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FEDERAL AVIATION ADMINISTRATION
Air Traffic Organization Policy

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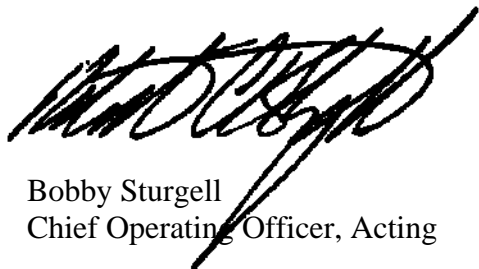
SUBJ: Air Traffic Organization Safety Management System

The purpose of the Air Traffic Organization (ATO) is to provide a safety service for our customers. Because safety is the basis of the service, and because we are a performance-based organization, we set key safety goals and measure our progress toward these goals through metrics. This Safety Management System (SMS) order institutionalizes for the ATO the framework upon which our safety efforts will be judged.

This order commits us to the process of systematically measuring, managing, and reducing risk. It defines the policy and application of the SMS in the ATO and the responsibilities of each of us toward achieving safety assurance and supporting a safety culture.

We can all be proud of our results thus far. In Fiscal Year 2006, we hit our safety goals for the most serious types of runway incursions and operational errors. It is the first time we have been able to meet both of the targets together since they were established. I want to commend all of our employees who continue to play such a vital role in maximizing safety.

The mission to improve safety, however, is never complete. Each of us must familiarize ourselves with the contents of this order and understand our own important roles in the process. As we do so, we will cement a strong foundation for safety that will last well into the future. Thank you very much.



Bobby Sturgell
Chief Operating Officer, Acting

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Chapter 1. General Information

1. Purpose of This Order. This order defines the policy, application, and supporting documents of the Safety Management System (SMS) in the Air Traffic Organization (ATO). It identifies the strategic and tactical safety responsibilities of all of the ATO Service Units; discusses the requirements, safety standards, and guidance under which the ATO operates; and establishes the SMS policy that all ATO personnel must follow.

2. Audience. All ATO personnel

3. Where Can I Find. This order is available on the Federal Aviation Administration (FAA) public Internet at <http://employees.faa.gov/Tools & Resources>.

4. Scope. This order applies to every level of the ATO and to all components of the National Airspace System (NAS) owned and/or operated by the ATO, including contracted services. SMS processes often require the involvement of, and coordination among, multiple organizations. SMS orders, guidance materials, and implementation plans developed within ATO Service Units further detail the processes and interactions between Service Units, Service Areas, Service Centers, and other organizations necessary to meet the requirements of this order.

5. Background. In accordance with International Civil Aviation Organization (ICAO) Annex 11 and FAA Order 1100.161, Air Traffic Safety Oversight, the ATO has chosen to implement a formal SMS. Annex 11 pertains to the establishment of airspace, units and services necessary to promote a safe, orderly and expeditious flow of air traffic. This order requires the ATO to establish safety policy and procedures, promote a strong and positive safety culture, implement Safety Risk Management (SRM) procedures, and ensure compliance with safety requirements within the ATO. Each Service Unit is tasked with following the SMS policy established by this order. The SMS has four components:

a. Safety Policy

(1) States the desired safety outcomes of the SMS

(2) Outlines the methods, requirements, standards, and processes the ATO uses to achieve its safety outcomes

(3) Establishes senior management's commitment to safety and expectation that the ATO will continually improve safety in all aspects of the business

