



**U.S. Department
of Transportation**
Federal Aviation
Administration

Advisory Circular

Subject: Part 121 Air Carrier Operational
Control

Date: 10/17/16

AC No: 120-101

Initiated by: AFS-220

Change: 1

1. PURPOSE. This advisory circular (AC) provides aviation safety inspectors (ASI) and air carrier management personnel with information to consider regarding certificate management and internal evaluation of operational control functions. This AC provides an accepted means, but not the only means for operators to comply with air carrier operational control regulations in Title 14 of the Code of Federal Regulations (14 CFR) part 121, §§ 121.531 through 121.537, and guidance in Federal Aviation Administration (FAA) Order 8900.1, Volume 3, Chapter 25, Operational Control for Air Carriers. If you use the means described in this AC, you must follow the guidance in all important respects. The contents of this document do not have the force and effect of law and are not meant to bind the public in any way. This document is intended only to provide clarity to the public regarding existing requirements under the law or agency policies.

2. PRINCIPAL CHANGES. This change replaces the reference to the Air Transportation Oversight System (ATOS) in paragraph 4 with the Safety Assurance System (SAS), replaces ATOS elements with SAS elements in Appendix 3, and updates references throughout the AC.

PAGE CONTROL CHART

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Appendix 3, Pages 1 and 2	6/28/10	Appendix 3, Pages 1 and 2	10/17/16

John Barbagallo
Deputy Director, Flight Standards Service



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2. AUDIENCE. ASIs should use this AC in certificate management. Air carrier management should use this AC to aid in complying with operational control regulations and guidance.

3. RELATED REGULATION REFERENCES:

- Title 49 of the United States Code (49 U.S.C.) § 44701(d)(1)(A).
- Title 14 CFR:
 - Part 1.
 - Part 65, § 65.51.
 - Part 119, §§ 119.5(g), 119.49, and 119.65.
 - Part 121, §§ 121.99, 121.107, 121.122, 121.125, 121.127, 121.135(a), 121.135(b)(4), 121.153, 121.303, 121.419, 121.422, 121.427, 121.533, 121.535, 121.537, 121.541, 121.559, 121.605, 121.611, 121.628(a), 121.631, 121.661, 121.663, 121.693, 121.695, 121.697, 121.709, and 121.711.

4. RELATED READING MATERIALS. Below is a partial list that includes key materials and examples that you can find at various FAA websites. See Appendix 3 for a thorough list of related documents and Safety Assurance System (SAS) elements. See Appendix 4 for a list of terms and definitions as they apply to this AC.

a. Order 8900.1. The following documents may be accessed by Flight Standards personnel, operators, and the public through the Dynamic Regulatory System (DRS) at <https://drs.faa.gov>.

- Volume 3, Chapter 25, Operational Control for Air Carriers.
- Volume 6, Chapter 2, Section 22, Safety Assurance System: Operational Control Inspections.

b. Operations Specifications (OpSpecs). The following OpSpecs are available on the Web-based Operations Safety System (WebOPSS). Refer to Order 8900.1, Volume 3, Chapter 18, Section 3, Part A Operations Specifications—General, for additional guidance.

- A002, Definitions and Abbreviations.
- A006, Management Personnel.
- A008, Operational Control.
- A009, Airport Aeronautical Data.
- A010, Aviation Weather Information.
- A025, Electronic Signatures, Electronic Recordkeeping Systems, and Electronic Manual Systems.

c. ACs (current editions):

- AC 120-51, Crew Resource Management Training.
- AC 121-32, Dispatch Resource Management Training.

d. Miscellaneous. DOT/FAA/AR-00/45, Air Carrier Operations System Model, dated March 2001: <https://www.tc.faa.gov/its/worldpac/techrpt/ar00-45.pdf>.

5. BACKGROUND. In January 2000, there was a fatal accident involving a U.S.-certificated domestic air carrier. Because of the investigation, the National Transportation Safety Board (NTSB) made recommendations that directly address air carrier operational control processes. The NTSB report number AAR-02/01 is at <https://www.nts.gov>. The NTSB also recommended that certificate management offices (CMO) conduct surveillance of airline dispatch and maintenance control personnel to ensure that their training and operational directives (notices) provide appropriate dispatch support to pilots who experience a malfunction that threatens safety of flight. Additionally, the NTSB recommended that the FAA instruct air carriers to refrain from suggesting continued flight in the interest of airline scheduling.

a. Responsibility. The certificate holder is responsible for operational control. For domestic and flag operations, the aircraft dispatcher and the pilot in command (PIC) are jointly responsible and share duties to ensure the flight is conducted safely in accordance with the regulations and OpSpecs. According to § 121.537(a)(2), for supplemental operations, the certificate holder will list each person authorized to exercise operational control in its operator's manual in accordance with the regulations and OpSpecs.

b. System Operations Control Center (SOCC). Many air carriers have established a SOCC to integrate operational control and business management functions. Air carrier management is responsible for coordinating all functions in the SOCC. Management acts as a support mechanism to the aircraft dispatcher or the designee (flight follower) to ensure the safest operation is conducted. SOCC business management may be overseen by corporate functions such as marketing, customer service, and finance. Air carriers must ensure that marketing or financial motivation of the company does not adversely influence or have authority over its operations control system, at the exclusion of flight safety related concerns.

