical basis by operational personnel and/or the flight crew. Rather, the process would be used by the operator to develop mitigations that would be imbedded in policy and procedure (e.g. MEL, theater-specific guidance or other guidance for use by operational personnel) that would in turn allow for flight commencement (dispatch) in accordance with the risk management outcome(s) of the process. Variations allow for situations where the technical challenges or the duration of exposure may not warrant and/or support 4D/15 tracking. The risk management process does not relieve operators of the responsibility to track their aircraft. It simply defines a risk-based methodology that allows for the commencement of a flight or series of flights when the recommended or required automated reporting interval is not achievable in accordance with either [DSP 3.5.2](#) or [3.5.3](#).

The circumstances when a risk assessment process would be applicable include the following singular (i.e. one- off) or long-term (i.e. continual) scenarios:

- Aircraft equipment failure prior to dispatch (commencement) rendering 4D/15 Tracking unserviceable;
- Systemic (non-aircraft dependent) failure rendering 4D/15 Tracking unachievable;
- Regular short exposure to lack of 4D/15 coverage (e.g. short A to B flights);
- Temporary airspace closures that may force unequipped aircraft onto routes that would typically require 4D/15 Tracking;
- Technologically challenging areas (e.g. Polar Routes);
- Other scenarios where, subject to risk assessment results, the technical challenges or the level of exposure may not warrant (justify) 4D/15 Tracking.

The risk management process specified in this provision may allow for variations in the means of reporting (e.g. manual vs. automated) as well as the reporting interval as long as the risks associated with such variations are appropriately managed. The risk management process would typically consider factors such as:

- Capability of the operator's operational control systems and processes, including those for contacting ATS units;
- Overall capability of the airplane and its systems;
- Available means to determine the position of, and communicate with, the airplane;
- Frequency and duration of gaps in automated reporting;
- Human factors consequences resulting from changes to flight crew procedures;
- Specific mitigation measures and contingency procedures.

The above reference to human factors consequences refers to the hazards associated with making manual position reports (e.g. HF, VHF, ACARS). Manual position reporting at the 15-minute interval defined for automated reporting is not considered a viable method to meet tracking requirements as the additional workload required would distract the flight crew from other duties and have a negative impact on the safety of the operation. Manual position reporting at reduced intervals could introduce a level of uncertainty regarding accuracy (i.e. introduce a greater potential for error).

Guidance on aircraft tracking is contained in:

- ICAO Annex 6, Part 1;
- ICAO Aircraft Tracking Implementation Guidelines (Cir 347);
- ICAO Global Aviation Distress Safety System Concept of Operations Document;
- Commission Regulation EC No. 965/2012 CAT.GEN.MPA.205 and related AMC and GM.

### **DSP 3.5.3**

If the Operator conducts flight operations in oceanic areas, the Operator shall track the position of an aircraft through automated reporting at least every 15 minutes for the portion(s) of the in-flight operation that is planned in an oceanic area(s) under the following conditions:

- (i) The aircraft has a maximum certificated takeoff mass of over 45 500 kg and a seating capacity greater than 19; and

- (ii) Where an Air Traffic Services Unit (ATSU) obtains aircraft position information at greater than 15-minute intervals. **(GM)**

**Note:** For the purpose of aircraft tracking, an oceanic area is defined as the airspace that overlies waters outside the territory of a state.

**Note:** Variations to automated reporting intervals may be applied provided risks to the operation resulting from such variations are managed using a risk management process.

**Note:** An Operator in conformity with the specifications of [DSP 3.5.2](#) is deemed in conformity with the specifications of this provision.

### Auditor Actions

- ☐ **Identified/Assessed** Aircraft tracking capability for duration of applicable flights (focus: operational control procedures/capability for the determination of aircraft position).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: aircraft tracking process).
- ☐ **Coordinated** with FLT auditor (focus: verification of flight crew responsibilities, if any, related to Aircraft tracking).
- ☐ **Other Actions** (Specify)

### Guidance

The intent of this provision is to establish an automated aircraft position reporting interval that is to be maintained in oceanic areas by either the operator or by the relevant ATS unit. It is important to note that if tracking data becomes unavailable after flight commencement, there is no implied requirement for the operator to take on the tracking responsibility or have a backup means (note use of word “planned” in the body of the provision). Additionally, once airborne, if the aircraft operates outside of the planned route or area (e.g. unplanned diversion) and 4D/15 position data cannot be obtained, the operation may continue.

The risk management process specified in this provision is intended to be strategic in nature and scope. It is not intended, for example, that a specific risk assessment be conducted on a tactical basis by operational personnel and/or the flight crew. Rather, the process would be used by the operator to develop mitigations that would be imbedded in policy and procedure (e.g. MEL, theater specific guidance or other guidance for use by operational personnel) that would in turn allow for flight commencement (dispatch) in accordance with the risk management outcome(s) of the process.

Variations allow for situations where the technical challenges or the duration of exposure may not warrant and/or support 4D/15 tracking. The risk management process does not relieve operators of the responsibility to track their aircraft. It simply defines a risk-based methodology that allows for the commencement of a flight or series of flights when the recommended or required automated reporting interval is not achievable in accordance with either [DSP 3.5.2](#) or [DSP 3.5.3](#).

The circumstances when a risk assessment process would be applicable include the following singular (i.e. one- off) or long-term (i.e. continual) scenarios:

- Aircraft equipment failure prior to dispatch (commencement) rendering 4D/15 Tracking unserviceable;
- Systemic (non-aircraft dependent) failure rendering 4D/15 Tracking unachievable;
- Regular short exposure to lack of 4D/15 coverage (e.g. short A-to-B flights);
- Temporary airspace closures that may force unequipped aircraft onto routes that would typically require 4D/15 Tracking;
- Technologically challenging areas (e.g. Polar Routes);
- Other scenarios where, subject to risk assessment results, the technical challenges or the level of exposure may not warrant (justify) 4D/15 Tracking.

The risk management process may allow for variations in the means of reporting (e.g. manual vs. automated) as well as the reporting interval as long as the risks associated with such variations are appropriately managed. The risk management process would typically consider factors such as:

- Capability of the operator's operational control systems and processes, including those for contacting ATS units;
- Overall capability of the airplane and its systems;
- Available means to determine the position of, and communicate with, the airplane;
- Frequency and duration of gaps in automated reporting;
- Human factors consequences resulting from changes to flight crew procedures; and
- Specific mitigation measures and contingency procedures.

The above reference to human factors consequences refers to the hazards associated with making manual position reports (e.g. HF, VHF, ACARS). Manual position reporting at the 15-minute interval defined for automated reporting is not considered a viable method to meet tracking requirements as the additional workload required would distract the flight crew from other duties and have a negative impact on the safety of the operation. Manual position reporting at reduced intervals could introduce a level of uncertainty regarding accuracy (i.e. introduce a greater potential for error).

Guidance on aircraft tracking is contained in:

- ICAO Annex 6, Part 1;
- ICAO Aircraft Tracking Implementation Guidelines (Cir 347);
- ICAO Global Aviation Distress Safety System Concept of Operations Document;
- Commission Regulation EC No. 965/2012 CAT.GEN.MPA.205 and related AMC and GM.

## 3.6 Flight Monitoring and In-Flight Management

### DSP 3.6.1

If an FOO or FOA is used in a shared system of operational control, the Operator shall have procedures and equipment that ensure effective communication between the:

- FOO and the PIC;
- If applicable, FOA and the PIC;
- FOO, PIC and maintenance. **(GM)**

### Auditor Actions

- ☐ **Identified** use of FOO/FOA in shared operational control system (focus: applicable to FOO/FOA functions as defined in [Table 3.1](#)).
- ☐ **Identified/Assessed** procedures/equipment for communications within the operational control system (focus: capability for effective communication with flight crew/maintenance operations).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: FOO/FOA communication with flight crew/maintenance operations).
- ☐ **Other Actions** (Specify)

### Guidance

Refer to the IRM for the definition of [Operational Control–Shared Responsibility](#).

The specifications of this provision apply to FOO or FOA personnel who participate in an approved or accepted shared system of operational control and who are delegated authority and/or assigned responsibilities in accordance with [DSP 1.3.4](#) and/or [DSP 1.3.5](#), as applicable.

FOO or FOA personnel that participate in a partial shared system might lack the dedicated equipment necessary to maintain shared responsibility in flight.

The communications system can be direct voice or electronic, but an effective system would be reliable, clear and understandable over the entire route of the flight. An effective system would also perform adequately, and appropriate personnel would be knowledgeable in its use.

### DSP 3.6.2

If required by the State, the Operator shall have a system of operational control that includes flight monitoring for the duration of a flight and ensures timely notification to the Operator by the PIC of en route flight movement and/or significant deviation from the operational flight plan. **(GM)**

#### Auditor Actions

- ☐ **Identified** regulatory requirement for an operational control system that includes flight monitoring.
- ☐ **Identified/Assessed** implementation of flight monitoring for duration of all flights (focus: operational control procedures/capability for timely PIC communication/notification of en route flight movement/OFP deviations).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: flight monitoring process; communication with flight crew).
- ☐ **Coordinated** with FLT auditor (focus: verification of flight crew notifications to operational control).
- ☐ **Other Actions** (Specify)

#### Guidance

Refer to the IRM for the definition of [Flight Monitoring](#).

### DSP 3.6.3

The Operator *should* have a system of operational control that includes flight monitoring for the duration of a flight and ensures timely notification to the Operator by the PIC of en route flight movement and/or significant deviation from the operational flight plan. **(GM)**

#### Auditor Actions

- ☐ **Identified/Assessed** implementation of flight monitoring for duration of all flights (focus: operational control procedures/capability for timely PIC communication/notification of en route flight movement/OFP deviations).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: flight monitoring process; communication with flight crew).
- ☐ **Coordinated** with FLT auditor (focus: verification of flight crew notifications to operational control).
- ☐ **Other Actions** (Specify)

#### Guidance

Refer to the IRM for the definition of [Flight Monitoring](#).

The intent of this provision is to ensure each flight conducted by the operator is “monitored” by suitably qualified operational control personnel in accordance with the IRM definition and the requirements of the applicable Authority.

### DSP 3.6.4

If the Operator has a system of operational control that includes automated flight monitoring, the Operator *should* have an adequate backup method of flight monitoring in case of failure of the automated system. **(GM)**

#### Auditor Actions

- ☐ **Identified** implementation of an automated flight monitoring system.
- ☐ **Identified/Assessed** implementation of a backup method of flight monitoring (focus: operational control plan/procedures/capability for flight monitoring in event of automated system failure; process for transition from automated system to backup method).
- ☐ **Interviewed** responsible operational control manager(s).

- ☐ **Observed** operational control/flight dispatch operations (focus: backup flight monitoring process).
- ☐ **Other Actions** (Specify)

## Guidance

Refer to the IRM for the definition of [Automated Flight Monitoring System](#).

### DSP 3.6.5A

The Operator shall have guidance and procedures to ensure a flight is not continued toward the airport of intended landing unless the latest available information indicates, at the ETU, a landing can be made either at that airport or at least one destination alternate airport. **(GM)**

## Auditor Actions

- ☐ **Identified/Assessed** guidance/procedures for monitoring/assessing conditions at flight destination/alternate airports (focus: flight continuation permitted only if information indicates landing can be made at destination/alternate airport).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: monitoring of destination/alternate airport conditions/information during flight).
- ☐ **Other Actions** (Specify)

## Guidance

The intent of this provision is to ensure personnel with operational control responsibilities have access to the most current and accurate information available in order to support informed decision-making related to safe flight completion. This is especially important when the conditions under which a flight was originally planned have changed after takeoff (e.g. unplanned re-release) or because the flight was planned with a re-release point (a pre-planned re-release). In either case, the overriding intent is to ensure operational control personnel, including flight crews, have access to the most current and accurate information available. Access to such information is typically necessary to ensure flights do not proceed beyond the last possible point of diversion to an en route alternate airport (appropriate for the aircraft type) and continue to the destination when, in the opinion of either the PIC or, in a shared system of operational control, the PIC and FOO it is unsafe to do so.

The ETU for an airport of intended landing is normally determined in accordance with the type of operational control system and requirements of the State:

- In a non-shared system of operational control, the ETU is typically expressed as a time margin (e.g. one hour before to one hour after the ETA at the alternate airport);
- In a shared system of operational control, the ETU is typically considered to be a specific point in time coupled with a requirement to ensure the alternate airport remains at or above appropriate minima for the duration of the flight.

Information that would be useful in determining whether a landing can be made at the destination or any required alternate is typically related to:

- Meteorological conditions, both en route and at the airport of intended landing, to include hazardous phenomena such as thunderstorms, turbulence, icing and restrictions to visibility.
- Field conditions, such as runway condition and availability and status of navigation aids.
- En route navigation systems and facilities status, where possible failures could affect the safe continuation or completion of the flight.
- En route fuel supply, including actual en route consumption compared to planned consumption, as well as the impact of any changes of alternate airport or additional en route delays.
- Aircraft equipment that becomes inoperative, which results in an increased fuel consumption or a performance or operational decrement that could affect the flight crew's ability to make a safe landing at an approved airport.



- Air traffic management concerns, such as re-routes, altitude or speed restrictions and facilities or system failures or delays.
- Security concerns that could affect the routing of the flight or its airport of intended landing.

Refer to [Table 2.2](#) found in ISM Section 2 (FLT) for OM documentation requirements.