(4) Reflects management's commitment to implementing procedures and processes for achieving measurable safety objectives and supports the promotion of a safety culture

b. SRM

- (1) Assesses system design, operations changes, and procedures to verify adequate controls for safety risk
- (2) Identifies hazards and assesses risk
- (3) Develops appropriate risk controls or other risk management responses to implement operationally
- (4) Provides risk controls through orders, policies, and other activities, such as processes that enable continued operational safety

c. Safety Assurance

- (1) Assesses system and operational performance to identify hazards
- (2) Ensures controls continue to achieve intended objectives throughout the lifecycle of the system or change and do not introduce new hazards
- (3) Assesses the need for new controls or the elimination or modification of current controls that are not effective due to changes in the operational environment
- (4) Continuously monitors operations through internal and external means to identify new hazards or the need to change risk controls or other risk management responses

d. Safety Promotion

- (1) Recognizes the importance of a sound safety culture, including employee knowledge, involvement, and motivation in managing safety
- (2) Sets the groundwork for an environment in which employees are encouraged to report safety deficiencies with confidence that management will be fair and responsive

Chapter 2. SMS Overview

1. SMS Policy. The ATO is committed to implementing the SMS in the provision of ATC and navigation services. Each ATO Service Unit ensures that the SMS is established within its service and that the principles of SRM are applied to appropriate changes to the NAS. The SMS reinforces and improves the FAA's existing safety culture and the structure of its safety system. It strengthens organizational transparency and the free flow of information by integrating, formalizing, and documenting existing processes and bolstering institutional memory.

This order requires the use of the current version of the ATO SMS Manual and the safety standards defined in it.

2. SMS Objectives. The overall objectives of the ATO SMS are to reduce the potential for accidents and only knowingly accept risk into the NAS. The objectives under the four SMS components are described below:

a. Safety Policy

(1) ATO personnel understand and apply relevant safety policies.

(2) ATO management commits to high safety performance and leads by example in the in the ATO's efforts to continually improve safety.

(3) ATO management supports the measurable and achievable safety objectives established by ATO personnel.

(4) ATO NAS systems meet the safety performance objectives supported by management and established by personnel.

(5) ATO management and personnel promote a positive safety culture.

b. SRM

(1) ATO personnel assess any changes to the NAS, including system design, operations, and/or procedures; identify risks to safety; and either eliminate these risks or develop and implement controls that will manage these risks at an acceptable level throughout the lifecycle of the change.

(2) ATO management formally documents acceptance of any safety risks associated with a system or change that cannot be eliminated.

c. Safety Assurance

(1) ATO personnel continually assess and monitor operations and system performance to identify and report hazards, maintain controls that are effective throughout the system lifecycle, and ensure that new hazards are not introduced by changes in the operational environment or other factors.

(2) ATO management establishes a tracking and lessons learned database that personnel maintain and use to archive actions taken to eliminate or reduce safety risk.

d. Safety Promotion

(1) ATO management supports awareness of this order and the importance of its application by all personnel.

(2) ATO management implements and supports the use of a non-punitive safety reporting system that promotes continual safety improvement through timely action, when appropriate, and feedback to the reporters.

(3) ATO personnel consider and use historical hazard data, including lessons learned from other applications.

3. Transition to the SMS. Some of the tools, competencies, training requirements, standards, and processes necessary to comply with this order (e.g., the lessons learned repository) are under development. Full implementation of the SMS is required by March 14, 2010. The ATO SMS Implementation Plan will describe implementation activities and tasks required to complete this transition and timeframes for their completion.

In addition, ATO Service Units are required to have individual implementation plans that further detail SMS implementation within their Service Units. During the transition to the SMS, ATO Service Units must adhere to the ATO and Service Unit implementation plans and report any discrepancies and/or schedule deviations to ATO Safety Services. Implementation plans must be properly linked to existing planning and tracking mechanisms, as appropriate, to ensure proper alignment and tracking.