6. INTRODUCTION. System safety, as it applies to operational control, includes identification, analysis, assessment, and control of hazards and risks (refer to the current editions of FAA Order 8040.4, Safety Risk Management Policy, and AC 120-92, Safety Management Systems for Aviation Service Providers). An effective system safety approach to certificate management should include an analysis of the capabilities of an air carrier to safely maintain operational control of its aircraft. The air carrier's operating manual must include procedures for coordinated dispatch, flight control, or flight following procedures (refer to § 121.135(b)(4)). These procedures should enhance operational control and prevent interference with the decision-making process. Business objectives must not override safety concerns of the PIC, aircraft dispatcher, or Director of Operations (DO) (or their designee), who share legal responsibility for the flight, as appropriate.

a. Operational Control Systems. This AC addresses the operational control system of the air carrier structure and its functions. The foundation for an effective Safety Management System (SMS) approach to operational control concepts incorporates planning tools designed to analyze and assess the inherent risk of air carrier systems.

b. Limits of Authority. This AC addresses the complexities of air carrier operational control and the limits of the authority within the subsystems that support operational control (see Appendix 1, Operational Control Diagram).

7. OVERVIEW.

a. Positions. Air carriers' manuals should document processes that describe a clear separation between business management and operational control. Each manual must have clear instructions and information regarding the performance of the duties and responsibilities with a high degree of safety per § 121.135(a). Depending on the type of operation, some of these positions include the following:

- DO.
- Chief Pilot.
- PIC.
- Aircraft dispatcher (domestic and flag operations).
- Flight follower (supplemental operations).

b. Additional Positions. The following are examples of additional positions that are common among certificate holders (if applicable, the certificate holder should clearly define these positions):

- Manager, Crew Scheduling.
- Director of Maintenance (DOM).
- Director of Safety (DOS).
- Director of Training.
- Manager, Maintenance Control.
- Manager, SOCC.

NOTE: The air carrier must ensure that anyone in a position to exercise control over operations is qualified through training, experience, and expertise in accordance with part 119.

c. Scope of Responsibility.

(1) The scope of responsibility section should include the responsibility for operational control as it relates to responsible management and their associated regulatory obligations defined in § 119.65(d)(3).

(2) Sections 121.533, 121.535, and 121.537 place the operational control responsibility with the certificate holder. In part 121 domestic and flag operations, the PIC and aircraft dispatcher have joint responsibility to exercise operational control of a particular flight. For part 121 supplemental operations, operational control of a particular flight is the responsibility of the PIC and the DO. The DO may delegate certain operational control functions to other individuals, but they cannot delegate the responsibility for these functions. Order 8900.1, Volume 3, Chapter 25 has a list of operational control functions.

(3) The management official designated with the authority to establish, modify, and enforce operational control policies (normally DO and DOM) are held accountable and should be connected to the regulatory requirement found in § 119.65(d)(3).

8. EMERGENCY AND ABNORMAL SITUATIONS. For operational control procedures, each air carrier's manual and checklist must contain clear and concise instructions and information.

a. Flag and Domestic Operations.

(1) **Limitations of Supporting Departments.** Supporting departments in the operational control process should not interfere with a PIC's or aircraft dispatcher's ability to exercise their emergency authority (see Appendix 1). The critical nature of this decision rests with either the PIC, aircraft dispatcher (domestic and flag), PIC and DO, or designee (flight follower).

(2) **Declaration of Emergency.** The certificate holders must ensure that the appropriate sections of their manuals give clear and concise guidance as to when the PIC or aircraft dispatcher must declare an emergency and exercise their emergency authority. These sections should also provide guidance as to when the aircraft dispatcher may declare an emergency apart from the PIC (e.g., when communication with the PIC is impossible or impractical) and that the aircraft dispatcher may take any action they consider necessary under the circumstances. Guidance should include clear, concise procedures regarding communications and reporting. It should address situations including, but not limited to diverting the flight due to medical emergencies, overweight landings, or other conditions resulting in noncompliance with regulatory requirements under the captain's or dispatcher's emergency authority. The manual should address specific intracompany and FAA reporting requirements, or state incidences pertinent to flight safety that will require air traffic control (ATC) notification, and subsequent reporting to the responsible Flight Standards office.

(3) Emergency Situation Guidance/Procedures. When an emergency occurs, the aircraft dispatcher's workload greatly increases, which may lead to errors or omissions that could jeopardize the safety of other flights and may diminish operational control. Emergency handling procedures are extremely important, particularly in air carriers with moderate to heavy workloads for aircraft dispatchers. For this reason, certificate holders' manuals should at least include guidance/procedures for aircraft dispatcher handling of emergency situations such as:

(a) Isolating the emergency.

(b) Transferring other assigned responsibilities to another qualified aircraft dispatcher (e.g., redistribution of workload to other available resources).

(c) Applying additional resources to the situation, as appropriate.

NOTE: Under normal circumstances, an aircraft dispatcher may simultaneously monitor several aircraft in flight, in addition to preflight planning and releasing flights. Air carriers should consider that in an emergency situation, aircraft dispatcher workload may require redistribution of assigned flights.

(4) Emergencies and Training Programs. Air carriers must ensure that flightcrew member and aircraft dispatcher training programs emphasize the PIC and aircraft dispatcher's responsibilities in declaring an emergency, which requires immediate decision and action.

(5) Crew and Dispatch Resource Management. Air carriers must ensure both Crew Resource Management (CRM) and dispatch resource management (DRM) training programs address effective communication and decision-making processes. These training programs should also include realistic situational scenarios.

NOTE: The operator's manual should emphasize that for emergency situations that occur during flight, the aircraft dispatcher is responsible for notifying the PIC of the emergency, ascertaining the PIC's decision, and documenting the PIC's decision. (Refer to § 121.557(b).)

b. Supplemental Operations.