## DSP 3.6.5B

If the Operator selects and specifies en route alternate airports on the OFP, the Operator shall have guidance and procedures to ensure en route alternate airports selected and specified on the OFP are available for approach and landing, and the forecast at those airports is for conditions to be at or above the operating minima approved for the operation at the ETU. **(GM)**

### Auditor Actions

- ☐ **Identified** requirement for selection of en route alternate airports.
- ☐ **Identified/Assessed** guidance/procedures for selection/designation of en route alternate airports (focus: flight planning includes assessment/selection/designation on OFP of en route alternate airports with conditions that will permit approach/landing at ETU).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected OFPs (focus: specification of en route alternate airports).
- ☐ **Observed** operational control/flight dispatch operations (focus: monitoring of en route airports conditions/information during flight).
- ☐ **Other Actions** (Specify)

### Guidance

The intent of this provision is for the operator to have a methodology to protect a diversion *should* a situation occur that may require an aircraft to divert while en route. For example, such a methodology typically includes ensuring that operational control personnel and pilots are knowledgeable about diversion airport alternates, applicable meteorological conditions, and have the means to obtain information related to the availability of en route alternates.

One way to ensure a reasonable certainty that the weather conditions at a required en route alternate will be at or above operating minima approved for the operation is through the application and use of planning minima (at the planning stage) as specified in [DSP 3.2.9C](#). This is done to increase the probability that a flight will land safely after a diversion to an en route alternate airport.

The ETU for an en route alternate airport is typically understood to be the earliest to the latest possible landing time at that airport.

Refer to [Subsection 4.5](#) for provisions that specify the additional steps necessary to protect an en route alternate airport when aircraft are engaged in operations beyond 60 minutes (from a point on a route to an en route alternate airport) or ETOPS/EDTO.

## DSP 3.6.5C

The Operator shall have procedures to ensure that the inadequacy of any facilities observed during the course of flight operations is reported to the responsible authority without undue delay, and to further ensure that information relevant to any such inadequacy is immediately disseminated to applicable operating areas within the Operator's organization. **(GM)**

### Auditor Actions

- ☐ **Identified/Assessed** procedures for identifying/reporting inadequacy of relevant/required facilities during course of flight operations (focus: inadequate facilities reported to responsible authority/communicated to applicable operating areas within organization).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected flight records (focus: identification/notification of inadequate facilities).
- ☐ **Observed** operational control/flight dispatch operations (focus: procedures for reporting of inadequate facilities observed during flights to applicable authorities/operational areas of organization).
- ☐ **Other Actions** (Specify)

**Guidance**

The specifications of this provision address situations when operational control personnel learn of the inadequacy of facilities (e.g. navigation aid outages, runway closures) from flight crew reports, ATS, airport authorities or other credible sources. Operational control personnel would be expected to convey any safety-critical outages to applicable authorities and relevant operational areas within the organization.

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

**DSP 3.6.6**

The Operator shall have guidance and procedures to ensure notification to the Operator when a flight has been completed. **(GM)**

**Auditor Actions**

- ☐ **Identified/Assessed** guidance/procedures for notification of flight completion (focus: operational control personnel receive notification once flight is completed).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** flight records (focus: flight completion notification).
- ☐ **Observed** operational control/flight dispatch operations (focus: procedures for flight completion notifications).
- ☐ **Other Actions** (Specify)

**Guidance**

Refer to the IRM for the definitions associated with [Flight Time \(Aircraft\)](#).

Notification of the safe landing of an aircraft permits the operator to discard 4D/15 aircraft tracking data obtained in accordance with [DSP 3.5.2](#) and/or [DSP 3.5.3](#).

## 3.7 Emergency Response

**DSP 3.7.1**

If the Operator conducts international flights with aircraft that have emergency and survival equipment on board, the Operator shall ensure the availability of information for immediate communication to rescue coordination centers that describes such equipment, to include, as applicable:

- (i) The number, color and type of lifesaving rafts and pyrotechnics;
- (ii) Details of emergency medical and water supplies;
- (iii) Type and frequencies of the emergency portable radio equipment. **(GM)**

**Auditor Actions**

- ☐ **Identified** aircraft used for international flights that have emergency/survival equipment on board.
- ☐ **Identified/Assessed** availability of information that describes onboard emergency/survival equipment for the purpose of communication to rescue coordination centers in the event missing aircraft (focus: definition of required information to be communicated; responsibility for communication).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: preparedness to communicate emergency/survival equipment information to SAR centers).
- ☐ **Other Actions** (Specify)

## Guidance

Refer to the IRM for the definition of [International Flight](#).

The intent of this provision is for an operator to have published information that describes the emergency and survival equipment carried on board aircraft engaged in international operations, and to have such information readily available when necessary for immediate communication to search and rescue (SAR) facilities.

### DSP 3.7.2

The Operator shall have guidance and procedures to ensure FOO, FOA or other designated personnel:

- (i) Notify the appropriate authority in the quickest manner of any accident involving an aircraft that results in a fatal or serious injury to any person or substantial damage to the aircraft or property;
- (ii) Make position information of a flight in distress available to the appropriate organizations as established by the State. **(GM)**

## Auditor Actions

- ☐ **Identified/Assessed** guidance/procedures for notification to appropriate authority in event of accident resulting in serious injury/substantial damage (focus: procedures/responsibility for providing timely accident notification).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: preparedness to provide accident notification to the appropriate authority).
- ☐ **Other Actions** (Specify)

## Guidance

Refer to the IRM for the definition of [Autonomous Distress Tracking \(ADT\)](#)

The intent of this provision is to ensure applicable operational control personnel provide timely aircraft accident notification or position information of a flight in distress to the appropriate authority by designated personnel using the system specified in [DSP 1.4.2](#) and if applicable, the specifications of [ORG 1.7.11](#).

Position information of an aircraft in distress aims at establishing, to a reasonable extent, the location of a potential accident site within a 6 NM radius.

Descriptive information relevant to an aircraft in distress may be found in [Table 4.12](#) (xxx) located in ISM Section 4 (MNT).

### DSP 3.7.3

If the Operator transports dangerous goods as cargo, the Operator shall ensure FOO, FOA and/or other designated operational control personnel:

- (i) Have access to the same information pertaining to dangerous goods carried as cargo on board the aircraft that is provided to the PIC;
- (ii) Are assigned the responsibility to provide detailed information without delay about dangerous goods carried as cargo to emergency services responding to an accident or serious incident involving the Operator's aircraft. **(GM)**

## Auditor Actions

- ☐ **Identified** authority for transport of dangerous goods as cargo.
- ☐ **Identified/Assessed** guidance/procedures for notification to emergency services responding to an aircraft accident (focus: procedures/responsibility for providing timely dangerous goods information).
- ☐ **Interviewed** responsible operational control manager(s).

- ❑ **Observed** operational control/flight dispatch operations (focus: access to same dangerous goods information as provided to PIC; preparedness to provide dangerous goods information in event of accident).
- ❑ **Other Actions** (Specify)

## Guidance

Refer to the IRM for the definitions of [Dangerous Goods Regulations \(DGR\)](#) and [NOTOC \(Notification to Captain\)](#).

The intent of this provision is to ensure:

- Applicable operational control personnel have access to the same dangerous goods information that has been provided to the PIC;
- The operator assigns an operational control person the responsibility to provide specific information regarding onboard dangerous goods to emergency services personnel that are responding to an accident or serious incident involving the operator's aircraft.

An operator, in accordance with requirements of the Authority, typically develops guidance related to the transport of dangerous goods based on technical information from one or more source reference documents, to include:

- Dangerous Goods Regulations (DGR);
- An equivalent dangerous goods manual, dangerous goods emergency response guide or other reference document approved or accepted by the Authority for the development of flight crew guidance related to the transportation of dangerous goods by air.

The dangerous goods information provided to the PIC is specified in [GRH 3.3.4](#) located in ISM Section 6.

## 4 Operational Control Requirements and Specifications

### General Guidance

Operators are increasingly reliant on the use of variations, including Operational Variations approved by the Authority. Such alternative means of compliance allow for greater operational flexibility without degrading the safety performance of an operational activity. This presumption is dependent on the presence of specific organizational and operational capabilities, the results of SRM activities and the determination of acceptable standards of safety performance.

Certain provisions in sub-sections [4.1](#), [4.3](#), and [4.5](#) contain a variation option applicable only to those operators that use SRM processes to support conformity with selected alternate airport selection, fuel planning and/or EDTO ISARPs. These options are typically presented as alternatives to one or more "prescriptive" specifications of the parent provision.

In order to take advantage of any variation, including Operational Variations approved by the Authority, operators would have the resources necessary to analyze operational hazards, manage the associated safety risks and achieve target levels of safety performance. These processes are typically attributed to the implementation of a safety management system (SMS).

The determination that operators will be able to reach a target level of safety performance necessary to ensure safety is dependent on numerous organizational and operational capabilities that typically include, but are not limited to, those that are compiled in the following table.

**Note:** *The table is provided as guidance material and does not introduce new requirements or specifications. It should be used as an aid in evaluating an operator's ability to achieve conformity with the eligible provisions contained in this subsection.*

Organizational and Operational Capabilities	Description
<p><b>Organizational and Operational Process Management and Control</b></p> <p>Operators typically possess the requisite knowledge, skills, experience, resources and technologies necessary to implement and oversee the many systems and processes required to use variations, including Operational Variations approved by the Authority.</p>	<p>This is demonstrable organizational and operational process management and control that is dependent on robust subordinate or related processes including:</p> <ul style="list-style-type: none"> <li>• The development of policy and procedure;</li> <li>• The staffing of positions with an appropriate number of qualified personnel;</li> <li>• Training to the operator's policy and procedure and to ensure personnel remain competent and qualified;</li> <li>• Implementation or the demonstration of performance in accordance with policy and procedure;</li> <li>• Data reporting, measurement and analysis for the purpose of monitoring the effectiveness and efficiency of systems, processes, policies and/or procedures;</li> <li>• An adjustment component or subsystem to respond to any underperformance or deviation and for the purpose of continuous improvement.</li> </ul>
<p><b>Specific Operational Capabilities</b> (operational control, aircraft, airport, infrastructure and meteorological)</p>	<p>These are the key operator capabilities necessary to support operational activities related to alternate selection, fuel planning and/or ETOPS/EDTO including:</p> <ul style="list-style-type: none"> <li>• Operational control systems and standard operating procedures that provide the direction for the conduct of flight operations;</li> <li>• Ground-based and airborne tools and technologies to improve situational awareness and operational capability;</li> <li>• Flight monitoring that encompasses the activities necessary to effectively exercise operational control;</li> <li>• Field condition monitoring at the destination, en route, en route alternate and destination alternate airports (as applicable) nominated for use by the flight up until the flight is no longer dependent on the use of the applicable airports</li> <li>• Rapid and reliable communication capabilities;</li> <li>• Weather reporting and monitoring capability.</li> </ul>

Organizational and Operational Capabilities	Description
<b>(Tactical) SRM processes</b> (specific to the development and use of variations, including Operational Variations approved by the Authority)	SRM processes interface with the internal system of production (related to a specific system or process) for data reporting, measurement and analysis, as well as other organizational systems. These include the interfaces with SMS and Quality systems to ensure operational systems and processes are subjected to the organization's overarching safety and quality assurance processes, and: <ul style="list-style-type: none"> <li>• Appropriate data from many sources are isolated and extracted;</li> <li>• Reports from operational personnel are collated and analyzed;</li> <li>• Feedback and control references are provided against which hazard analysis and consequence management can be measured;</li> <li>• Material is provided for root cause and safety trend analysis;</li> <li>• Data are collected relevant to the mitigation of safety risks;</li> <li>• Identification and analysis of applicable hazards;</li> <li>• Assessment, control and of resultant safety risks.</li> </ul>
<b>An Oversight Component</b> (safety performance monitoring and measurement)	This is the monitoring and measurement of safety performance through appropriate safety performance measures that continuously track system safety performance as necessary to determine whether an operator's system is truly operating in accordance with design expectations.

Refer to the IRM for the definition of [Safety Risk Management \(SRM\)](#).

The variation options in the applicable [sub-section 4](#) provisions allow for alternative means of compliance so long as hazards are identified and safety risk assessment processes are used to ensure safety risks are mitigated or controlled to an acceptable level

The applicable [sub-section 4](#) provisions are also designed to ensure the operator possesses the capabilities to sustain demonstrable levels of safety performance that are acceptable to the State and the operator.



## 4.1 Alternate and Isolated Airports

### DSP 4.1.1

The Operator shall have a system, process and/or procedures for alternate airport selection to ensure an appropriate takeoff alternate airport is selected and specified on the OFP whenever:

- (i) The meteorological conditions at the airport of departure are below the applicable airport operating landing minima, *and/or*
- (ii) Other operational conditions exist, as defined by the State or the Operator, that would preclude a return to the departure airport. **(GM)**

**Note:** The Operator may conform with this provision through Operational Variations approved by the Authority or other variations to takeoff alternate airport selection criteria provided each variation is subjected to the Operator's SRM processes and safety performance monitoring to ensure an acceptable level of safety is maintained.

### Auditor Actions

- ❑ **Identified/Assessed** system/process/procedures for takeoff alternate airport selection (focus: flight planning includes assessment/selection/designation on OFP of takeoff alternate airport when meteorological/other conditions preclude flight return to departure airport).
- ❑ **Interviewed** responsible operational control manager(s).
- ❑ **Examined** selected OFPs (focus: designation of takeoff alternate airport).
- ❑ **Observed** operational control/flight dispatch operations (focus: process for selection of takeoff alternate airports).
- ❑ **Coordinated** with FLT auditor(s) (focus: complementary process for selection/designation of takeoff alternate airport).