Chapter 3. General SMS Responsibilities

1. Chief Operating Officer. The ATO COO is accountable for ensuring that the safety of the NAS is acceptable as defined in this order. To that end, the COO is responsible for accepting safety risk, even if this action has been delegated to another individual. The COO must:

- a. Establish the level of acceptable risk

- b.** Hold all levels of ATO management accountable for ensuring that required safety levels are maintained while providing air traffic services
- c.** Align performance systems with SMS initiatives
- d.** Establish and maintain a positive safety culture throughout the ATO
- e.** Establish and/or approve safety policy, guidance, and standards needed to implement and operate the SMS, including this order and any subsequent ATO-wide orders involving the SMS. In addition, the COO must ensure that the ATO SMS is consistent with FAA SMS policy, requirements, guidance, and standards (e.g., FAA Order 8040.4, Safety Risk Management, or the FAA Acquisition Management System (AMS)). In doing so, the COO must ensure that the ATO meets safety management requirements established by:
 - (1) FAA Order 1100.161
 - (2) ICAO Annex 11
- f.** Maintain this order
- g.** Require the implementation and operation of the ATO SMS within each Service Unit
- h.** Require periodic reports (annually, at a minimum) on the state of the ATO SMS in each Service Unit
- i.** Allocate sufficient resources, funding, and personnel to meet the requirements of this order

2. ATO Safety Services. ATO Safety Services is responsible at the ATO level for managing SMS processes and documents, providing SRM direction, auditing and evaluating safety processes, and evaluating SMS compliance. To ensure safety compliance in the ATO, ATO Safety Services must:

- a.** Maintain:
 - (1) The ATO SMS Manual
 - (2) FAA Order 7010.1, Air Traffic Control Safety Evaluations and Audits
 - (3) FAA Order 7210.56, Air Traffic Quality Assurance
 - (4) FAA Order 7050.1, Runway Safety Program
 - (5) FAA Order 1800.6, Unsatisfactory Condition Report

- (6) SRM Guidance for System Acquisitions (SRMGSA)
 - (7) SMS Knowledge Sharing Network Node
 - (8) Planning and guidance documents related to the ATO SMS
 - (9) SMS tools
 - (10) A database to track all identified hazards
 - (11) A database to track Service Unit audits and evaluations and how findings were mitigated
- b.** Promote SMS implementation and operation by:
- (1) Developing and maintaining SMS training (including SRM, safety culture, and database training)
 - (2) Reporting on the SMS to the ATO Executive Council
 - (3) Helping Service Units identify and communicate resource requirements for SMS implementation and operation
 - (4) Providing guidance to Service Units and assisting with cross-organizational communication, cooperation, and integration regarding SMS implementation
 - (5) Sponsoring cross-Service Unit meetings for Safety Directors, Safety Managers, and Safety Engineers
- c.** Conduct strategic planning for the SMS through safety inputs to the Strategic Management Process
- d.** Establish competency and training standards for ATO Safety Services personnel, Service Unit Safety Directors, Safety Managers, and Safety Engineers
- e.** Approve the following actions by the other Service Units:
- (1) Changes to the NAS equipment availability program
 - (2) ATO-related responses to safety recommendations from the National Transportation Safety Board (NTSB), the Office of the Inspector General (OIG), the Government Accountability Office, or other federal agencies
- f.** Represent the ATO in NAS safety-related matters with organizations both internal and external to the FAA, including:
- (1) Serving as the primary interface with AOV

(2) Reviewing any ATO notification of differences proposed to be filed with ICAO and providing a statement of concurrence or non-concurrence from a safety perspective

(3) Representing the ATO on the Safety Council

3. ATO Service Units. Service Units must:

- a. Provide service with an acceptable level of NAS safety
- b. Maintain and adhere to FAA directives, manuals, and orders that document the specifications, processes, and procedures used to operate and maintain the NAS
- c. During the transition to the SMS, develop and maintain individualized SMS Implementation Plans that provide activities, time frames, and resource requirements for implementing the SMS by March 14, 2010
- d. Adhere to the SMS policies and procedures within their respective spans of control.
- e. Ensure that all supervisors and managers must be held accountable for the safety performance of all elements of the NAS within their areas of responsibility
- f. Ensure that all personnel must comply with established safety standards, the SMS, and any safety directives issued by the Service Units, ATO Safety Services, and/or AOV within their areas of responsibility
- g. Ensure that the workforce is competent to perform duties by:

(1) Having documented and auditable processes to manage, conduct, and record required training, certifications, and ratings for all employees performing duties that could impact NAS safety, including air traffic controllers and air transportation system specialists