(1) Air carriers must ensure that flightcrew member and flight follower training programs emphasize the PIC and DO/designee (flight follower)'s responsibilities in declaring an emergency, which requires immediate decision and action.

(2) Supplemental operators using a flight following system must show that the personnel they designate to perform the function of operation control of the aircraft are able to perform their required duties.

(3) If a supplemental air carrier employs certificated aircraft dispatchers and the DO delegates operational control authority to them, operations manuals should clearly specify the duties and responsibilities. OpSpec A008 should specify that a dispatch system is in use and should reference the manual chapters containing those procedures.

(4) The air carrier should clearly define communications procedures between the PIC and the DO/designee (flight follower).

(5) Regarding emergency situations, the certificate holder's manuals should ensure that the appropriate sections of their manuals give clear and concise guidance as to when the management personnel or flight follower, with or apart from the PIC, must declare an emergency and exercise their emergency authority (e.g., when communication with the PIC is impossible or impractical). This guidance should indicate that management personnel or the flight follower may take any action they consider necessary under the circumstances. Guidance should include clear, concise procedures regarding communications and reporting.

9. OPERATIONAL CONTROL.

a. Conceptualizing Operational Control. The concept of operational control in this AC is largely based on the Air Carrier Operations System Model the FAA and several part 121 air carriers developed. In addition to providing an effort to support a System Approach for Safety Oversight, this particular model provides an important communications bridge between the FAA and the industry.

b. Providing Common Guidance. Air carriers are dynamic and have their own internal model for their processes. By developing generic guidance for air carriers, the FAA and the industry have a model that provides commonality of functions and definitions, and a common point of reference.

c. Scope. The model in this AC is for reference only. The intent is to recommend the development of a comprehensive operational control system. Each air carrier should develop its system considering such variables as size, route structure, complexity, and availability of resources.

d. Management Personnel. Part 119 requires management personnel or anyone in a position to exercise control over operations be qualified through training and experience to perform their duties and responsibilities with the highest degree of safety.

(1) The following are examples of some important management responsibilities:

- Provide operational control resources and structure.
- Develop and publish policies, procedures, instructions, and information for flightcrew and operational control personnel in accordance with the regulations and the certificate holder's approved OpSpecs.
- Train and qualify operations personnel.
- Establish dispatcher duty time and policies to ensure compliance with regulatory requirements.
- Ensure that business decisions are not made to the exclusion of flight safety.

(2) Manuals developed by certificate holder management should incorporate functions such as procedures, controls, process measurements, interfaces, and responsibility attributes

commonly found in a traditional system safety approach to flight operations. (Refer to AC 120-92.)

NOTE: People not authorized to conduct operational control must not exert any authority that would impede the duties of those responsible for day-to-day operational control.

NOTE: The DO must have oversight over the operational control functions for the certificate holder.

e. **Dispatching (Domestic and Flag) Aircraft.** These functions include, but are not limited to the following:

(1) Planning a flight.

(2) Preparing and disseminating the dispatch release.

(3) Monitoring the progress of each flight.

(4) Issuing additional information for the safety of flight to include weather, airport conditions, Notices to Air Missions (NOTAM), status of navigation aids, etc.

(5) Delaying a flight, if in the opinion of the aircraft dispatcher and PIC the flight cannot be conducted safely.

(6) Canceling a potentially unsafe flight.

NOTE: There may be cases when flight cancellations occur before release by company management because of lack of resources or other constraints, such as ATC, weather, etc. These types of advanced planning cancellations do not require input from the aircraft dispatcher.

f. **Releasing (Supplemental) Aircraft.** The PIC and DO are jointly responsible for initiation, continuation, diversion, and termination of a flight if in their opinion, or that of the PIC, the flight cannot operate or continue to operate safely as planned or released (refer to § 121.537(b)). No person may start a flight unless the PIC or the person authorized by the operator to exercise operational control over the flight has executed a flight release that sets forth the conditions under which to conduct a flight. The PIC may sign the flight release only when they, and the person authorized by the operator to exercise operational control, believe that the flight can be made safely. The flight follower is considered a designee of the DO and routinely performs the following tasks:

(1) Flight planning.

(2) Preparing and disseminating the flight release.

(3) Flight following of each flight. This task considers the operations to be conducted including departure and destination, intermediate stops and diversions, mechanical delays, and any known conditions that may adversely affect the safety of a flight.

(4) Delaying a flight, if in the opinion of the PIC and DO or designee (flight follower) the flight cannot be conducted safely.

NOTE: During a flight, the PIC should obtain any additional available information of meteorological conditions and irregularities of facilities and services that may affect the safety of the flight. The DO (or flight follower) is routinely responsible for providing any additional information for the safety of flight, including weather, airport conditions, NOTAMs, status of navigation aids, etc.

g. Additional Duties. The aircraft dispatcher or flight follower duties may include assignment of aircraft, crew scheduling, customer service and other duties as assigned (based on the business model of the certificate holder). These additional duties should not impede the aircraft dispatcher's or flight follower's operational control duties and be clearly defined in the air carrier's manual system.

h. Maintenance Control. This function includes but is not limited to:

(1) Tracking the airworthiness status of each aircraft in real time, and providing this information to the aircraft dispatcher/flight follower.

(2) Providing real-time controls on the airworthiness of in-service aircraft through the use of an approved minimum equipment list (MEL) and a Configuration Deviation List (CDL).

(3) Coordinating maintenance resources to support aircraft in service.

(4) Coordinating maintenance information between the certificate holder and contract maintenance.

(5) Deciding whether to authorize a repair or defer discrepancies in accordance with accepted procedures.