**If the Operator conforms through Operational Variation (see Note), the following additional actions apply**

- ❑ **Identified** applicable variation(s) used for takeoff alternate airport selection (focus: differences from any basic requirements specified in the provision).
- ❑ **Examined** safety risk assessment(s) applicable to use of variation(s) (focus: consistent with applicable regulatory requirements; identification and mitigation of applicable risks).
- ❑ **Examined** records of safety performance monitoring applicable to use of variation(s) (focus: monitoring of risk associated with applicable variations).
- ❑ **Other Actions** (Specify)

### Guidance

Refer to the IRM for the definition of [Operational Variations](#).

The intent of this provision is to ensure a methodology exists for the selection and specification of takeoff alternate airports when required. The selection of such airports is typically intended to address an operational condition (e.g. an emergency during or immediately after takeoff) that would require the flight crew to land the aircraft as soon as practicable. Accordingly, the applicable operating landing minima specified in the provision would typically refer to the minimum ceiling and/or visibility/runway visual range for landing with an engine inoperative as established by the operator.

Takeoff alternates are typically selected during the planning stage but may be selected after flight commencement when necessary via radio, ACARS, or any other communication means acceptable to the operator and the State.

The appropriateness of an airport for selection as a takeoff alternate is dependent on many factors including, but not limited to, the operational conditions specified in [DSP 3.2.8](#).

An operator may use a system, a process or procedures alone or in any combination in order to fulfill operational requirements related to the selection of takeoff alternate airports. In all cases, however, the robustness of any methodologies used for takeoff alternate airport selection is commensurate with the breadth and complexity of the operation.

A description of the typical relevant organizational and operational capabilities related to the use of variations, including Operational Variations approved by the Authority, can be found in the General Guidance at the beginning of this subsection.

Variations to alternate airport selection are typically approved or accepted by the State.

The subordinate SRM processes of an existing organizational SMS can be applied to variations to ensure the desired level of safety is being achieved. Such SRM processes would typically consider at least the following:

- Capabilities of the operator;
- Overall capability of the aircraft and its systems;
- Available airport technologies, capabilities and infrastructure;
- Quality and reliability of meteorological information;
- Identified hazards and safety risks associated with each alternate aerodrome variation; and
- Specific mitigation measures.

Guidance on safety risk management and performance of safety risk assessments is contained in the ICAO Safety Management Manual (SMM) (Doc 9859).

Examples of variations related to the selection of alternate airports are contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

#### DSP 4.1.2

The Operator shall have a system, process, and/or procedures for alternate airport selection to ensure a takeoff alternate airport selected in accordance with [DSP 4.1.1](#) is located within a specified flying time from the airport of departure as follows (as applicable to the Operator):

- (i) For aircraft with two engines, not more than one hour flying time from the airport of departure calculated at the single-engine cruise speed, determined from the aircraft operating manual in ISA and still air conditions using the actual takeoff mass.
- (ii) For aircraft with three or more engines, not more than two hours flying time from the airport of departure calculated at the all-engine operating cruise speed, determined from the aircraft operating manual in ISA and still air conditions using the actual takeoff mass.
- (iii) For aircraft engaged in ETOPS/EDTO, where an alternate airport meeting the flight time criteria of i) or ii) is not available, the first available alternate airport located within the maximum diversion flying time approved for the Operator considering the actual takeoff mass. **(GM)**

**Note:** Pre-existing approved ETOPS/EDTO calculations for the determination of threshold distances substantially similar to those specified in items i), ii) or iii) may be used to conform with maximum diversion flight time calculations. For example, operators may be authorized by the State to define diversion distances for each aircraft type, rounded up to easily recalled figures, that are based on maximum certificated takeoff mass or on takeoff masses largely representative of those used in operations.

**Note:** The Operator may conform with this provision through Operational Variations approved by the Authority or other variations to takeoff alternate airport selection criteria provided each variation is subjected to the Operator's SRM processes and safety performance monitoring to ensure an acceptable level of safety is maintained.

#### Auditor Actions

- ☐ **Identified** operator procedures for designating takeoff alternate airports on the OFP.
- ☐ **Identified/Assessed** system/process/procedures for selection/designation of a takeoff alternate airport located a specified distance in flying time from the departure airport (focus: flight planning takes into account regulatory/operational conditions/requirements/factors applicable to the operator/flight; such conditions/requirements/factors that are considered/assessed in the takeoff alternate process are defined).
- ☐ **Interviewed** responsible operational control manager(s).

- ☐ **Examined** selected OFPs (focus: designation of takeoff alternate airport in accordance with relevant factors).
- ☐ **Observed** operational control/flight dispatch operations (focus: process for selection/designation of takeoff alternate airports).
- ☐ **Coordinated** with FLT auditor(s) (focus: complementary distance criteria for selection/designation of takeoff alternate airport).

**If the Operator conforms through Operational Variation (see Note), the following additional actions apply**

- ☐ **Identified** applicable variation(s) used for takeoff alternate airport selection (focus: differences from any basic requirements specified in the provision).
- ☐ **Examined** safety risk assessment(s) applicable to use of variation(s) (focus: consistent with applicable regulatory requirements; identification and mitigation of applicable risks).
- ☐ **Examined** records of safety performance monitoring applicable to use of variation(s) (focus: monitoring of risk associated with applicable variations).
- ☐ **Other Actions** (Specify)

### Guidance

The principal intent of this provision is to address the safety risks associated with continuing a flight to an alternate airport when a landing as soon as practicable is warranted, but a return to the airport of departure immediately after takeoff is not possible. As a practical matter, and to limit the exposure to such risks, this requires the operator to calculate the maximum diversion flight time for each aircraft type to ensure a takeoff alternate, when required, will be located within a prescribed flight time from the airport of departure.

An operator may use a system, process, and/or procedures alone or in any combination in order to fulfill operational requirements related to the selection of alternate airports. In all cases, however, the robustness of any methodologies used for takeoff alternate airport selection is commensurate with the breadth and complexity of the operation.

A description of the typical relevant organizational and operational capabilities related to the use of variations, including Operational Variations approved by the Authority, can be found in the General Guidance at the beginning of this subsection.

Variations to alternate airport selection are typically approved or accepted by the State.

The subordinate SRM processes of an existing organizational SMS can be applied to variations to ensure the desired level of safety is being achieved. Such SRM processes would typically consider at least the following:

- Capabilities of the operator;
- Overall capability of the aircraft and its systems;
- Available airport technologies, capabilities and infrastructure;
- Quality and reliability of meteorological information;
- Identified hazards and safety risks associated with each alternate aerodrome variation; and
- Specific mitigation measures.

Guidance on safety risk management and performance of safety risk assessments is contained in the ICAO Safety Management Manual (SMM) (Doc 9859).

Examples of variations related to the selection of alternate airports are contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

### **DSP 4.1.3** (Intentionally open)

## DSP 4.1.4

The Operator shall have a system, process and/or procedures for alternate airport selection that takes into account meteorological conditions and relevant operational information to ensure a minimum of one destination alternate airport is specified on the OFP and the ATS flight plan, except under one or more of the following conditions (as approved or accepted by the Authority based on the operations of the Operator):

- (i) When, based on the duration of the flight (from the departure airport, or from the point of in-flight re-planning to the destination), there is reasonable certainty that, at the ETU of the destination airport:
  - (a) The approach and landing may be made under visual meteorological conditions (VMC), as defined by the State; and
  - (b) Separate runways are usable with at least one runway having an operational instrument approach procedure.
- (ii) When, based on the duration of the flight (from the departure airport, or from the point of in-flight re-planning to the destination airport), there is reasonable certainty that, at the ETU of the destination airport, the visibility will be at least 3 miles (5 km) **and** the ceiling will be at or above one or more of the following prescribed heights, (as approved or accepted by the Authority based on the operations of the Operator):
  - (a) The ceiling height for VMC, as defined by the State, or
  - (b) 1,500 feet above the lowest (*TERPS*) circling MDA, if a circling approach is required and authorized for that airport, or
  - (c) 2,000 feet or 500 feet above the (*PANS-OPS*) circling height, whichever is greater, or
  - (d) 2,000 feet or 1,500 feet above the lowest applicable HAT/HAA, whichever is greater. **(GM)**

**Note:** The specifications of this provision are not applicable for flights conducted under isolated airport operations as specified in [DSP 4.1.7](#).

**Note:** Conformity with item ii) requires the definition of the ceiling and visibility expected at the ETU of the destination airport. Other determinants such as flight time (e.g. 6 hours) or the availability of separate runways may also be used to further limit the instances when a flight may depart without nominating a destination alternate but are not required to achieve conformity with item ii).

**Note:** The Operator may conform with this provision through Operational Variations approved by the Authority or other variations to destination alternate airport selection criteria provided each variation is subjected to the Operator's SRM processes and safety performance monitoring to ensure an acceptable level of safety is maintained.

### Auditor Actions

- ☐ **Identified** regulatory requirements (including AMC) and exceptions for designation of a minimum of one destination alternate airport.
- ☐ **Identified/Assessed** system/process/procedures for selection of a minimum of one destination alternate airport (focus: flight planning takes into account regulatory/operational conditions/requirements/factors applicable to the operator/flight; such conditions/requirements/factors that are considered/assessed in the destination alternate airport selection process are defined).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected OFPs/ATS flight plans (focus: designation of destination alternate airport in accordance with relevant factors).
- ☐ **Observed** operational control/flight dispatch operations (focus: process for selection/designation of destination alternate airport).

- ❑ **Coordinated** with FLT auditor (focus: complementary distance criteria for selection/designation of a minimum of one destination alternate airport).

**If the Operator conforms through Operational Variation (see Note), the following additional actions apply**

- ❑ **Identified** applicable variation(s) used for destination alternate airport selection (focus: differences from any basic requirements specified in the provision).
- ❑ **Examined** safety risk assessment(s) applicable to use of variation(s) (focus: consistent with applicable regulatory requirements; identification and mitigation of applicable risks).
- ❑ **Examined** records of safety performance monitoring applicable to use of variation(s) (focus: monitoring of risk associated with applicable variations).
- ❑ **Other Actions** (Specify)

**Guidance**

Refer to the IRM for the definitions of [Domestic Flight](#), [Isolated Airport](#), [PANS-OPS](#) and [TERPS](#), and for the abbreviations [HAT](#) and [HAA](#).

The principal intent of this provision is to address the safety risks associated with unavailability of the destination airport. As a practical matter this is typically accomplished by the selection and specification of alternate airports in accordance with the technical specifications of the provision and/or to otherwise ensure, to the extent reasonably practicable, that an airport of intended landing will be available to a flight at the ETU.

Item i) identifies the basic operational specifications for alternate airport selection, although an operator may conform to a minimum of one of the numbered specifications of the provision and be in overall conformance with the intent of the entire provision. Individual conformity with items i) and ii) is “as approved or accepted by the Authority based on the operations of the Operator” and dependent on many factors including the regulatory environment and the type of operations conducted.

The ETU is typically defined as one hour before to one hour after the estimated time of arrival at the destination airport.

Isolated airport operations, by definition, preclude the designation of a destination alternate airport and are conducted in accordance with the planning specifications of [DSP 4.1.7](#) and the fuel specifications of [DSP 4.3.11](#).

For the purposes of item ii), separate runways are two or more runways at the same airport configured such that if one runway is closed, operations to the other runway(s) can be conducted.

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

The operator may use a system, process and/or procedures alone or in any combination in order to fulfill operational requirements related to the selection of alternate airports. In all cases, however, the robustness of any methodologies used for destination alternate airport selection is commensurate with the breadth and complexity of the operation.

A description of the typical relevant organizational and operational capabilities related to the use of variations, including Operational Variations approved by the Authority, can be found in the General Guidance at the beginning of this subsection.

Variations to alternate airport selection are typically approved or accepted by the State.

The subordinate SRM processes of an existing organizational SMS can be applied to variations to ensure the desired level of safety is being achieved. Such SRM processes would typically consider at least the following.

- Capabilities of the operator;
- Overall capability of the aircraft and its systems;
- Available airport technologies, capabilities and infrastructure;
- Quality and reliability of meteorological information;



- Identified hazards and safety risks associated with each alternate aerodrome variation; and
- Specific mitigation measures.

Guidance on safety risk management and performance of safety risk assessments is contained in the ICAO Safety Management Manual (SMM) (Doc 9859).

Examples of variations related to the selection of alternate airports are contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

## DSP 4.1.5

The Operator shall have a system, process and/or procedures for alternate airport selection that takes into account meteorological conditions and relevant operational information to ensure a second destination alternate airport is specified on the OFP and the ATS flight plan under *one or more* of the following conditions (as approved or accepted by the Authority based on the operations of the Operator):

- When, for the destination airport, meteorological conditions at the ETU will be below the Operator's established airport operating minima.
- When, for the destination airport, meteorological information is not available (unless the Authority will not permit the initiation of a flight in the absence of such information).
- If the Operator conducts operations to airports with "marginal" meteorological conditions as defined in the OM, when, for such operations, the meteorological conditions at the ETU of the destination *and* first alternate airports will be marginal.
- If the Operator conducts extended over-water operations as defined in the OM, when, for such operations, the meteorological conditions at the ETU of the destination airport will be below the Operator's established operating minima for that operation, *unless* there is a reasonable certainty that the first alternate airport will be at or above the Operator's established operating minima at the ETU. **(GM)**

**Note:** The specifications of this provision are not applicable for flights conducted under isolated airport operations as specified in [DSP 4.1.7](#).

**Note:** The Operator may conform with this provision through Operational Variations approved by the Authority or other variations to destination alternate airport selection criteria provided each variation is subjected to the Operator's SRM processes and safety performance monitoring to ensure an acceptable level of safety is maintained

## Auditor Actions

- ☐ **Identified/Assessed** system/process/procedures for selection of a second destination alternate airport (focus: flight planning takes into account regulatory/operational conditions/requirements/factors applicable to the operator/flight; such conditions/requirements/factors that are considered/assessed in the destination alternate airport selection process are defined).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected OFPs/ATS flight plans (focus: designation of second destination alternate airport in accordance with relevant factors).
- ☐ **Observed** operational control/flight dispatch operations (focus: system/process for selection/designation of second destination alternate airport).
- ☐ **Coordinated** with FLT auditor(s) (focus: complementary criteria for selection/designation of second destination alternate airport).