(2) Testing personnel proficiency as it relates to safety and addressing deficiencies in an effective and timely manner

(3) Ensuring that all applicable personnel participate in SRM training before they perform SRM

4. Vice President. The Vice President of each Service Unit must:

- a. Address interactions between the Service Unit and other organizations, including other Service Units, Service Areas, and Service Centers

- b. Define roles and responsibilities for the SMS within the Service Unit
- c. Designate a Safety Director who reports directly to the Vice President

Note: Communications Services and Financial Services do not require a Safety Director, Safety Manager, and Safety Engineer; these services must each identify one safety representative.

Note: If the Safety Director and Safety Manager are the same individual, he or she must meet all requirements for both positions.

- d. Allocate sufficient resources, funding, and personnel to implement and maintain the ATO SMS
- e. Require periodic status reports (annually, at a minimum) from the Safety Director regarding SMS implementation and operation
- f. Fulfill all SMS responsibilities, as detailed in the ATO SMS Manual

5. Safety Director. The Safety Director of each Service Unit must:

- a. Meet the competency and training requirements established by ATO Safety Services
- b. Facilitate intra- and inter-Service Unit coordination on safety
- c. Provide input and advice on safety to the Service Unit Vice President and other leaders
- d. Act as the Service Unit's liaison with ATO Safety Services
- e. Attend and participate, as appropriate, in safety-related meetings with ATO Safety Services
- f. Direct resources (funding and personnel) for SMS implementation and operation
- g. Fulfill all SMS responsibilities, as detailed in the ATO SMS Manual

6. Safety Managers and Safety Engineers. Each Service Unit (with the exception of Communications Services and Financial Services) must have at least one Safety Manager and one Safety Engineer position.

- a. Safety Managers provide SMS expertise and leadership within their Service Units. Each Safety Manager must:

(1) Meet the competency and training requirements established by ATO Safety Services

(2) Facilitate the implementation and operation of the SMS

(3) Conduct Service Unit safety planning and monitoring

(4) Ensure that the Service Unit meets SMS requirements

(5) Approve certain SRM Documents (SRMDs) and SRM Decision Memos (SRMDMs)

(6) Facilitate intra- and inter-Service Unit coordination on safety

(7) Attend and participate, as appropriate, in safety-related meetings with ATO Safety Services

(8) Provide input to the Service Unit Vice President, Safety Director, managers, and directors on the SMS

(9) Fulfill all SMS responsibilities as detailed in the ATO SMS Manual

b. Safety Engineers provide more specific SRM expertise within their Service Units. Each Safety Engineer must:

(1) Meet the competency and training requirements established by ATO Safety Services

(2) Facilitate the integration of SRM into existing processes used to make changes to the NAS

(3) Support, advise, and assist programs and analysis teams in conducting SRM activities

(4) Ensure the quality and fidelity of the safety analyses within his or her Service Unit

(5) Facilitate, if needed, the SRM decision process and the development of the resulting documentation

(6) Make recommendations to the Safety Manager on safety documentation

(7) Provide input to the Service Unit Vice President, Safety Director, Safety Manager, managers, and directors on risk acceptance and other SRM-related topics

(8) Cooperate with, and facilitate, as requested, audits and evaluations conducted by the SRM Office within ATO Safety Services regarding the Service Unit's application of SRM

(9) Attend and participate, as appropriate, in safety-related meetings with ATO Safety Services

(10) Ensure all applicable personnel participate in SRM training before they perform SRM

(11) Fulfill all SRM responsibilities, as detailed in the ATO SMS Manual

Chapter 4. Safety Risk Management

1. COO Responsibilities. The COO must:

- a. Define the acceptable level of safety in the NAS
- b. Require SRM on all NAS changes in accordance with the ATO SMS Manual
- c. Require periodic reports (annually, at a minimum) from each Service Unit on NAS changes