(6) Deciding whether aircraft are removed from, or returned to service. (Refer to § 121.709.)

(7) Supporting the aircraft dispatcher/flight follower and the PIC in the decision to initiate, cancel, continue, or divert a flight.

NOTE: Some smaller certificate holders delegate the maintenance control function to the DOM, aircraft mechanic, or a combination of the two.

i. Operational Control Systems. Domestic and flag certificate holders (dispatch system) and supplemental certificate holders (flight release system) systems must be described or referenced in OpSpec A008.

j. Operational Control Organizational Structure. When the certificate holder does not have all of its operational control functions in the same location, it must ensure these functions are coordinated before flight. The certificate holder must clearly define its operational control organizational structure in its company manual to include:

- Duties and responsibilities.
- Lines of communication and departmental interfaces.
- Process controls and measurements.

k. Responsibility for Dispatch/Flight Release. Operational control is based on the concept of minimizing decision errors by imposing joint responsibility requiring close coordination between the PIC, dispatcher, and DO (or their designee), as appropriate, to ensure the safety of flight operations.

(1) Domestic and Flag Certificate Holders.

(a) The aircraft dispatcher must inform the PIC if the flight cannot be conducted safely as planned under existing and forecast weather conditions.

(b) Once the PIC and aircraft dispatcher have signed the dispatch release, they have effectively agreed to all of its terms. Changes to the original dispatch release that require an amendment, also require concurrence between the PIC and aircraft dispatcher. The aircraft dispatcher and PIC must exchange necessary information that may change the conditions of the dispatch release. If the PIC and/or aircraft dispatcher become aware of hazardous conditions that would affect the safety of flight while the flight is en route, the PIC and aircraft dispatcher should communicate with each other. These operations must then be reevaluated to ensure a safe plan of action. (Refer to §§ 121.561 and 121.601.)

(c) Over the entire route certificate holders must ensure reliable and rapid communications (4 minutes or less) between each airplane and the appropriate dispatch office, and between each airplane and the appropriate ATC unit. (Refer to § 121.99.)

1. A two-way radio communication system must provide reliable and rapid communication (4 minutes or less) under normal conditions. Radio is only one possible means of communication. Other means (e.g., data link, satellite communications (voice)) can supplement voice communication when approved. If approving Aircraft Communications Addressing and Reporting System (ACARS) for operational communications, reference the Aircraft Flight Manual (AFM) for any limitations.

2. The operator's airborne communication system must be independent of any ATC system. Communication between the pilot and dispatcher through ATC should only be used during abnormal or emergency conditions, if necessary. If operating within the United States, flag operators' communication systems must be independent of U.S.-operated systems. Flag operations outside the 48 contiguous United States may use a foreign system.

(d) Signatures on the dispatch release/load manifest (domestic and flag certificate holders).

1. Each certificate holder conducting domestic or flag operations must prepare a dispatch release for each flight between specified airports, based on information furnished by an aircraft dispatcher. The PIC and the aircraft dispatcher must sign the release (electronic, as authorized in OpSpec A025, or physical signatures) only if they both believe that the flight can be conducted safely. The aircraft dispatcher may delegate authority to sign a release for a particular flight, but they may not delegate their authority to dispatch. (Refer to § 121.663.)

2. Certificate holders are responsible for the preparation and accuracy of a load manifest form before each takeoff. Employees of the certificate holder who have the duty of supervising the loading of aircraft and preparing the load manifest, or other qualified individuals authorized by the certificate holder must prepare and sign the form for each flight. (Refer to § 121.665.)

3. Acknowledgment of receipt and concurrence of the dispatch release/load manifest may be done by voice or electronic signature instead of the physical signatures. When FAA-approved electronic data transmission and signatures are used, the method of compliance and recordkeeping, as required by part 121, must be specified in the OpSpecs. (Refer to OpSpec A025 and Order 8900.1 Volume 3, Chapter 31, Section 2, Requirements for Approval, Acceptance, and Authorization, for the approval process.)

(e) A dispatch release must be amended in accordance with an air carrier's procedures any time a flight cannot be conducted in accordance with the original dispatch release. (Refer to § 121.631.)

(2) Supplemental Certificate Holders.

(a) The certificate holder must have a procedure for the DO or flight follower to authorize the flight. If flight followers are used, their names must be listed in the certificate holder's operations manual (refer to § 121.537). The PIC cannot authorize their own release. No person may start a flight under a flight following system without specific authority from the person authorized by the operator to exercise operational control over the flight. (Refer to § 121.597.)

(b) No person may start a flight unless the PIC or the person authorized by the operator to exercise operational control over the flight has executed the flight release saying that the flight can be made safely (refer to § 121.597). The flight follower must inform the PIC if the flight cannot be conducted safely as planned under existing and forecast weather conditions.

(c) Certificate holders must ensure reliable and rapid communications between each airplane and the certificate holder, and between each airplane and the appropriate ATC unit over the entire route of flight. (Refer to § 121.122.)

(d) Once the PIC has signed the flight release, they and the flight follower have effectively agreed to all terms of the flight release. Changes to the original flight release that require an amendment also require concurrence between the PIC and designee (flight follower). (Refer to §§ 121.597 and 121.631.)

(e) The PIC and DO or designee (flight follower) must exchange necessary information that could change the conditions of the flight release. If while the flight is en route, the PIC and/or designee (flight follower) becomes aware of hazardous conditions that would affect the safety of flight, the PIC and designee (flight follower) must communicate with each other. These operations must then be reevaluated to ensure a safe plan of action. (Refer to Title 49 of the Code of Federal Regulations (49 CFR) part 1544, § 1544.303; and 14 CFR §§ 121.122, 121.537, 121.559, and 121.631.)