**If the Operator conforms through Operational Variation (see Note), the following additional actions apply**

- ☐ **Identified** applicable variation(s) used for destination alternate airport selection (focus: differences from any basic requirements specified in the provision).
- ☐ **Examined** safety risk assessment(s) applicable to use of variation(s) (focus: consistent with applicable regulatory requirements; identification and mitigation of applicable risks).



- ❑ **Examined** records of safety performance monitoring applicable to use of variation(s) (focus: monitoring of risk associated with applicable variations).
- ❑ **Other Actions** (Specify)

### Guidance

The principal intent of this provision is to address the safety risks associated with lack of weather reporting for the destination airport or its unavailability at the ETU due to the prevailing meteorological conditions. As a practical matter this may be accomplished by the selection and specification of a second alternate in accordance with the technical specifications of the provision and/or to otherwise ensure, to the extent reasonably practicable, that an airport of intended landing will be available to a flight at the ETU.

An operator may conform to a minimum of one of the numbered specifications of the provision and be in overall conformity with the intent of the entire provision. Individual conformity with items i) through iv) is “as applicable to the operator” and dependent on many factors including the regulatory environment and the type of operations conducted.

Isolated airport operations, by definition, preclude the designation of any destination alternate airport and are conducted in accordance with the planning specifications of [DSP 4.1.7](#) and the fuel specifications of [DSP 4.3.11](#).

The specifications in ii) define a condition that triggers the selection and specification of a second destination alternate except in cases when the operator is not authorized to depart in the absence of any destination weather information. In such cases, the Authority may authorize departures without nominating a second destination alternate if, for example:

- The FOO and flight crew obtain and consider those weather reports and forecasts which are available;
- The FOO and flight crew ensure adequate contingency plans (such as extra fuel) are available to deal with an unfavorable change in conditions.

The term “marginal” as used in item (iii) is typically not defined by regulation. This, to some extent, is because the definition of what constitutes “marginal” depends on the nature of the meteorological conditions present, the type of operation being conducted and the capabilities of the airborne and ground-based equipment available. In any case, an operator, in order to conform to item iii) must clearly define the term including the conditions under which a second alternate is required.

The specifications in item iii) are typically applicable to flights conducted between airports within the territories of one nation or country, or between nearby countries as approved or accepted by the applicable authorities.

The specification in item iv) is applicable if the term “extended overwater operations” is defined by regulation of the State and by the operator. Such term is typically defined as an operation over water at a horizontal distance of more than 50 nautical miles from the nearest shoreline.

An operator may use a system, process and/or procedures alone or in any combination in order to fulfill operational requirements related to the selection of alternate airports. In all cases, however, the robustness of any methodologies for destination alternate airport selection is commensurate with the breadth and complexity of the operation.

A description of the typical relevant organizational and operational capabilities related to the use of variations, including Operational Variations approved by the Authority, can be found in the General Guidance at the beginning of this subsection.

Variations to alternate airport selection are typically approved or accepted by the State.

The subordinate SRM processes of an existing organizational SMS can be applied to variations to ensure the desired level of safety is being achieved. Such SRM processes would typically consider at least the following:

- Capabilities of the operator;
- Overall capability of the aircraft and its systems;
- Available airport technologies, capabilities and infrastructure;
- Quality and reliability of meteorological information;

- Identified hazards and safety risks associated with each alternate aerodrome variation; and
- Specific mitigation measures.

Guidance on safety risk management and performance of safety risk assessments is contained in the ICAO Safety Management Manual (SMM) (Doc 9859).

Examples of variations related to the selection of alternate airports are contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

## DSP 4.1.6 (Intentionally open)

### DSP 4.1.7

If the Operator conducts isolated airport operations that preclude the selection of any destination alternate airport in accordance with [DSP 4.1.4](#) or [4.1.5](#), the Operator shall have a process to ensure, for each flight into an isolated destination airport:

- The designation of a point of safe return (PSR);
- The flight does not continue past the PSR unless a current assessment of meteorological conditions, traffic, and other operational conditions indicate that a safe landing can be made at the ETU. **(GM)**

### Auditor Actions

- ☐ **Identified** operations to isolated airport that preclude selection/designation of destination alternate airports.
- ☐ **Identified/Assessed** process/procedures for designation/use of PSR in the conduct of isolated airport flights (focus: flight planning includes computing/designating PSR for each isolated airport flight; procedures for monitoring/assessing conditions during flight to allow/disallow flight continuation past PSR to destination airport).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected flight records (focus: designation/use of PSR for isolated airport flights).
- ☐ **Observed** operational control/flight dispatch operations (focus: process for designation of PSR for isolated airport flights; ensuring safe destination conditions for flight continuation past PSR).
- ☐ **Coordinated** with FLT auditor (focus: complementary PSR procedures for isolated airport flights).
- ☐ **Other Actions** (Specify)

### Guidance

Refer to the IRM for the definitions of [Isolated Airport](#) and [Point of Safe Return \(PSR\)](#).

The intent of this provision, in combination with the fuel carriage requirements specified in [DSP 4.3.11](#), is the mitigation of some risks associated with operations to those airports that preclude the selection of a destination alternate and, in addition, the creation of awareness among operational control personnel and the PIC as to the actual position of the PSR and the conditions necessary to continue beyond the PSR to the isolated airport.

For the purposes of this provision, an airport is considered isolated when there is no destination alternate appropriate for a given aircraft type within a prescribed flight time from the destination. A destination airport is typically considered isolated by the Authority when the fuel required to go-around from Decision Altitude/Height (DA/H) or the Missed Approach Point (MAP) at the destination airport and then divert to the nearest alternate exceeds, for a turbine engine aircraft, the fuel required to hold at the destination airport for two hours including final reserve fuel.

In the context of isolated airport operations, a PSR is the point of last possible diversion to an en route alternate. The specification in item i) requires that a PSR is to be determined for each flight to an isolated airport. While this point can be calculated and specified on the OFP at the planning stage, such a calculation does not typically take into account any discretionary fuel, or the real-time changes in fuel consumption that will occur after departure.

Therefore, since the PSR will typically be reached later in the flight than the point originally calculated in the OFP, an operator would normally provide practical instructions so that operational control personnel and the flight crew can calculate or determine the actual position of the PSR.

The Final Decision Point used in Decision Point Planning or the Pre-determined Point used in Pre-determined Point planning may be used to meet the intent of this specification in lieu of a specific PSR.

Guidance for planning operations to isolated airports, including the determination of a PSR, may be found in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

## 4.2 Minimum Flight Altitudes and En Route Performance

### DSP 4.2.1

The Operator shall have guidance and procedures to ensure planned minimum flight altitudes are not less than those established by the applicable authorities. **(GM)**

#### Auditor Actions

- ☐ **Identified/Assessed** guidance/procedures for planning altitudes for all flights (focus: flight planning takes into account and ensures flights meet minimum altitude limitations established by regulation).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected OFPs/flight records (focus: planned flight altitudes within minimum altitude limits).
- ☐ **Observed** operational control/flight dispatch operations (focus: flight planning; altitude selection).
- ☐ **Coordinated** with FLT auditor (focus: process for selection of planned minimum altitudes that meet established safe limits).
- ☐ **Other Actions** (Specify)

#### Guidance

Operational flight planning includes a review of the route of flight, in conjunction with published aeronautical information, to ensure compliance with minimum flight altitudes. Such review could include:

- Minimum Safety Altitude (MSA);
- Minimum Descent Altitude/Height (MDA/H);
- Minimum En route Altitude (MEA);
- Minimum Obstruction Clearance Altitude (MOCA);
- Minimum Off-Route Altitude (MORA);
- Minimum Vectoring Altitude (MVA);
- Any other minimum altitudes prescribed by the Authority.

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

### DSP 4.2.2

The Operator shall have guidance and procedures to ensure provision of an OFP such that, if the most critical engine on an aircraft with two engines become inoperative at any point along the planned route of flight, the aircraft can continue to an airport and land safely without flying below the minimum flight altitude(s) at any points along the route. **(GM)**

#### Auditor Actions

- ☐ **Identified/Assessed** guidance/procedures for consideration of en route critical engine failure for flights conducted by two-engine aircraft (focus: flight planning takes into account critical engine failure/flight diversion at any point on planned route without flying below minimum altitudes; designated en route alternates shown on OFP).

- ❑ **Interviewed** responsible operational control manager(s).
- ❑ **Examined** selected OFPs (focus: planned route of flight/en route alternate airports).
- ❑ **Observed** operational control/flight dispatch operations (focus: process that ensures OFP route for two-engine aircraft permits, in case of critical engine failure at any point, flight to proceed to an airport above minimum altitudes).
- ❑ **Coordinated** with FLT auditor (focus: complementary criteria for consideration of en route critical engine failure/selection of en route alternate airports).
- ❑ **Other Actions** (Specify)

## Guidance

Operational flight planning normally includes a review of the route of the flight in conjunction with published aeronautical and terrain data to ensure compliance with the minimum flight altitudes defined by the operator and/or applicable authorities. The specifications of this provision typically require a minimum amount of terrain clearance, specified by the operator and/or applicable authorities along the route of flight to assure continued safe flight and landing.

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

### DSP 4.2.3

If the Operator uses aircraft with three or more engines, the Operator shall have guidance and procedures for diversion planning and the provision of an OFP that ensures aircraft with three or more engines can *either*:

- (i) If a second engine becomes inoperative en route, continue from the point where two engines are assumed to fail simultaneously to an en route alternate airport at which the landing distance specification for alternate airports is complied with and where it is expected that a safe landing can be made, *or*
- (ii) If a single engine becomes inoperative en route, and for operations conducted in areas of the world with limited diversion options, the flight is planned with a more distant alternate than specified in item i) in order to provide for a diversion for any en route contingency that may limit the planned operation. Such diversion planning shall be conducted in accordance with the specifications of a program approved or accepted by the State that requires the Operator to actively manage the risk of subsequent engine failures or other flight limiting occurrences and:
  - (a) Contains special considerations for extended range flights conducted over remote areas designed to prevent the need for a diversion and protect the diversion to an alternate airport when it cannot be prevented;
  - (b) Uses aircraft designed and manufactured for the intended operation and maintained to ensure original reliability;
  - (c) Requires the Operator to implement and maintain a problem reporting, tracking and resolution system that contains a means for the prompt reporting, tracking and resolution of specific problems, as designated by the Operator or State, that could affect the safety of the operation;
  - (d) Requires a prescribed level of engine reliability, as measured by an in-flight shutdown rate (IFSD) determined by the Operator or State, where the risk of independent failures leading to a loss of thrust from two simultaneous engine failures ceases to limit the operation and other limiting factors come into play;
  - (e) Designates a maximum diversion distance in cases where a diversion is necessary for any reason, including limiting airframe systems and reasons that do not have anything to do with aircraft reliability, such as passenger illness;
  - (f) Requires the Operator to demonstrate to the applicable authorities that, when considering the impact of increasing diversion time, the operation can be conducted at a level of reliability which maintains an acceptable level of risk. **[PCO] (GM)**

△ **Note:** Item ii) is a Parallel Conformity Option [PCO] for item i); in effect until 31 August 2024.

## Auditor Actions

- ❑ **Identified/Assessed** guidance/procedures for consideration of en route engine failure for flights conducted by three/four-engine aircraft (focus: flight planning takes into account risks associated with single/dual engine failure/flight diversion; planned route will allow for single/dual engine failure at any point and continuation to an en route alternate/diversion airport for safe landing; designated en route alternates/diversion information shown on OFP).
- ❑ **Interviewed** responsible operational control manager(s).
- ❑ **Examined** selected OFPs (focus: planned route of flight; en route alternate airports; diversion information).
- ❑ **Observed** operational control/flight dispatch operations (focus: process that ensures OFP route for three/four-engine aircraft permits, in case of one/two engine failure at any point, flight to proceed to an airport with safe landing).
- ❑ **Coordinated** with FLT auditor (focus: complementary criteria for consideration of en route single/dual engine failure, diversion options).
- ❑ **Other Actions** (Specify)

## Guidance

Operational flight planning normally includes a review of the route of flight along with published aeronautical information to ensure the designation of appropriate en route alternates that meet all operational and regulatory requirements.

Applicable authorities as specified in item f) includes those authorities that have jurisdiction over international operations conducted by an operator over the high seas or the territory of a state that is other than the State of the Operator.