2. ATO Safety Services Responsibilities. ATO Safety Services must:

- a. Coordinate SRM and controls with any impacted organizations when requested by Safety Directors, Safety Managers, and/or Safety Engineers
- b. Review and approve SRM documentation in accordance with the ATO SMS Manual
- c. Submit controls used to mitigate hazards with associated initial high risk to AOV for approval on behalf of the other Service Units
- d. Conduct audits and evaluations of SRM to ensure compliance with SMS standards, quality of analyses, and documentation
- e. Provide safety input, through the Chair of the ATO System Safety Working Group (SSWG), for Joint Resources Council decisions
- f. Share SRM lessons learned with the other Service Units
- g. Provide guidance to the other Service Units regarding the application of SRM, as requested, including for those systems and/or procedures under development

h. Develop a mechanism to identify and track controls used to manage safety risk so that the owners of those controls (e.g., directives, systems, processes, procedures) are aware of the dependencies and can notify the dependent parties when a change to the existing controls is planned

3. Service Unit Responsibilities. Service Units must:

a. Conduct SRM on all proposed changes to the NAS, following the methodology and process described in the ATO SMS Manual

Note: SRM may be conducted on the individual NAS change or on the procedures used to evaluate a specific type of NAS change (e.g., Airspace Management Handbook or fly-in procedures).

b. Evaluate those systems in which a hazard and/or failure of the system directly impacts ATC operations and navigation services, in accordance with the risk chart and classification documented in the most current version of Advisory Circular 25.1309, System Design and Analysis, ICAO Standards and Recommended Practices, and National Standards and Operations Specification

Note: This provision does not exempt Service Units from meeting SMS requirements; it merely permits the use of alternative risk classifications in special circumstances where systems directly interface with aircraft.

c. Document the results of the SRM process in an SRMDM or an SRMD, as specified in the ATO SMS Manual

Note: The Casefile/NAS Change Proposal Safety Risk Management Checklist (CNSRM) is one example of an SRMDM for the NAS Change Proposal process.

d. Mitigate all hazards with associated high risk and:

(1) Submit SRMDs that identify hazards with associated high initial risk to ATO Safety Services for approval

(2) Submit any hazard with associated high initial risk that has been mitigated to medium or low risk for risk acceptance, in accordance with the ATO SMS Manual, to the applicable Service Unit Vice President(s)

e. Submit for acceptance hazards with associated medium and low initial risk to the appropriate management official(s) within the applicable Service Unit(s), in accordance with the ATO SMS Manual

f. Enter all identified hazards into a database provided by ATO Safety Services

- g.** Track and monitor all identified hazards with associated initial medium and high safety risk in a database to verify that the mitigations used to manage the risk are effectively reducing the safety risk to an acceptable level
- h.** Review and approve SRM documentation in accordance with the ATO SMS Manual
- i.** Comply with the requirements in this order, the ATO SMS Manual, and the SRMGSA for system modifications that follow NAS Configuration Control Board and/or SSWG policies and procedures
- j.** Comply with the requirements in this order, the ATO SMS Manual, and the SRMGSA for system acquisitions that follow FAA AMS policies and procedures
- k.** Document responses to appropriate In-Service Review (ISR) checklist items and provide the responses to the ISR secretariat prior to the In-Service Decision

Chapter 5. SMS Safety Assurance

- 1. COO Responsibilities.** The COO must:
 - a.** Require that safety data applicable to each Service Unit's products and services be monitored and tracked
 - b.** Require periodic reports (annually, at a minimum) from each Service Unit on Safety Assurance activities and findings
- 2. ATO Safety Services Responsibilities.** ATO Safety Services must:
 - a.** Conduct scheduled and unscheduled independent audits and evaluations to:
 - (1) Ensure the Service Unit's service is provided safely
 - (2) Assess the effectiveness of SMS performance and operations in the Service Units
 - b.** Publish the audit and evaluation schedule quarterly
 - c.** Provide a defined decision-making process for implementing corrective actions that result from the findings of audits and evaluations
 - d.** Collect and maintain data from the Service Units, as listed in paragraph 3.c. of this chapter

e. Develop and disseminate safety data analysis reports to monitor the safety of the NAS

(1) Where appropriate, analyses should include the comparison of safety data to past baselines, when baselines are available.