(3) Signatures on the Flight Release/Load Manifest.

(a) Preparation of Flight Release and Load Manifest.

1. Each certificate holder conducting supplemental operations must prepare a flight release for each flight between specified airports, based on information furnished by a DO or designee (flight follower). The PIC will sign the release (electronic, as authorized in OpSpec A025, or physical signatures) only if they and the DO and/or designee (flight follower) believe that the flight can be conducted safely. (Refer to § 121.597.)

2. Certificate holders are responsible for the preparation and accuracy of a load manifest form before each takeoff. Employees of the certificate holder who have the duty of supervising the loading of aircraft and preparing the load manifest forms, or other qualified persons authorized by the certificate holder must prepare and sign the form for each flight. (Refer to § 121.665.)

3. Acknowledgment of receipt and concurrence of the flight release/load manifest may be done verbally or electronically instead of with a physical signature. When FAA-approved electronic data transmission and signatures are used, the method of compliance and recordkeeping, as required by part 121, will be specified in the OpSpecs. Refer to OpSpec A025 and Order 8900.1 Volume 3, Chapter 31, Section 2 for the approval process.

(b) Amendment of Flight Release. A flight release must be amended in compliance with the air carrier's procedures whenever a flight cannot be conducted in accordance with the original flight release. An amendment to a flight release may become desirable or necessary when a condition of the flight release has changed. (Refer to § 121.631.)

(c) Rerelease in Supplemental Operations. Rerelease of a flight is a part 121 supplemental (international) operation, in accordance with the OpSpec B044, Planned Redispatch or Rerelease En Route. Communications and concurrence must occur between the PIC and DO/designee (flight follower) within 2 hours of the rerelease point to allow the flight to continue to the intended destination.

(d) Communications. To ensure operational control, en route communications between the PIC and DO or designee (flight follower) are strongly recommended. When an air carrier is conducting operations under OpSpec B044 en route communication capabilities are required to be available. Data link may be used for routine communications, but should not be substituted for voice communications. It is vital that expedited voice communications be available in the case of an emergency.

NOTE: Section 121.122 for supplemental operations requires rapid and reliable communications for an airplane with more than two engines, other than all-cargo operations.

10. OPERATIONAL CONTROL REQUIRED INFORMATION.

a. Airport Data. OpSpec A009 describes the system to obtain and distribute airport data.

b. Operators' Manuals. Operators' manual systems must contain guidance and procedures by which the PIC and aircraft dispatcher or DO/designee (flight follower) (or other operational control personnel) acquire, disseminate, and apply operational information. The required information (refer to § 121.135) must include at least the following:

- Departure, destination, and alternate airport information.
- En route facilities information.
- NOTAMs.
- Aircraft performance data.
- Driftdown (if applicable).
- Equal time point (if applicable).
- Extended Operations (ETOPS) (if applicable).
- Airport obstacle data.
- Weather.
- Flight and fuel planning.
- Load control.
- Crew/aircraft dispatcher/flight follower qualifications.
- Flight-time limitations/rest requirements.
- Airworthiness of aircraft.

c. Operational Control Weather Data. For operational control weather data, reference or describe in OpSpec A010, Aviation Weather Information, the system the certificate holder used to acquire, analyze, and disseminate weather data. For domestic and flag operations, § 121.101(d) requires an approved adverse weather program.

(1) Use one of the following sources for weather data:

(a) The National Weather Service (NWS); or

(b) A source approved by the Administrator (Order 8900.1, Volume 3, Chapter 26, Aviation Weather Regulatory Requirements).

NOTE: Currently, the NWS does not have a process to approve commercial weather providers for providing analysis or forecasts.

(2) Data from an approved source must be the basis for all weather forecasts.

(3) Some certificate holders have elected to adopt an approved Enhanced Weather Information System (EWINS). An approved EWINS program provides air carriers operational flexibility for weather forecasting.

NOTE: All reports or forecasts used to control flight operations that have not been produced by the NWS, such as a Terminal Aerodrome Forecast from a third-party vendor, must be specifically approved in A010 of the OpSpecs as a EWINS provider.

11. SUMMARY.

a. Consult ASIs. Each certificate holder is encouraged to consult with their ASIs (dispatch inspector subject matter expert (SME)) in developing and documenting guidance, policies, practices, and procedures recommended in this AC. Positive communication and clear delineation of functions, duties, and responsibilities between the participants in the management of operational control is essential to safe and efficient operations.

b. Intent of This AC. The models presented in this AC are recommended practices. The intent is to provide information on development of a comprehensive operational control system. Each certificate holder should structure its system according to size, structure, complexity, and availability of resources.

c. Comments and Inquiries. Direct any questions regarding the guidance in this AC to the Air Transportation Division, Operations Group at (202) 267-8166.