## 4.3 Fuel Planning

### DSP 4.3.1

The Operator shall have a system, process and/or procedures to ensure an aircraft carries a sufficient amount of usable fuel to complete each planned flight safely and allow for deviations from the planned operation. **(GM)**

## Auditor Actions

- ❑ **Identified/Assessed** system/process/procedures for fuel planning for all flights (focus: flight planning takes into account possible deviations from planned operation in calculating usable fuel for safe completion of flight).
- ❑ **Interviewed** responsible operational control manager(s).
- ❑ **Examined** selected OFPs (focus: fuel load meets/exceeds minimum required departure/dispatch fuel).
- ❑ **Observed** operational control/flight dispatch operations (focus: process or procedures that ensure sufficient usable fuel for safe flight completion taking into account unplanned deviations).
- ❑ **Coordinated** with FLT auditor (focus: complementary procedures for assessing minimum required fuel).
- ❑ **Other Actions** (Specify)

## Guidance

The intent of this provision is to define the foundation necessary to support the practical implementation of an operator's fuel policy. It also addresses the baseline criteria to be considered in any methodology used in the determination of total usable fuel required to complete each planned flight safely. Simply put, it requires an operator to use system, process and/or procedures alone or in any combination in order to fulfill operational requirements related to the implementation of its fuel

policy. In all cases the robustness of any such methodologies is commensurate with the breadth and complexity of the operation and takes into account:

- The aircraft-specific data and operating conditions for the planned operation (see [DSP 4.3.2](#));
- The following components of usable fuel required in accordance with the respective provisions of this sub-section:
  - Taxi fuel (see [DSP 4.3.5](#));
  - Trip fuel in (see [DSP 4.3.6](#));
  - Contingency fuel (see [DSP 4.3.7](#));
- If required (as applicable to each flight):
  - Destination alternate fuel (see [DSP 4.3.8](#) or [DSP 4.3.9](#)), or
  - No-alternate fuel (see [DSP 4.3.10](#)), or
  - Isolated airport fuel (see [DSP 4.3.11](#)).
- Final reserve fuel (see [DSP 4.3.12](#));
- If required, additional fuel (see [DSP 4.3.13](#));
- If requested by the PIC, or the PIC and FOO in a shared system of operational control, discretionary fuel (see [DSP 4.3.14](#)).

Some regulatory authorities or operators may classify destination alternate fuel, no alternate fuel and Isolated airport fuel under the common heading of “Alternate Fuel” in regulations and/or flight planning systems.

It is important for operational control personnel and the flight crew to have a clear and common understanding of the terms used in the operator's fuel policy, as such understanding is the key to successful flight planning and completion. Equally important is the notion that differences in terminology may exist from operator to operator. Regardless of the terms used, however, an operator can conform to the provisions of this sub-section if the pre-flight computation of usable fuel is substantially equivalent, allocates fuel in a similar fashion, and has the components that, when combined, result in an equivalent or greater amount of fuel.

Fuel calculations are typically made by a flight crew member, a Flight Operations Officer/Flight Dispatcher (FOO), or both.

Guidance on the organizational and operational systems and processes related to the implementation of fuel policy is contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

#### **DSP 4.3.2**

The Operator shall have a system, process and/or procedures to ensure the amount of usable fuel to be carried on an aircraft in accordance with [DSP 4.3.1](#) is, as a minimum, based on the following data and operating conditions for each planned flight:

- (i) Current aircraft-specific data derived from a fuel consumption monitoring program, if available, or if current aircraft-specific data is not available, data provided by the aircraft manufacturer;
- (ii) The anticipated aircraft mass;
- (iii) Notices to Airmen (NOTAM);
- (iv) Current meteorological reports, or a combination of current reports and forecasts;
- (v) Applicable air traffic services procedures, restrictions and anticipated delays;
- (vi) The effects of deferred maintenance items and/or configuration deviations;
- (vii) Any other conditions that might cause increased fuel consumption. **(GM)**



### Auditor Actions

- ❑ **Identified/Assessed** system/process/procedures for planning sufficient usable fuel for safe completion of all flights (focus: flight planning takes into account operating data/conditions that might cause/lead to increased fuel consumption; such operating data/conditions that are considered/assessed in usable fuel calculation process are defined).
- ❑ **Interviewed** responsible operational control manager(s).
- ❑ **Examined** fuel policy (focus: guidance for calculation of minimum required departure/dispatch fuel).
- ❑ **Examined** selected OFPs (focus: operating factors considered as basis for required departure/dispatch fuel).
- ❑ **Observed** operational control/flight dispatch operations (focus: process or procedures that ensure planned flight usable fuel is based on all relevant data/operating conditions).
- ❑ **Coordinated** with FLT auditor (focus: complementary procedures for assessing minimum required fuel).
- ❑ **Other Actions** (Specify)

### Guidance

Refer to the IRM for the definition of [NOTAM \(Notice to Airmen\)](#).

The intent of this provision is to define the aircraft-specific data, manufacturer data, operating conditions and other factors that would be considered by an Operator during the pre-flight computation of the total usable fuel required for a planned flight. When considered in combination with [DSP 4.3.1](#), this provision helps to form the basic foundation for the means to complete the pre-flight calculation of usable fuel.

The specification in item i) refers to the process for ensuring actual aircraft fuel use approximates planned fuel use within an acceptable margin of error. This is practically accomplished by comparing the achieved in-flight performance of an aircraft to its predicted performance. Variations between the achieved performance and the predicted performance will result in a variation of the rate of fuel consumption which is typically accounted for by the operator during flight planning and in flight.

An operator may use a system, process and/or procedures alone or in any combination in order to fulfill operational requirements related to the implementation of fuel policy. In all cases, however, the robustness of any such methodologies is commensurate with the breadth and complexity of the operation.

Guidance on fuel planning including guidance related to the creation and maintenance of fuel consumption monitoring programs is contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

### DSP 4.3.3–4.3.4 (Intentionally open)

#### DSP 4.3.5

The Operator shall have a process and/or procedures to ensure the taxi fuel required in accordance with its fuel policy is the amount of fuel estimated to be consumed before takeoff, taking into account local conditions at the departure airport and auxiliary power unit (APU) fuel consumption. **(GM)**

**Note:** *The Operator may conform with this provision through Operational Variations approved by the Authority or other variations to fuel planning criteria provided each variation is subjected to the Operator's SRM processes and safety performance monitoring to ensure an acceptable level of safety is maintained.*

### Auditor Actions

- ❑ **Identified/Assessed** process/procedures for calculation of taxi fuel for all flights (focus: flight planning takes into account operating data/conditions that might cause/lead to increased taxi fuel consumption; such operating data/conditions that are considered/assessed in taxi fuel calculation process are defined).
- ❑ **Interviewed** responsible operational control manager(s).
- ❑ **Examined** selected OFPs (focus: operating data/conditions used as basis for taxi fuel).

- ❑ **Observed** operational control/flight dispatch operations (focus: process or procedures for calculating planned taxi fuel).
- ❑ **Coordinated** with FLT auditor(s) (focus: complementary procedures for assessing taxi fuel in accordance with fuel policy).

**If the Operator conforms through Operational Variation (see Note), the following additional actions apply**

- ❑ **Identified** applicable variation(s) used for fuel planning (focus: differences from any basic requirements specified in the provision).
- ❑ **Examined** safety risk assessment(s) applicable to use of variation(s) (focus: consistent with applicable regulatory requirements; identification and mitigation of applicable risks).
- ❑ **Examined** records of safety performance monitoring applicable to use of variation(s) (focus: monitoring of risk associated with applicable variations).
- ❑ **Other Actions** (Specify)

**Guidance**

The intent of this provision is to ensure the accurate computation of taxi fuel in order, to the extent reasonably practicable, protect the remaining elements in the useable fuel equation. To achieve this aim, the computation of taxi fuel would take into account foreseeable taxi conditions and delays in order to result in an amount of fuel generally equal to or greater than the actual taxi fuel consumed before takeoff.

It is important to note that every usable fuel calculation typically takes into account unforeseen as well as foreseen deviations from the planned operation. Unforeseen taxi delays, for example, may be addressed by the use of Statistical Taxi Fuel, the uplift of discretionary fuel when deemed necessary by the PIC, or the partial consumption of contingency fuel. Consuming contingency fuel during taxi, however, would be carefully considered as its use on the ground may leave the flight crew with fewer options, once airborne, to compensate for other unforeseen factor(s).

Operators using a variation to determine taxi fuel would typically have the demonstrable capability, using historical data collection and analysis tools, to adjust taxi times to ensure continuous improvement in preflight taxi fuel calculations.

A description of the typical relevant organizational and operational capabilities related to the use of variations, including Operational Variations approved by the Authority, can be found in the General Guidance at the beginning of this subsection.

Variations to fuel planning criteria are typically approved or accepted by the State.

The subordinate SRM processes of an existing organizational SMS can be applied to variations to ensure the desired level of safety is being achieved. Such SRM processes would typically consider at least the following:

- (i) Flight fuel calculations;
- (ii) Capabilities of the operator;
- (iii) Capabilities of the data-driven method used for determining usable fuel required;
- (iv) Capabilities of the fuel consumption monitoring program used for determining hull-specific fuel burn and/or the advanced use of alternate airports, as applicable;
- (v) Specific mitigation measures.

Guidance on safety risk management and performance of safety risk assessments is contained in the ICAO Safety Management Manual (SMM) (Doc 9859).

Guidance on fuel planning, including pre-flight fuel calculation examples, is contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

### DSP 4.3.6

The Operator shall have a process and/or procedures to ensure the trip fuel required in accordance with its fuel policy is the amount of fuel required to enable the aircraft to fly from takeoff, or from the point of in-flight re-planning, until landing at the destination airport taking into account the operating conditions specified in [DSP 4.3.2](#). **(GM)**

**Note:** *The Operator may conform with this provision through Operational Variations approved by the Authority or other variations to fuel planning criteria provided each variation is subjected to the Operator's SRM processes and safety performance monitoring to ensure an acceptable level of safety is maintained.*

#### Auditor Actions

- ☐ **Identified/Assessed** process/procedures for calculation of trip fuel for all flights (focus: flight planning takes into account operating data/conditions that might cause/lead to increased trip fuel consumption; such operating data/conditions that are considered/assessed in trip fuel calculation process are defined).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected OFPs (focus: operating data/conditions used as basis for trip fuel).
- ☐ **Observed** operational control/flight dispatch operations (focus: process or procedures for calculating planned trip fuel).
- ☐ **Coordinated** with FLT auditor(s) (focus: complementary procedures for assessing trip fuel in accordance with fuel policy).

**If the Operator conforms through Operational Variation (see Note), the following additional actions apply**

- ☐ **Identified** applicable variation(s) used for fuel planning (focus: deviation from basic ISARP requirements).
- ☐ **Examined** safety risk assessment(s) applicable to use of variation(s) (focus: consistent with applicable regulatory requirements; identification and mitigation of applicable risks).
- ☐ **Examined** records of safety performance monitoring applicable to use of variation(s) (focus: monitoring of risk associated with applicable variations).
- ☐ **Other Actions** (Specify)

#### Guidance

The intent of this provision is to ensure the accurate computation of trip fuel in order, to the extent reasonably practicable, ensure that the total planned trip fuel burn is greater than or equal to the actual trip fuel burn.

The specifications of this provision define trip fuel for preflight planning and in-flight re-planning purposes, as well as to form the basis for the computation of other fuel amounts (e.g., contingency fuel, additional fuel). In this context, trip fuel is typically computed from either the departure airport or the point of in-flight re-planning until landing at the destination airport taking into account the operating conditions of [DSP 4.3.2](#). In the case of in-flight re-planning (planned or unplanned), the intent of this provision is for the operator to reconsider (re-compute) the trip fuel required from the re-planning point to the commercial (actual) destination.

Operators using a variation to determine trip fuel would typically have the demonstrable capability, using historical data collection and analysis tools, to adjust taxi times to ensure continuous improvement in trip fuel calculations.

A description of the typical relevant organizational and operational capabilities related to the use of variations, including Operational Variations approved by the Authority, can be found in the General Guidance at the beginning of this subsection.

Variations to fuel planning criteria are typically approved or accepted by the State.

The subordinate SRM processes of an existing organizational SMS can be applied to variations to ensure the desired level of safety is being achieved. Such SRM processes would typically consider at least the following:

- (i) Flight fuel calculations;
- (ii) Capabilities of the operator;
- (iii) Capabilities of the data-driven method used for determining usable fuel required;
- (iv) Capabilities of the fuel consumption monitoring program used for determining hull-specific fuel burn and/or the advanced use of alternate airports, as applicable;
- (v) Specific mitigation measures.

Guidance on safety risk management and performance of safety risk assessments is contained in the ICAO Safety Management Manual (SMM) (Doc 9859).

Guidance on fuel planning, including pre-flight fuel calculation examples, is contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

#### DSP 4.3.7

The Operator shall have a process and/or procedures to ensure the contingency fuel required in accordance with its fuel policy is the amount of fuel required to compensate for unforeseen factors that could have an influence on the fuel consumption to the destination airport. Contingency fuel shall *not be lower than any one or more* of the following (as approved or accepted by the Authority based on the operations of the Operator):

- (i) Five (5) percent of the planned trip fuel or of the fuel required from the point of in-flight re-planning based on the consumption rate used to plan the trip fuel, but never lower than the amount required to fly for five (5) minutes at holding speed at 450 m (1,500 ft) above the destination airport in standard conditions.
- (ii) If approved or accepted by the Authority for domestic operations; an amount of fuel to fly for 45 minutes at normal cruising fuel consumption, including 30 minutes final reserve.
- (iii) If approved or accepted by the Authority for international operations, an amount of fuel to fly for 10 percent of the total time required to fly from the airport of departure or the point of in-flight re-planning to, and then land at, the airport to which it was released or re-released.
- (iv) If approved or accepted by the Authority for the purpose of reducing contingency fuel, not less than three (3) percent of the planned trip fuel or, in the event of in-flight re-planning, three (3) percent of the trip fuel for the remainder of the flight, provided that an en route alternate airport is available in accordance with the requirements of the Authority.
- (v) If approved or accepted by the Authority based on actual fuel consumption data, an amount of fuel sufficient for 20 minutes flying time based upon the planned trip fuel consumption provided that the operator has established a fuel consumption monitoring program for individual aircraft and uses valid data determined by means of such a program for fuel calculation.
- (vi) If approved or accepted by the Authority, an amount of fuel based on a statistical method that ensures an appropriate statistical coverage of the deviation from the planned to the actual trip fuel. This method is used to monitor the fuel consumption on each city pair/aircraft combination and the Operator uses this data for a statistical analysis to calculate contingency fuel for the applicable city pair/aircraft combination. **(GM)**

**Note:** Contingency fuel in accordance with item (iv), (v) and (vi) can never be lower than the amount of fuel required to fly for five (5) minutes at holding speed at 450 m (1,500 ft) above the destination airport in standard conditions.