(2) When baselines do not exist, they should be established.

f. If safety indicators show a safety concern, bring the issue to the attention of the responsible Service Unit; monitor Service Unit actions to mitigate the issue; and perform ongoing analyses to assess the effectiveness of those actions

g. When necessary, issue advisory letters to the COO regarding Service Units' SMS non-compliance or other identified unsafe acts within the ATO

h. Provide a process to periodically verify that the controls used to mitigate hazards identified during safety risk assessments are being met throughout the NAS. At a minimum, the process must base the frequency of verification on risk classification (e.g., the greater the associated risk, the more frequent the verification required).

i. Coordinate audits, evaluations, and investigations with cross-organizational impacts when requested by Safety Directors, Safety Managers, and/or Safety Engineers

3. Service Unit Responsibilities. The Service Units must:

a. Conduct internal audits and evaluations and document the results in a database provided by ATO Safety Services

(1) The mitigation used to correct identified issues and/or concerns must be documented.

(2) If the mitigation results in a change to the NAS, the SRM process must be used to ensure that this change is acceptable from a safety risk perspective.

b. Establish and maintain a NAS equipment availability program, if applicable

(1) This program must define the required availability of safety-critical NAS equipment and services used in providing ATC services.

(2) On a regular basis, this program must also identify how to measure and report the actual availability achieved.

c. Collect, track, analyze, and provide to ATO Safety Services the national airspace safety data applicable to each Service Unit's products and services, including (at a minimum):

- (1) Operational Error rates
 - (2) Runway incursion rates (at controlled airports)
 - (3) Operational Deviation rates
 - (4) Pilot deviation rates
 - (5) Near-Midair Collision rates
 - (6) ATO-related accident rates
 - (7) Missed equipment periodic maintenance
 - (8) Expired equipment certifications
 - (9) Periodic flight inspections not completed within established interval or frequency required
 - (10) Results of internal audits and evaluations
 - (11) Resolutions of findings from external organizations (e.g., NTSB, OIG, AOV), ATO Safety Services, and other Service Unit audits or evaluations
 - (12) Mitigations and controls used to manage hazards with high associated risk as part of the SRM process
- d.** If analysis of safety data identifies a safety concern:
- (1) Take action to mitigate the issue
 - (2) Perform ongoing analysis to assess the effectiveness of that action
 - (3) If the mitigating action results in a change to the NAS, use the SRM process to ensure that the NAS change is acceptable from a safety risk perspective
- e.** Develop additional data collection requirements and mechanisms as needed to ensure current and future systems perform as required

Chapter 6. SMS Safety Promotion

1. COO Responsibilities. The COO must:

- a.** Establish a positive safety culture within the ATO

- b.** Align performance management systems with timely reporting of safety issues and use of the lessons learned repository
- c.** Require that SMS outputs (e.g., SRMDs, safety data analyses, audit, evaluation, and survey findings) be used as inputs to ATO decisions
- d.** Require periodic reports (annually, at a minimum) on the status of the ATO safety culture
- e.** Require the development and use of a non-punitive, confidential, self-reporting system through which ATO personnel can report NAS safety-related incidents, unsafe acts, potential issues, and hazardous conditions (i.e., personnel should report anything that they perceive could contribute to safety risk in the NAS)

2. ATO Safety Services Responsibilities. ATO Safety Services must:

- a.** Facilitate the establishment of a positive safety culture within the ATO by:
Developing and administering a survey that baselines the ATO safety culture
Administering an annual survey to assess changes to the baseline
Analyzing and using the results of this survey to propose and implement new actions based on survey results
- b.** Develop and maintain a non-punitive, confidential, self-reporting system through which ATO personnel can report NAS safety-related incidents, unsafe acts, potential issues, and hazardous conditions (i.e., personnel should report anything that they perceive could contribute to safety risk in the NAS)
- c.** Develop and maintain materials for SMS training; when necessary, provide for and/or arrange the presentation of the training
- d.** Develop and maintain a best practices and lessons learned repository accessible to all Service Units
- e.** Provide periodic reports (annually, at a minimum) on the status of the ATO safety culture

3. Service Unit Responsibilities. The Service Units must:

- a.** Support safety culture improvement by:
 - (1) Making improvements based on findings of the safety culture surveys

Note: If the improvements will result in NAS changes, SRM must be applied before the improvements are made.