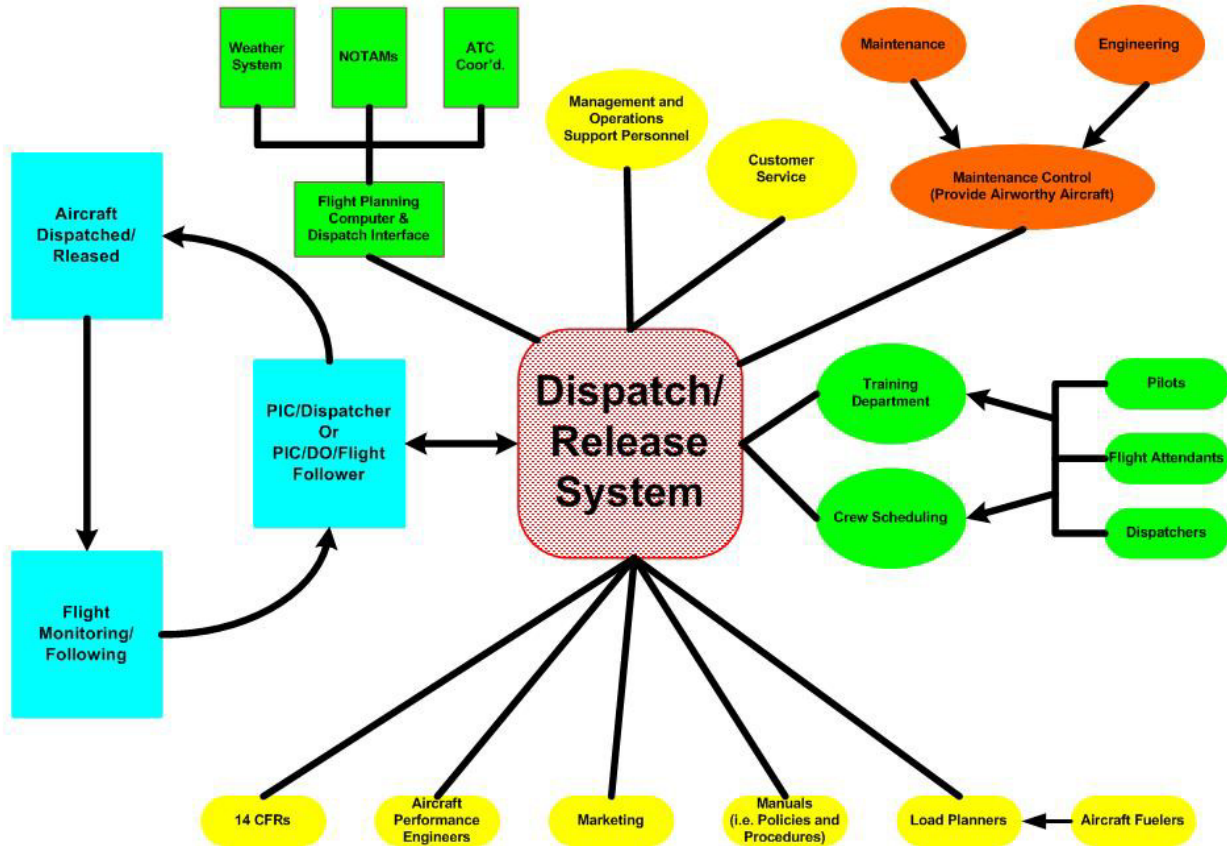
12. AC FEEDBACK FORM. For your convenience, the AC Feedback Form is the last page of this AC. Note any deficiencies found, clarifications needed, or suggested improvements regarding the contents of this AC on the Feedback Form.

APPENDIX 1. OPERATIONAL CONTROL DIAGRAM



FAA
Aviation Safety

Operational Control System



Specific regulations associated with each activity in the operational control system are included in the matrix in the next section.

NOTE: For a more comprehensive interface diagram refer to DOT/FAA/AR 00/45, Air Carrier Operations System Model, dated March 2001, located at: <https://www.tc.faa.gov/its/worldpac/techrpt/ar00-45.pdf>.

APPENDIX 2. OPERATIONAL CONTROL REGULATION MATRIX

Operational Control Function	Regulation Reference	Operational Control Function	Regulation Reference
Operational Control	65.51, 121.107, 121.125, 121.533, 121.535, OpSpec A008	Communications	121.99, 121.122
Weather System	121.101, 121.119, OpSpec A010	Dispatch/Flight Release System	119.43, 119.49, 119.53, 121.97, 121.99, 121.101, 121.103, 121.107, 121.125, 121.135, 121.161, 121.551, 121.557, 121.593, 121.599, 121.601, 121.605, 121.607, 121.613, 121.619, 121.625, 121.629, 121.631, 121.635, 121.647, 121.651, 121.652, 121.655, 121.683, 121.693, 121.695, OpSpec A003
NOTAM Information	121.601, OpSpec A009	Training Department	121.135, 121.400
ATC Coordination	121.607, 121.613, 121.615, 121.647	Pilot Training	Part 121 Subpart N, 121.400, 121.402, 121.403, 121.404, 121.405, 121.406, 121.409, 121.411, 121.412, 121.413, 121.414, 121.415, 121.418, 121.419, 121.424, 121.427, 121.429
Engineering	121.605	Flight Attendant Training	Part 121 Subpart N, 121.400, 121.401, 121.403, 121.421, 121.427
Maintenance	121.605	Dispatcher Training	Part 121 Subpart N, 121.400, 121.401, 121.402, 121.403, 121.404, 121.405, 121.406, 121.415, 121.418, 121.422, 121.427
Maintenance Control	121.605	Flight Follower Training	119.65(d), 121.127, 121.597
Management and Operations Support Personnel	119.65, 121.533, 121.535, 121.537, 121.539, 121.551, 121.553	Crew Scheduling	Part 121 Subpart Q, 121.470, 121.471
Customer Service	121.135, 121.401	Pilot/Dispatcher Joint Responsibility	Part 121, 121.533, 121.601, 121.633 Inability to Proceed as Released: 121.557, 121.533
Customer Service	121.593, 121.599, 121.601, 121.605, 121.613, 121.617, 121.619, 121.625, 121.637, 121.639, 121.647, 121.651, 121.652, 121.655, 121.657, 121.659, 121.663, 121.665, 121.687	Flight Monitoring/ Following	121.601, 121.603, 121.607, 121.624, 121.107, 121.125, 121.127
Flight Planning Computer/ Dispatcher Interface	121.533, 121.539, 121.541, 121.593, 121.599, 121.601, 121.605, 121.607, 121.613, 121.617, 121.619, 121.625, 121.627, 121.628, 121.629, 121.631, 121.635, 121.639, 121.647, 121.651, 121.652, 121.655, 121.657, 121.663, 121.665, 121.683, 121.685, 121.687, 121.693, 121.695, 121.711	Aircraft Dispatched	121.593, 121.599, 121.601, 121.605, 121.613, 121.617, 121.619, 121.625, 121.637, 121.639, 121.647, 121.651, 121.652, 121.655, 121.657, 121.659, 121.663, 121.665, 121.687
Responsibility for Pre-Departure Function	121.533, 121.538, 121.539, 121.541, 121.542, 121.557, 121.557, 121.580, 121.585, 121.586, 121.589, 121.590, 121.593, 121.599, 121.601, 121.605, 121.617, 121.628, 121.629, 121.639, 121.651, 121.655, 121.665, 121.687, 121.693, 121.695, 121.697	14 CFRs	121.135(a) and 121.135(b)
		Emergencies	121.533, 121.535, 121.537, 121.557, 121.559
		Aircraft Performance Engineering	Part 121 Subpart I, 121.171, 121.173, 121.191, 121.195, 121.197