**Note:** The Operator may conform with this provision through Operational Variations approved by the Authority or other variations to fuel planning criteria provided each variation is subjected to the Operator's SRM processes and safety performance monitoring to ensure an acceptable level of safety is maintained.

### Auditor Actions

- ☐ **Identified/Assessed** process/procedures for calculation of contingency fuel for all flights (focus: flight planning takes into account unforeseen operating factors that might cause/lead to increased fuel consumption to the destination airport; such operating factors that are considered/assessed in contingency fuel calculation process are defined; minimum contingency fuel amount in accordance with regulatory requirements is defined).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected OFPs (focus: operating factors used as basis for contingency fuel).
- ☐ **Observed** operational control/flight dispatch operations (focus: process or procedures for calculating planned contingency fuel).
- ☐ **Coordinated** with FLT auditor(s) (focus: complementary procedures for assessing contingency fuel in accordance with fuel policy).

### If the Operator conforms through Operational Variation (see Note), the following additional actions apply

- ☐ **Identified** variation(s) used for fuel planning (focus: differences from any basic requirements specified in the provision).
- ☐ **Examined** safety risk assessment(s) applicable to use of variation(s) (focus: consistent with applicable regulatory requirements; identification and mitigation of applicable risks).
- ☐ **Examined** records of safety performance monitoring applicable to use of variation(s) (focus: monitoring of risk associated with applicable variations).
- ☐ **Other Actions** (Specify)

### Guidance

The intent of this provision is to ensure fuel is allocated to compensate for unforeseen factors that could influence fuel burn to the destination airport. Such factors include, for example, deviations of an individual aircraft from expected fuel consumption data, forecast meteorological conditions expected taxi times before takeoff or planned routings and cruising altitudes/levels.

From a safety risk management perspective, contingency fuel is used to mitigate the risks associated with operational factors or hazards that cannot be planned, anticipated, or controlled. The risk associated with the improper calculation or complete consumption of contingency fuel is that of creating a low fuel state or a diversion that could subsequently affect Air Traffic Management (ATM) and other aircraft.

It is important to note that differences in fuel computation terminology may exist from operator to operator. For example, required contingency fuel may be a component of other fuel reserves mandated by the Authority. Regardless of the terms used, however, an operator can conform to the provision if the pre-flight computation of usable fuel allocates an equivalent or greater amount of fuel as specified in items i) through vi) and as applicable to the operator in order to compensate for unforeseen factors that could influence fuel burn to the destination airport.

An operator may conform to a minimum of one of the numbered specifications of the provision and be in overall conformity with the intent of the entire provision. Individual conformity with items i) through vi), however, is “as approved or accepted by the Authority based on the operations of the Operator” and dependent on many factors including the regulatory environment and the type of operations conducted.

The specification in item ii) protects 15 minutes of contingency fuel plus 30 minutes of final reserve fuel for a combined domestic reserve of 45 minutes.

Operators using variations to determine isolated airport fuel would typically have the demonstrable capability, using historical data collection and analysis tools, to adjust their fuel policy to ensure continuous improvement in the accuracy and adequacy of isolated airport fuel calculations.

A description of the typical relevant organizational and operational capabilities related to the use of variations, including Operational Variations approved by the Authority, can be found in the General Guidance at the beginning of this subsection.

Variations to fuel planning criteria are typically approved or accepted by the State.



The subordinate SRM processes of an existing organizational SMS can be applied to variations to ensure the desired level of safety is being achieved. Such SRM processes would typically consider at least the following:

- Flight fuel calculations;
- Capabilities of the operator;
- Capabilities of the data-driven method used for determining usable fuel required;
- Capabilities of the fuel consumption monitoring program used for determining hull-specific fuel burn and/or the advanced use of alternate airports, as applicable;
- Specific mitigation measures.

Guidance on safety risk management and performance of safety risk assessments is contained in the ICAO Safety Management Manual (SMM) (Doc 9859).

Examples related to the computation of contingency fuel are contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

## DSP 4.3.8

The Operator shall have a process and/or procedures to ensure, *for flights that require a single destination alternate airport*, the destination alternate fuel required in accordance with its fuel policy is *not lower* than amount of fuel that will enable the aircraft to complete all of the following:

- (i) Perform a missed approach at the destination airport;
- (ii) Climb to the expected cruising altitude;
- (iii) Fly the expected routing to the destination alternate airport;
- (iv) Descend to the point where the expected approach is initiated;
- (v) Conduct the approach and landing at the destination alternate airport. **(GM)**

**Note:** The specifications of this provision are not applicable for flights conducted under isolated airport operations as specified in [DSP 4.1.7](#).

**Note:** The Operator may conform with this provision through Operational Variations approved by the Authority or other variations to fuel planning criteria provided each variation is subjected to the Operator's SRM processes and safety performance monitoring to ensure an acceptable level of safety is maintained.

### Auditor Actions

- ☐ **Identified/Assessed** process/procedures for calculation of destination alternate fuel for flights that require a single destination alternate airport (focus: flight planning takes into account fuel consumption required to divert from destination airport and proceed to/hold/land at alternate airport; diversion flight phases that are considered/assessed in single destination alternate fuel calculation process are defined).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected OFPs (focus: factors used as basis for single destination alternate fuel).
- ☐ **Observed** operational control/flight dispatch operations (focus: process or procedures for calculating destination alternate fuel for flights that require a single destination alternate airport).
- ☐ **Coordinated** with FLT auditor(s) (focus: complementary procedures for assessing single destination alternate fuel in accordance with fuel policy).

**If the Operator conforms through Operational Variation (see Note), the following additional actions apply**

- ☐ **Identified** applicable variation(s) used for fuel planning (focus: differences from any basic requirements specified in the provision).
- ☐ **Examined** safety risk assessment(s) applicable to use of variation(s) (focus: consistent with applicable regulatory requirements; identification and mitigation of applicable risks).



- ☐ **Examined** records of safety performance monitoring applicable to use of variation(s) (focus: monitoring of risk associated with applicable variations).
- ☐ **Other Actions** (Specify)

## Guidance

The intent of this provision is to ensure the accurate computation of destination alternate fuel when one destination alternate airport is required. Such computation ensures, to the extent reasonably practicable, that the planned fuel burn will be greater than or equal to the actual fuel burn.

From a safety risk management perspective, “destination alternate fuel” is used to mitigate the risks associated with the unavailability of the destination airport. The risk associated with the improper calculation or complete consumption of such fuel is that of creating a low fuel state or a diversion that could subsequently affect Air Traffic Management (ATM) and other aircraft.

Operators using variations to determine additional fuel would typically have the demonstrable capability, using historical data collection and analysis tools, to adjust their fuel policy to ensure continuous improvement in the accuracy and adequacy of additional fuel calculations.

A description of the typical relevant organizational and operational capabilities related to the use of variations, including Operational Variations approved by the Authority, can be found in the General Guidance at the beginning of this subsection.

Variations to fuel planning criteria are typically approved or accepted by the State.

The subordinate SRM processes of an existing organizational SMS can be applied to variations to ensure the desired level of safety is being achieved. Such SRM processes would typically consider at least the following:

- Flight fuel calculations;
- Capabilities of the operator;
- Capabilities of the data-driven method used for determining usable fuel required;
- Capabilities of the fuel consumption monitoring program used for determining hull-specific fuel burn and/or the advanced use of alternate airports, as applicable;
- Specific mitigation measures.

Guidance on safety risk management and performance of safety risk assessments is contained in the ICAO Safety Management Manual (SMM) (Doc 9859).

Examples of the computation of destination alternate fuel are contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

## DSP 4.3.9

The Operator shall have a process and/or procedures to ensure, *for flights that require a second destination alternate*, the destination alternate fuel required in accordance with its fuel policy is *not lower* than the amount of fuel, as calculated in accordance with [DSP 4.3.8](#), that enables the aircraft to proceed to the destination alternate airport requiring the greater amount of fuel (**GM**).

**Note:** *The specifications of this provision are not applicable for flights conducted under isolated airport operations as specified in [DSP 4.1.7](#).*

**Note:** *The Operator may conform with this provision through Operational Variations approved by the Authority or other variations to fuel planning criteria provided each variation is subjected to the Operator’s SRM processes and safety performance monitoring to ensure an acceptable level of safety is maintained.*

## Auditor Actions

- ☐ **Identified/Assessed** process/procedures for calculation of destination alternate fuel for flights that require a second destination alternate airport (focus: planned isolated airport fuel is the calculated amount that enables flight to proceed from destination and hold/approach/land at the alternate airport requiring the most fuel; diversion flight phases that are considered/assessed in second destination alternate fuel calculation process are defined).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected OFPs (focus: factors used as basis for second destination alternate fuel).

- ❑ **Observed** operational control/flight dispatch operations (focus: process or procedures for calculating destination alternate fuel for flights that require a second destination alternate airport).
- ❑ **Coordinated** with FLT auditor(s) (focus: complementary procedures for assessing second destination alternate fuel in accordance with fuel policy).

**If the Operator conforms through Operational Variation (see Note), the following additional actions apply**

- ❑ **Identified** applicable variation(s) used for fuel planning (focus: differences from any basic requirements specified in the provision).
- ❑ **Examined** safety risk assessment(s) applicable to use of variation(s) (focus: consistent with applicable regulatory requirements; identification and mitigation of applicable risks).
- ❑ **Examined** records of safety performance monitoring applicable to use of variation(s) (focus: monitoring of risk associated with applicable variations).
- ❑ **Other Actions** (Specify)

**Guidance**

The intent of this provision is to ensure the accurate computation of destination alternate fuel when a second destination alternate airport is required. Such computation ensures, to the extent reasonably practicable, that the planned fuel burn will be greater than or equal to the actual fuel burn.

From a safety risk management perspective, “destination alternate fuel” as described in this provision is used to mitigate the risks associated with the unavailability of the destination or first alternate airport. The risk associated with the improper calculation or complete consumption of such fuel is that of creating a diversion or low fuel state that subsequently impacts Air Traffic Management (ATM) and other aircraft.

Operators using variations to determine alternate fuel would typically have the demonstrable capability, using historical data collection and analysis tools, to adjust their fuel policy to ensure continuous improvement in the accuracy and adequacy of alternate fuel calculations.

A description of the typical relevant organizational and operational capabilities related to the use of variations, including Operational Variations approved by the Authority, can be found in the General Guidance at the beginning of this subsection.

Variations to fuel planning criteria are typically approved or accepted by the State.

The subordinate SRM processes of an existing organizational SMS can be applied to variations to ensure the desired level of safety is being achieved. Such SRM processes would typically consider at least the following:

- Flight fuel calculations;
- Capabilities of the operator;
- Capabilities of the data-driven method used for determining usable fuel required;
- Capabilities of the fuel consumption monitoring program used for determining hull-specific fuel burn and/or the advanced use of alternate airports, as applicable;
- Specific mitigation measures.

Guidance on safety risk management and performance of safety risk assessments is contained in the ICAO Safety Management Manual (SMM) (Doc 9859).

Examples of the computation of alternate fuel are contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

**DSP 4.3.10**

If the Operator conducts flights that do not require a destination alternate airport, the Operator shall have a process and/or procedures to ensure a supplemental amount of fuel is carried on such flights to provide for increased fuel consumption during the flight to the destination airport due to unforeseen operational occurrences. **(GM)**

**Note:** The specifications of this provision are not applicable if the contingency fuel calculated in accordance with [DSP 4.3.7](#) is sufficient to enable the aircraft to hold at an altitude of 450 m (1,500 ft) above the destination airport for 15 minutes at the holding speed based on standard conditions.

**Note:** The specifications of this provision are not applicable for flights conducted under isolated airport operations as specified in [DSP 4.1.7](#) and [DSP 4.3.11](#).

**Note:** The Operator may conform with this provision through Operational Variations approved by the Authority or other variations to fuel planning criteria provided each variation is subjected to the Operator's SRM processes and safety performance monitoring to ensure an acceptable level of safety is maintained.

### Auditor Actions

- ☐ **Identified/Assessed** process/procedures for addition of supplemental fuel to provide for potential increased fuel consumption for flights that do not require a destination alternate airport (focus: planned supplemental fuel required when contingency fuel is not sufficient to fly at holding speed for 15 minutes at 450 m/1500 ft above destination airport).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected OFPs (focus: basis for addition of supplemental fuel).
- ☐ **Observed** operational control/flight dispatch operations (focus: process or procedures for calculating planned supplemental fuel for flights that require no destination alternate airport).
- ☐ **Coordinated** with FLT auditor(s) (focus: complementary procedures for assessing second destination alternate fuel in accordance with fuel policy).

### If the Operator conforms through Operational Variation (see Note), the following additional actions apply

- ☐ **Identified** applicable variation(s) used for fuel planning (focus: deviation from basic ISARP requirements).
- ☐ **Examined** safety risk assessment(s) applicable to use of variation(s) (focus: consistent with applicable regulatory requirements; identification and mitigation of applicable risks).
- ☐ **Examined** records of safety performance monitoring applicable to use of variation(s) (focus: monitoring of risk associated with applicable variations).
- ☐ **Other Actions** (Specify)

### Guidance

From a safety risk management perspective "no-alternate" fuel is intended to mitigate the safety risks associated with the occurrence of unforeseen operational contingencies associated with no-alternate operations. The risk associated with the improper calculation or complete consumption of such fuel is that of creating a low fuel state.