(2) Ensuring personnel at all levels of the Service Unit understand the hazards and risks inherent in their operations

(3) Setting clear expectations for acceptable and unacceptable behavior from a safety perspective

(4) Disciplining personnel who willfully violate safety standards

(5) Educating, coaching, and monitoring performance of personnel who unintentionally violate safety standards

(6) Promoting and using the non-punitive, confidential, self-reporting system provided by ATO Safety Services for personnel to identify and report NAS safety issues

(7) Reviewing safety issues that are reported in a timely manner

(8) Evaluating any identified hazards using the SRM process to mitigate and track controls as necessary

b. Ensure all applicable personnel participate in SMS training

c. Maintain an employee suggestion program to enhance organizational safety

d. Document and brief scenarios and findings from accidents and incidents in their respective areas of responsibility and forward a copy of the briefings to ATO Safety Services

e. Use the lessons learned repository by:

(1) Translating lessons learned into actions (e.g., procedures, processes)

(2) Using the SRM process if actions result in a change to the NAS

Chapter 7. Administrative Information

1. Distribution. This order is distributed to all levels of the ATO, including (but not limited to): Service Units, Service Areas, Service Centers, the William J. Hughes Technical Center, the Mike Monroney Aeronautical Center, Air Traffic Control (ATC) facilities, District Offices, and FAA contract service providers. It is also distributed to the Air Traffic Safety Oversight Service (AOV).

Appendix A. Definitions

a. Acceptable Level of Safety Risk. Medium or low safety risk, as defined in the ATO SMS Manual.

Note: The level of safety risk that existed in the NAS on March 14, 2005, was accepted by the FAA Administrator. Any subsequent change to the NAS must meet the Acceptable Level of Safety Risk defined above.

b. Acceptance. The process whereby the regulatory organization has delegated the authority to the service provider to make changes within the confines of the approved standards and only requires the service provider to notify the regulator of those changes. Changes made by the service provider in accordance with its delegated authority can be made without prior approval by the regulator.

c. Accident. An unplanned event that results in a harmful outcome (e.g., death, injury, or major damage to, or loss of, property).

d. Acquisition Management System (AMS). FAA policy dealing with any aspect of lifecycle acquisition management and related disciplines. The AMS also serves as the FAA's Capital Planning and Investment Control process.

e. Approval. The formal act of responding favorably to a change submitted by a requesting organization. This action is required before the proposed change can be implemented.

f. Assumption. A characteristic or requirement of a system or system state that is neither validated nor verified.

g. Casefile/NAS Change Proposal Safety Risk Management Checklist (CNSRM). The document attached to a NAS Change Proposal casefile that documents the casefile's need for SRM. If additional SRM is not required for the casefile, the CNSRM can serve as the SRMDM.

h. Change to the NAS. Any modification to the NAS.

i. Concurrence. Agreement with results or conclusions expressed in a change justification, SRMDM, SRMD, or other document.

j. Control. Anything that mitigates the risk of a hazard's effects. A control is the same as a safety requirement. There are three types of controls:

(1) **Validated Control.** Those controls and requirements that are unambiguous, correct, complete, and verifiable.

(2) **Verified Control.** Those controls and requirements that are objectively determined to have been met by the design solution.