**APPENDIX 3. OPERATIONAL CONTROL RELATED DOCUMENTS AND
GUIDANCE MATERIAL**

1. SAFETY ASSURANCE SYSTEM (SAS) AIR CARRIER OPERATIONAL CONTROL RELATED ELEMENTS. Found on the Dynamic Regulatory System (DRS) at <https://drs.faa.gov>.

a. Operational Control Elements.

(1) 3.1 Training & Qualification (M):

- 3.1.1 (OP) Training and Qualifications of Dispatchers and Flight Followers.
- 3.1.2 (OP) Dispatcher Duty/Rest Time.

(2) 3.2 Flight Operations Engineering (M):

- 3.2.1 (OP) Aircraft Performance Operating Limitations.
- 3.2.2 (OP) Use of Approved Areas, Routes, and Airports.
- 3.2.3 (OP) Special Navigation Areas of Operation.
- 3.2.4 (OP) RVSM Authorization.

(3) 3.3 Flight Planning and Monitoring (H):

- 3.3.1 (OP) Operational Control.
- 3.3.2 (OP) Dispatch/Flight Release.
- 3.3.3 (OP) Flight/Load Manifest/Weight and Balance Procedures.
- 3.3.4 (OP) MEL/CDL/NEF Procedures.
- 3.3.5 (OP) Extended Operations (ETOPS).

b. Related Operations and Airworthiness Elements.

- 1.2.1 (OP) Required Personnel.
- 1.2.3 (OP) Electronic Signatures, Recordkeeping and/or Manuals.
- 2.2.1 (OP) Airmen Duties/Flight Deck Procedures.
- 2.2.2 (OP) Category II and III Operations.
- 2.3.1 (OP) Appropriate Operational Equipment.
- 4.2.5 (AW) Maintenance Control Functions.
- 4.3.1 (AW) Airworthiness Release/Maintenance Log Requirements.
- 4.3.3 (AW) MEL/CDL/NEF and Other Deferred Maintenance.
- 4.3.5 (AW) Extended Operations (ETOPS).
- 4.4.5 (AW) Weight and Balance.
- 6.1.2 (OP) Hazardous Material Training Program.
- 6.2.1 (AW) Fueling.
- 6.3.1 (OP) Carriage of Cargo.
- 6.3.2 (OP) Hazardous Materials.

- 6.4.1 (AW) Operations in Ground Icing.
- 6.4.2 (OP) Operations in Ground Icing.

2. ADVISORY CIRCULARS (AC). Current editions of the following ACs have guidance and information that may be beneficial to operational control. These ACs may be accessed on the Federal Aviation Administration's (FAA) website at https://www.faa.gov/regulations_policies/advisory_circulars and DRS at <https://drs.faa.gov>.

- AC 00-6, Aviation Weather.
- AC 00-45, Aviation Weather Services.
- AC 25.1581-1, Airplane Flight Manual.
- AC 60-22, Aeronautical Decision Making.
- AC 60-28, FAA English Language Standard for an FAA Certificate Issued Under 14 CFR Parts 61, 63, 65, and 107 (also see International Civil Aviation Organization (ICAO) items below).
- AC 120-28, Criteria for Approval of Category III Weather Minima for Takeoff, Landing, and Rollout.
- AC 120-29, Criteria for Approval of Category I and Category II Weather Minima for Approach.
- AC 120-42, Extended Operations (ETOPS and Polar Operations).
- AC 120-51, Crew Resource Management Training.
- AC 120-55, Air Carrier Operational Approval and Use of TCAS II.
- AC 120-71, Standard Operating Procedures and Pilot Monitoring Duties for Flight Deck Crewmembers.
- AC 120-88, Preventing Injuries Caused by Turbulence.
- AC 120-91, Airport Obstacle Analysis.
- AC 120-92, Safety Management Systems for Aviation Service Providers.
- AC 121-32, Dispatch Resource Management Training.