Operators using variations to determine isolated airport fuel would typically have the demonstrable capability, using historical data collection and analysis tools, to adjust their fuel policy to ensure continuous improvement in the accuracy and adequacy of isolated airport fuel calculations.

A description of the typical relevant organizational and operational capabilities related to the use of variations, including Operational Variations approved by the Authority, can be found in the General Guidance at the beginning of this subsection.

Variations to fuel planning criteria are typically approved or accepted by the State.

The subordinate SRM processes of an existing organizational SMS can be applied to variations to ensure the desired level of safety is being achieved. Such SRM processes would typically consider at least the following:

- Flight fuel calculations;
- Capabilities of the operator;
- Capabilities of the data-driven method used for determining usable fuel required;

- Capabilities of the fuel consumption monitoring program used for determining hull-specific fuel burn and/or the advanced use of alternate airports, as applicable;
- Specific mitigation measures.

Guidance on safety risk management and performance of safety risk assessments is contained in the ICAO Safety Management Manual (SMM) (Doc 9859).

Examples of the computation of alternate and contingency fuel are contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

## DSP 4.3.11

If the Operator conducts isolated airport operations, the Operator shall have a process and/or procedures to ensure the isolated airport fuel calculated in accordance with its fuel policy is *not less* than the amount of fuel required to fly for two (2) hours at normal cruise consumption above the isolated destination airport, including the final reserve fuel calculated in accordance with [DSP 4.3.12](#). (GM)

**Note:** *The Operator may conform with this provision through Operational Variations approved by the Authority or other variations to fuel planning criteria provided each variation is subjected to the Operator's SRM processes and safety performance monitoring to ensure an acceptable level of safety is maintained.*

### Auditor Actions

- ☐ **Identified** conduct of isolated airport operations that preclude selection/designation of destination alternate airports.
- ☐ **Identified/Assessed** process/procedures for calculation of isolated airport fuel for flights to isolated airports (focus: planned isolated airport fuel is the amount of fuel sufficient to fly for two hours at normal cruise consumption above destination isolated airport, but not less than the greater of final reserve fuel).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected OFPs (focus: factors used as basis for isolated airport fuel).
- ☐ **Observed** operational control/flight dispatch operations (focus: process or procedures for calculating planned isolated airport fuel).
- ☐ **Coordinated** with FLT auditor(s) (focus: complementary procedures for assessing isolated airport fuel in accordance with fuel policy).

**If the Operator conforms through Operational Variation (see Note), the following additional actions apply**

- ☐ **Identified** applicable variation(s) used for fuel planning (focus: deviation from basic ISARP requirements).
- ☐ **Examined** safety risk assessment(s) applicable to use of variation(s) (focus: consistent with applicable regulatory requirements; identification and mitigation of applicable risks).
- ☐ **Examined** records of safety performance monitoring applicable to use of variation(s) (focus: monitoring of risk associated with applicable variations).
- ☐ **Other Actions** (Specify)

### Guidance

The intent of this provision is to ensure sufficient fuel is uplifted to mitigate the safety risks associated with isolated airport operations conducted in accordance with [DSP 4.1.7](#), and to protect final reserve fuel. As such, final reserve fuel must be computed and protected in accordance with [DSP 4.3.12](#) regardless of the method used to compute "isolated airport fuel"

As a practical matter destination airports are typically considered isolated by an authority when the fuel required to go-around from Decision Altitude/Height (DA/H) or the Missed Approach Point (MAP) at the destination airport and then divert to the nearest alternate exceeds, for a turbine engine aircraft, the fuel required to hold at the destination airport for two hours including final reserve fuel (e.g. 90 minutes hold + 30 minutes Final Reserve).

Operators using variations to determine additional fuel would typically have the demonstrable capability, using historical data collection and analysis tools, to adjust their fuel policy to ensure continuous improvement in the accuracy and adequacy of additional fuel calculations.

A description of the typical relevant organizational and operational capabilities related to the use of variations, including Operational Variations approved by the Authority, can be found in the General Guidance at the beginning of this subsection.

Variations to fuel planning criteria are typically approved or accepted by the State.

The subordinate SRM processes of an existing organizational SMS can be applied to variations to ensure the desired level of safety is being achieved. Such SRM processes would typically consider at least the following:

- Flight fuel calculations;
- Capabilities of the operator;
- Capabilities of the data-driven method used for determining usable fuel required;
- Capabilities of the fuel consumption monitoring program used for determining hull-specific fuel burn and/or the advanced use of alternate airports, as applicable;
- Specific mitigation measures.

Guidance on safety risk management and performance of safety risk assessments is contained in the ICAO Safety Management Manual (SMM) (Doc 9859).

Examples of the computation of isolated airport fuel are contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

## DSP 4.3.12

The Operator shall have a process and/or procedures to ensure the final reserve fuel calculated in accordance with its fuel policy is not less than the amount of fuel required to fly for 30 minutes under speed and altitude conditions specified by the Operator and as approved or accepted by the Authority. **(GM)**

### Auditor Actions

- ☐ **Identified/Assessed** process/procedures for calculation of final reserve fuel for all flights (focus: planned final reserve fuel is an amount that is not less than fuel to fly for 30 minutes at holding speed at 450 m/1500 ft or fuel to fly 30 minutes under speed/altitude conditions approved/accepted by authority).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected OFPs (focus: factors used as basis for final reserve fuel).
- ☐ **Observed** operational control/flight dispatch operations (focus: process or procedures for calculating planned final reserve fuel).
- ☐ **Coordinated** with FLT auditor (focus: complementary procedures for assessing final reserve fuel in accordance with fuel policy).
- ☐ **Other Actions** (Specify)

### Guidance

The intent of this provision is to ensure the allocation of an amount of fuel to be protected in flight and preserved upon landing at any airport. As such, it represents the last line of defense in a multi-layered strategy to ensure safe flight completion. It also serves as the demarcation line between normal and emergency fuel states for the purposes of the fuel state declarations in accordance with [FLT 3.14.17](#).

An operator may define the 30-minute final fuel reserve requirements using speed, altitude and/or other conditions that are in accordance with requirements of the Authority (e.g. 30 minutes at holding speed at 450m/1,500 ft above airport elevation in standard conditions).

## DSP 4.3.13

The Operator shall have a process and/or procedures to ensure the additional fuel calculated in accordance with its fuel policy is a supplementary amount of fuel required to be carried when the sum





of the trip fuel, contingency fuel, alternate fuel and final reserve fuel is *insufficient* to meet *any one* of the following conditions (as applicable to the Operator):

- (i) Allow the aircraft engaged in ETOPS/EDTO to comply with critical fuel scenario as established defined by the State.
- (ii) Allow the aircraft, as defined by the State, flying greater than 90 minutes from an alternate airport to:
  - (a) Descend as necessary and proceed to an alternate airport in the event of engine failure or loss of pressurization, whichever requires the greater amount of fuel based on the assumption that such a failure occurs at the most critical point along the route;
  - (b) Fly for 15 minutes at holding speed at 450 m (1,500 ft) above the alternate airport elevation in standard conditions;
  - (c) Make an approach and landing at the alternate airport.
- (iii) Allow for any additional operational requirements, as defined by the State or the Operator, not covered by items i) and ii). **(GM)**

**Note:** *The Operator may conform with this provision through Operational Variations approved by the Authority or other variations to fuel planning criteria provided each variation is subjected to the Operator's SRM processes and safety performance monitoring to ensure an acceptable level of safety is maintained.*

#### Auditor Actions

- ☐ **Identified/Assessed** process/procedures for calculation of additional fuel for all flights (focus: planned additional fuel is required when the calculated sum of trip fuel/contingency fuel/alternate fuel/final reserve fuel is insufficient to meet defined operational conditions or, if applicable, when calculated using a variation; operational conditions that are considered/assessed to determine requirement for additional fuel are defined).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected OFPs (focus: factors used as basis for additional fuel).
- ☐ **Observed** operational control/flight dispatch operations (focus: process or procedures for calculating planned additional fuel when required).

**If the Operator conforms through Operational Variation (see Note), the following additional actions apply**

- ☐ **Identified** applicable variation(s) used for fuel planning (focus: deviation from basic ISARP requirements).
- ☐ **Examined** safety risk assessment(s) applicable to use of variation(s) (focus: consistent with applicable regulatory requirements; identification and mitigation of applicable risks).
- ☐ **Examined** records of safety performance monitoring applicable to use of variation(s) (focus: monitoring of risk associated with applicable variations).
- ☐ **Other Actions** (Specify)

#### Guidance

Basic fuel planning, represented by the sum of the trip fuel, contingency fuel, alternate fuel and final reserve is predicated on the termination of a flight at the destination or destination alternate. As such, it only takes into account foreseen and unforeseen factors (excluding system failures) that could influence fuel consumption to the planned destination or destination alternate. The intent of this provision is to define the "additional fuel" required to protect against the very unlikely event of an engine failure or de-pressurization at the most critical point in the flight and presumes that the majority of the fuel used in basic fuel planning will still be available for use in proceeding to an en route alternate in the event of such an occurrence.

The specification in item i) applies to aircraft engaged in ETOPS/EDTO. It addresses the fuel necessary to comply with the ETOPS/EDTO critical fuel scenario as established by the State of the Operator. Such scenarios typically include additional controls to ensure sufficient fuel is uplifted for



conditions that would contribute to increased fuel burn (e.g. to account for icing, errors in wind forecasting, deterioration in cruise fuel burn performance, and APU use).

Operators using variations to determine no-alternate fuel would typically have the demonstrable capability, using historical data collection and analysis tools, to adjust their fuel policy to ensure continuous improvement in the accuracy and adequacy of no-alternate fuel calculations.

A description of the typical relevant organizational and operational capabilities related to the use of variations, including Operational Variations approved by the Authority, can be found in the General Guidance at the beginning of this subsection.

Variations to fuel planning criteria are typically approved or accepted by the State.

The subordinate SRM processes of an existing organizational SMS can be applied to variations to ensure the desired level of safety is being achieved. Such SRM processes would typically consider at least the following:

- Flight fuel calculations;
- Capabilities of the operator;
- Capabilities of the data-driven method used for determining usable fuel required;
- Capabilities of the fuel consumption monitoring program used for determining hull-specific fuel burn and/or the advanced use of alternate airports, as applicable;
- Specific mitigation measures.

Guidance on safety risk management and performance of safety risk assessments is contained in the ICAO Safety Management Manual (SMM) (Doc 9859).

Examples of additional fuel calculations and critical fuel scenarios are contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

## DSP 4.3.14

The Operator shall have a process and/or procedures to provide for the uplift of discretionary fuel in accordance with its fuel policy, which is the extra amount of fuel to be carried at the discretion of the PIC, or the PIC and FOO in a shared system of operational control. **(GM)**

### Auditor Actions

- ❑ **Identified** use of FOO in shared operational control system (focus: applicable to FOO/Flight Dispatcher function as defined in [Table 3.1](#)).
- ❑ **Identified/Assessed** process/procedures for addition of discretionary fuel for all flights (focus: planned discretionary fuel is designated when requested by PIC or requested by PIC/FOO in shared system of operational control).
- ❑ **Interviewed** responsible operational control manager(s).
- ❑ **Examined** selected OFPs (focus: basis for addition of discretionary fuel).
- ❑ **Observed** operational control/flight dispatch operations (focus: process or procedures for uplift of discretionary fuel when requested by PIC or PIC/FOO).
- ❑ **Coordinated** with FLT auditor (focus: procedures for calculating/requesting discretionary fuel in accordance with fuel policy).
- ❑ **Other Actions** (Specify)

### Guidance

In a shared system of operational control, the PIC and the Flight Dispatcher/Flight Operations Officer (FOO) share the responsibility to ensure operating limitations are not exceeded and sufficient fuel is on board the aircraft to complete the planned flight safely.

## DSP 4.3.15 (Intentionally open)

**DSP 4.3.16**

If the Operator uses FOO personnel, the Operator *should* have guidance for the purpose of increasing fuel state awareness. Such guidance *should* include one or more of the following:

- (i) One approximate final reserve fuel value applicable to each aircraft type and variant in the Operator's fleet.
- (ii) A value for the final reserve fuel for each flight presented on the OFP.
- (iii) A display in the Flight Planning System or Flight Monitoring System of the planned or actual final reserve fuel for each flight. **(GM)**

**Auditor Actions**

- ☐ **Identified** use of FOO in shared operational control system (focus: applicable to FOO/Flight Dispatcher function as defined in [Table 3.1](#)).
- ☐ **Identified/Assessed** guidance for use by flight crew/FOO personnel for purpose of increasing fuel state awareness (focus: guidance provides means for PIC/FOO to easily determine an approximate final reserve fuel value for each aircraft type/variant).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: guidance to increase PIC/FOO fuel awareness; means for PIC/FOO to easily approximate final reserve fuel).
- ☐ **Other Actions** (Specify)

**Guidance**

The intent of this provision is for an operator to provide the means for operational control personnel 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 used to heighten the awareness of operational control personnel during fuel planning and in-flight fuel management activities.

The specifications of this provision may be satisfied for all personnel involved in fuel planning through the use of tables or charts that represent fuel in the unit of measure appropriate for the operation and based on data derived from the Approved Flight Manuals (AFM) for all types and variants used in operations.

Alternatively, the specifications of this provision may be satisfied by a final reserve value presented on the OFP and/or by Flight Planning or Flight Monitoring Systems that can display the planned or actual final reserve fuel figure.