3. OTHER RELATED MATERIALS. See the applicable website for the current editions of:

- DOT/FAA/AR-00/45, Air Carrier Operations System Model, March 2001 (<https://www.tc.faa.gov/its/worldpac/techrpt/ar00-45.pdf>).
- FAA Order 8040.4, Safety Risk Management Policy.
- FAA-H-8083-15, Instrument Flying Handbook (https://www.faa.gov/sites/faa.gov/files/regulations_policies/handbooks_manuals/aviation/FAA-H-8083-15B.pdf).
- Information for Operators (InFO) 08026, Compliance with Flight Dispatch Communications for Flag Air Carriers, 14 CFR Section 121.99; OpSpec A008 (https://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/info/all_infos/media/2008/inFO08026.pdf).
- ICAO Annex 6, Operation of Aircraft, which contains additional information on flight operations officers and flight dispatchers (<https://elibrary.icao.int/home>).

APPENDIX 4. TERMS AND DEFINITIONS

- 1. Aircraft Dispatcher.** An airman certificated under Title 14 of the Code of Federal Regulations (14 CFR) part 65 who exercises joint responsibility with the pilot in command (PIC) in the safe conduct of flight(s) in connection with any civil aircraft in air commerce. The aircraft dispatcher must be current and qualified for the operation being conducted.
- 2. Airworthy Aircraft.** An aircraft that conforms to its type design and is in a condition for safe operation (refer to 14 CFR part 3, § 3.5).
- 3. Certificate Holder.** For the purposes of this AC, a 14 CFR part 119 certificated operator that conducts operations under 14 CFR part 121.
- 4. Director of Operations (DO).** A management representative who meets certain regulatory requirements.
- 5. Dispatch Release (Domestic and Flag).** A legal document signed by the PIC and aircraft dispatcher stating the agreed upon conditions under which the flight will be operated safely. Regulations require the release to be amended if the agreed upon conditions change.
- 6. Flight Follower.** The flight follower is typically a designee of the DO who is appropriately trained and who may be delegated the functions (i.e., authority) of initiating, continuing, diverting and terminating a flight with the PIC. However, the DO may not delegate the responsibility of initiating, continuing, continuing, diverting and terminating a flight.
- 7. Flight Release (Supplemental).** A legal document signed by the PIC and DO or designee (flight follower) stating the agreed upon conditions under which the flight will be operated safely. Regulations require the release to be amended if the agreed upon conditions change.
- 8. Load Manifest.** An electronic or hardcopy form used by the certificate holder to ensure compliance with manufacturer's aircraft limitations or approved air carrier flight manual limitations in accordance with part 121.
- 9. Management Interface.** The supervision and interface of operational control functions (e.g., System Operation Control Center (SOCC), dispatch, crew scheduling, Weight and Balance (W&B), etc.).
- 10. Operate.** The use of, cause to use, or authorizing to use aircraft, for the purpose of air navigation including the piloting of aircraft, with or without the right of legal control (as owner, lessee, or otherwise).
- 11. Operational Control.** The exercise of authority over initiating, conducting, or terminating a flight.
 - a. Domestic and Flag Certificate Holders.** Each domestic or flag certificate holder is responsible for operational control. For such operations, the aircraft dispatcher and PIC exercise joint responsibility for the preflight planning, delay, and dispatch release of a flight. They are

responsible for ensuring that all flight operations under their control are conducted safely in accordance with all applicable regulations and operations specifications (OpSpecs).

b. Supplemental Certificate Holder. Each supplemental certificate holder is responsible for operational control. For supplemental operations, the PIC and DO or designee (flight follower) are responsible for initiation, diversion, and termination of a flight in accordance with all applicable regulations and OpSpecs.

12. Pilot in Command (PIC). A 14 CFR part 61 certificated airline transport pilot (ATP) in command of the aircraft and crew. They are responsible for the safety of the passengers, crewmembers, cargo, and aircraft.

13. System. A group of interrelated processes which are a composite of people, procedures, materials, tools, equipment, facilities, and software operating in a specific environment to perform a specific task or achieve a specific purpose, support, or mission requirement for an air carrier.

14. System Safety. The application of special technical and managerial skills to identify, analyze, assess, and control hazards and risks associated with a complete system. System safety is applied throughout a system's life cycle to achieve an acceptable level of risk within the constraints of operational effectiveness, time, and cost.

15. Safety Management System (SMS). The formal, top-down business-like approach to managing safety risk. It includes systematic procedures, practices, and policies for the management of safety.

16. System Operations Control Center (SOCC). The Airline Operational Control Center (AOCC) may include the System Operations Control (SOC), Airline Operational Control (AOC), Operations Control Center (OCC), Flight Control, or Dispatch Center. SOCCs consist of various departments that provide support to the airline operation and provide resources for operational control. The operational control function is approved through OpSpec A008 and other related OpSpec paragraphs (see subparagraph 4b of this AC).

Advisory Circular Feedback Form

If you find an error in this AC, have recommendations for improving it, or have suggestions for new items/subjects to be added, you may let us know by contacting the Air Transportation Division at 9-AFS-200-Correspondence@faa.gov or the Flight Standards Directives Management Officer at 9-AWA-AFB-120-Directives@faa.gov.

Subject: AC 120-101 CHG 1, Part 121 Air Carrier Operational Control

Date: _____

Please check all appropriate line items:

An error (procedural or typographical) has been noted in paragraph _____ on page _____.

Recommend paragraph _____ on page _____ be changed as follows:

In a future change to this AC, please cover the following subject:
(Briefly describe what you want added.)

Other comments:

I would like to discuss the above. Please contact me.

Submitted by: _____

Date: _____