Examples of final reserve fuel tables or charts are contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

## 4.4 Oxygen

**DSP 4.4.1**

If an FOO is used in a full shared system of operational control, the Operator shall have guidance and procedures for such personnel to ensure a flight is not commenced unless the aircraft has a sufficient amount of oxygen to supply crew members and passengers in accordance with [FLT 4.3.5](#). **(GM)**

**Auditor Actions**

- ☐ **Identified/Assessed** guidance/procedures that specify consideration of aircraft oxygen systems in flight planning process (focus: flight planning takes into account sufficient aircraft stored breathing oxygen to supply crew/passengers).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: guidance/procedures to ensure sufficient stored breathing oxygen for planned flight in pressurized aircraft).

- ☐ **Coordinated** with maintenance operations (focus: verification that aircraft certified/equipped to meet oxygen requirements).
- ☐ **Other Actions** (Specify)

## Guidance

The intent of this provision is to ensure operational control personnel with responsibilities related to flight planning or aircraft scheduling are provided with the necessary information regarding oxygen carriage requirements in order to appropriately match an aircraft to a planned route. This includes information regarding the supplemental oxygen requirements and escape routes necessary in case of a decompression in an area of high terrain.

If operational control personnel do not have responsibilities related to the carriage of supplemental oxygen, the pilot-in-command is responsible for carriage of supplemental oxygen as required.

Refer to Guidance associated with [FLT 4.3.5](#) located in ISM Section 2.

## 4.5 Operations Beyond 60 Minutes from an En Route Alternate Airport and ETOPS/EDTO

### DSP 4.5.1

If the Operator conducts flight operations beyond 60 minutes from a point on a route to an en route alternate airport, including ETOPS/EDTO, the Operator shall have a system, process and/or procedures to ensure such operations are planned and conducted in accordance with operational requirements and applicable regulations. **(GM)**

## Auditor Actions

- ☐ **Identified** conduct of flight operations, including ETOPS/EDTO, over routes beyond 60 minutes from alternate airport.
- ☐ **Identified/Assessed** system/process/procedures for planning flights conducted over routes beyond 60 minutes to an alternate airport (focus: flight planning for ETOPS/EDTO takes into account all applicable regulations/requirements).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: process or procedures to ensure flights operated beyond 60 minutes from an alternate airport are conducted in accordance with applicable requirements).
- ☐ **Other Actions** (Specify)

## Guidance

An operator may use a system, process or procedures alone or in combination in order to fulfill operational requirements related to the conduct of operations beyond 60 minutes. In all cases, however, the robustness of any methodologies is commensurate with the breadth and complexity of the operation.

An operator, in accordance with the requirements of the Authority, typically uses technical guidance for the conduct of operations beyond 60 minutes, from a point on a route to an en route alternate airport. Such guidance might be derived from one or more of the following source references, as applicable:

- ICAO Annex 6, Part 1, Attachment C: Guidance for Operations by Turbine Engine Aeroplanes Beyond 60 minutes to an En route Alternate Aerodrome Including Extended Diversion Time Operations (EDTO).
- ICAO Flight Planning and Fuel Management Manual (Doc 9976).
- ICAO Extended Diversion Time Operations (EDTO) Manual (Doc 10085).
- FAA Advisory Circular - AC No: 120-42B: Extended Operations (ETOPS and Polar Operations).
- EASA Air OPS (regulation 965/2012) ANNEX V (Part-SPA) Subpart F: Extended Range Operations with Two-Engine Aeroplanes (ETOPS).

- EASA AMC 20-6, Rev 2 to Air OPS (regulation 965/2012): Extended Range Operation with Two-Engine Aeroplanes ETOPS Certification and Operation.
- Commission Regulation EC No. 965/2012 Annex V SPA.ETOPS.
- Any equivalent reference document approved or accepted by the Authority for the purpose of providing guidance for the conduct of flight operations by turbine engine aircraft beyond 60 minutes to an en route alternate airport.

**DSP 4.5.2**

If the Operator conducts flight operations beyond 60 minutes from a point on a route to an en route alternate airport, including ETOPS/EDTO, the Operator shall have guidance and procedures to ensure (as applicable to the Operator):

- (i) For all aircraft, en route alternate airports are identified and the most up-to-date information relative to such airports is available to the flight crew, including airport status and meteorological conditions;
- (ii) For aircraft with two engines engaged in ETOPS/EDTO, the most up-to-date information available to the flight crew indicates that conditions at identified en route alternate airports will be at or above the Operator's established airport operating minima for the operation at the ETU. **(GM)**

**Auditor Actions**

- ☐ **Identified** conduct of flight operations, including ETOPS/EDTO, over routes beyond 60 minutes from alternate airport.
- ☐ **Identified/Assessed** guidance/procedures for planning flights conducted over routes beyond 60 minutes from alternate airport (focus: flight planning includes provision of information for flight crew that identifies en route alternate airports, indicates conditions at en route alternate airports will be at/above established airport operating minima for operation at the ETU).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected ETOPS/EDTO OFPs (focus: identification of en route alternate airports; information indicates conditions at/above operating minima).
- ☐ **Observed** operational control/flight dispatch operations (focus: guidance/procedures that ensure flight crew has up-to-date information relative to planned en route alternate airports for flight operations beyond 60 minutes from an en route alternate airport).
- ☐ **Other Actions** (Specify)

**Guidance**

The intent of item i) of this provision is to ensure operational control personnel and the flight crew are knowledgeable about diversion airport options and prevailing weather conditions appropriate for the type of operation conducted.

The intent of item ii) is to ensure a larger strategy exists for two-engine aircraft engaged in ETOPS/EDTO to protect a diversion regardless of the reason for the diversion (i.e. technical or non-technical reasons).

Guidance related to the identification and/or protection of en route alternate airports is contained in ICAO Annex 6, Part 1, Attachment C and the ICAO Extended Diversion Time Operations (EDTO) Manual (Doc 10085).

**DSP 4.5.3**

If the Operator uses aircraft with two engines in ETOPS/EDTO, the Operator shall have guidance and procedures to select en route alternate airports for such operations, and ensure en route alternate airports are specified on:

- (i) The OFP or other equivalent operational document available to the PIC in flight;
- (ii) The ATS flight plan where required by the State or the ATS system in use. **(GM)**

## Auditor Actions

- ☐ **Identified** the conduct of ETOPS/EDTO using aircraft with two engines.
- ☐ **Identified/Assessed** guidance/procedures for en route alternate selection/designation for ETOPS/EDTO conducted with two-engine aircraft (focus: flight planning includes selection/designation of en route alternate airports; en route alternate airports shown on OFP; shown on ATS flight plan in accordance with applicable regulatory requirements).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected ETOPS/EDTO OFPs (focus: designation of en route alternate airports).
- ☐ **Observed** operational control/flight dispatch operations (focus: guidance/procedures for selecting en route alternate airports and specifying on OFP and ATS flight plan for two-engine aircraft ETOPS/EDTO).
- ☐ **Other Actions** (Specify)

## Guidance

The intent of the specification in item i) is to ensure en route alternates, when required, are selected and subsequently specified on the OFP or other equivalent operational document available to the PIC in flight.

The intent of the specification in item ii) is to ensure en route alternates, when required for ETOPS/EDTO, are specified on the ATS flight when required by the State or other applicable authority.

### DSP 4.5.4

If the Operator conducts ETOPS/EDTO, the Operator shall have guidance and procedures to ensure, for aircraft engaged in such operations:

- (i) A flight will not proceed beyond the threshold time unless the identified en route alternate airports are re-evaluated for availability and the most up-to-date information indicates that, during the ETU, conditions at those airports will be at or above the Operator's established airport operating minima for the operation;
- (ii) If any conditions are identified that would preclude a safe approach and landing at an identified en route alternate airport during the ETU, an alternative course of action has been determined;
- (iii) The most limiting EDTO-significant system time limitation (except for the most limiting fire suppression system), if any, indicated in the aircraft flight manual (directly or by reference) and relevant to a particular operation is not exceeded. **(GM)**

**Note:** The Operator may conform with item (iii) of this provision through Operational Variations approved by the Authority or other variations to EDTO significant system time limitation criteria provided each variation is subjected to the Operator's SRM processes and safety performance monitoring to ensure an acceptable level of safety is maintained.

**Note:** Refer to [ORG 3.4.1](#) and [DSP 4.5.5](#) for cargo compartment fire suppression limitation exceedances.

## Auditor Actions

- ☐ **Identified** that ETOPS/EDTO is in use.
- ☐ **Identified/Assessed** guidance/procedures for the monitoring/assessment of en route alternate airport conditions during the conduct of ETOPS/EDTO (focus: designated en route alternate airports monitored/assessed during ETOPS/EDTO to verify continuation of planned flight; when conditions make designated en route alternate unusable, planned flight evaluated for change).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected ETOPS/EDTO OFPs (focus: designation of en route alternate airports).
- ☐ **Observed** operational control/flight dispatch operations (focus: guidance/procedures for monitoring/assessing en route alternate airports during ETOPS/EDTO).

- ❑ **Coordinated** with FLT auditor (focus: complementary procedures for monitoring/assessing conditions at en route alternates; coordination to re-evaluate planned flight in event en route alternate becomes unavailable).

**If the Operator conforms through Operational Variation (see Note), the following additional actions apply**

- ❑ **Identified** applicable variation(s) used for EDTO flight planning (focus: deviation from basic ISARP requirements).
- ❑ **Examined** safety risk assessment(s) applicable to use of variation(s) (focus: consistent with applicable regulatory requirements; identification and mitigation of applicable risks).
- ❑ **Examined** records of safety performance monitoring applicable to use of variation(s) (focus: monitoring of risk associated with applicable variations).
- ❑ **Other Actions** (Specify)

## Guidance

Refer to the IRM for the definition of [Threshold Time](#).

The intent of this provision is to ensure a larger strategy exists to preclude a diversion and to protect a diversion should one occur regardless of whether the diversion is for technical (aircraft system or engine) or non-technical reasons.

A description of the typical relevant organizational and operational capabilities related to the use of variations, including Operational Variations approved by the Authority, can be found in the General Guidance at the beginning of this subsection.

Variations to EDTO significant system time limitation exceedance criteria are typically approved or accepted by the State.

The subordinate SRM processes of an existing organizational SMS can be applied to variations to ensure the desired level of safety is being achieved. Such SRM processes would typically consider at least the following:

- Capabilities of the operator;
- Overall reliability of the aircraft;
- Reliability of each time limited system;
- Relevant information from the aircraft manufacturer;
- Specific mitigation measures.

Guidance on safety risk management and performance of safety risk assessments is contained in the ICAO Safety Management Manual (SMM) (Doc 9859).

## DSP 4.5.5

If the Operator conducts flights beyond 60 minutes from a point on a route to an en route alternate airport, including EDTO, with aircraft that have a published cargo compartment fire suppression time limit, the Operator *should* have a system, process, and/or procedures to ensure the diversion time to an airport where a safe landing could be made does not exceed the cargo compartment fire suppression time capability reduced by an operational safety margin specified by the State. **(GM)**

**Note:** The Operator may conform with this provision through Operational Variations approved by the Authority or other variations to EDTO significant system time limitation criteria provided each variation is subjected to the Operator's SRM processes and safety performance monitoring to ensure an acceptable level of safety is maintained.

**Note:** Effective 1 September 2024, this recommended practice will be upgraded to a standard; IOSA registration will require conformance by the Operator.

## Auditor Actions

- ❑ **Identified** operator procedures for designating destination alternate airports on the OFP.
- ❑ **Identified/Assessed** system/process/procedures for selection/designation of takeoff, en route and destination alternate airports located a specified distance in flying time from the planned route to ensure that the diversion time is within the specified cargo suppression time limit.



- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected OFPs (focus: designation of alternate airports is in accordance with relevant factors to ensure time to specified alternate airport is within the cargo fire suppression time limit).
- ☐ **Observed** operational control/flight dispatch operations (focus: process for selection/designation of alternate airports).
- ☐ **Coordinated** with FLT auditor(s) (focus: complementary distance criteria for selection/designation of alternate airports).

**If the Operator conforms through Operational Variation (see Note), the following additional actions apply**

- ☐ **Identified** applicable variation(s) used for flight planning including EDTO (focus: deviation from basic ISARP requirements).
- ☐ **Examined** safety risk assessment(s) applicable to use of variation(s) (focus: consistent with applicable regulatory requirements; identification and mitigation of applicable risks).
- ☐ **Examined** records of safety performance monitoring applicable to use of variation(s) (focus: monitoring of risk associated with applicable variations).
- ☐ **Other Actions** (Specify)

### Guidance

The principal intent of this provision is that an operator's alternate airport selection system, process, and/or procedures ensure aircraft are operated within the specified cargo fire suppression time limit.

Cargo compartment fire suppression time capabilities will be identified in the relevant aircraft documentation when they are to be considered for the operation.

Fifteen minutes is an operational safety margin commonly specified by the State.

An operator may use a system, process, and/or procedures alone or in any combination to fulfill operational requirements related to the selection of alternate airports. In all cases, however, the robustness of any methodologies used for alternate airport selection is commensurate with the breadth and complexity of the operation.

A description of the typical relevant organizational and operational capabilities related to the use of variations, including Operational Variations approved by the Authority, can be found in the General Guidance at the beginning of this subsection.

Variations to EDTO significant system time limitation exceedance criteria are typically approved or accepted by the State.

The subordinate SRM processes of an existing organizational SMS can be applied to variations to ensure the desired level of safety is being achieved. Such SRM processes would typically consider at least the following:

- Capabilities of the operator;
- Overall reliability of the aircraft;
- Reliability of each time limited system;
- Relevant information from the aircraft manufacturer;
- Specific mitigation measures.

Guidance on safety risk management and performance of safety risk assessments is contained in the ICAO Safety Management Manual (SMM) (Doc 9859).