(3) **Recommended Control.** Those controls that have the potential to mitigate a hazard or risk but have not yet been validated as part of the system or its requirements.

k. Hazard. Any real or potential condition that can cause injury, illness, or death to people; damage to or loss of a system, equipment, or property; or damage to the environment. A hazard is a condition that is a prerequisite to an accident or incident.

l. Incident. A near-miss episode with minor consequences that could have resulted in greater loss. An incident is an unplanned event that could have resulted in an accident, or did result in minor damage, and indicates the existence of, though may not define, a hazard or hazardous condition.

m. In-Service Decision. The decision to accept a product or service for operational use during the solution implementation phase of the lifecycle management process. This decision allows deployment activities, such as installing products at each site and certifying them for operational use, to start.

n. In-Service Review (ISR). The high-level review of a product or service to determine its suitability for proceeding to an In-Service Decision.

o. Maintenance. Any repair, adaptation, upgrade, or modification of NAS equipment or facilities, including reliability-centered maintenance.

p. Mitigation. Actions taken to reduce the risk of a hazard's effects.

q. Must. In compliance with Plain Language guidance, must replaces the word shall in meaning and intent and indicates a requirement.

r. National Airspace System (NAS). The NAS is the collection of documents, personnel, procedures, systems, and services that the ATO uses to provide ATC and navigation services.

s. Oversight. Regulatory supervision to validate the development of a defined system and verify compliance to a pre-defined set of standards.

t. Requirement. An essential attribute or characteristic of a system. It is a condition or capability that must be met or passed by a system to satisfy a contract, standard, specification, or other formally imposed document or need.

u. Risk. The composite of predicted severity and likelihood of the potential effect of a hazard in the worst credible system state. Risk is categorized as low, medium, or high. There are four types of risk:

(1) **Initial Risk.** The severity and likelihood of a hazard when it is first identified and assessed. This type of risk is used to describe the severity and likelihood of a hazard in the beginning or very preliminary stages of a decision, program, or analysis. Initial risk is determined by considering both verified controls and assumptions made about system state. When assumptions are made, they must be documented. Once the initial risk is established, it is not changed.

(2) **Current Risk.** The predicted severity and likelihood of a hazard at the current time. When determining current risk, controls that are both validated and verified may be used in the risk assessment. Current risk may change based on the actions taken by the decision-maker that relate to the validation and/or verification of the controls associated with a hazard.

(3) **Residual Risk.** Residual risk is the remaining risk that exists after all control techniques have been implemented or exhausted and all controls have been verified. Only verified controls can be used to assess residual risk.

(4) **Predicted Residual Risk.** Predicted residual risk is the term used until the safety analysis is complete and all safety requirements have been verified. Predicted residual risk is based on the assumption that all safety requirements will be validated and verified.

v. **Safety.** Freedom from unacceptable risk.

w. **Safety Assurance.** The processes used to elevate and ensure safety of the NAS, including evaluations, audits, investigations, and inspections, as well as data tracking and analysis.

x. **Safety Culture.** The personal dedication and accountability of individuals engaged in an activity that has a bearing on the safe provision of air traffic services.

y. **Safety Directive.** A mandate from AOV to the ATO to take immediate corrective action to address a non-compliance issue that creates a significant unsafe condition, as determined by AOV.

z. **Safety Management System (SMS).** An integrated collection of processes, procedures, policies, and programs that are used to assess, define, and manage the safety risk in providing ATC and navigation services.

aa. **Safety Policy.** The SMS requirements and responsibilities for system functions, as well as safety oversight for the ATO.

bb. **Safety Promotion.** Communication and dissemination of safety information to strengthen the safety culture and support integration of the SMS into operations.

cc. **Safety Requirement.** A control written in requirements language.

dd. Safety Risk Acceptance. Written acknowledgment by the appropriate management official that he or she understands the safety risk associated with a change and accepts the safety risk into the NAS.

ee. Safety Risk Management (SRM). A formalized, proactive approach to system safety. SRM is a methodology applied to all NAS changes that ensures that hazards are identified and unacceptable risk is mitigated before a change is made. It provides a framework to ensure that once a change is made, it continues to be tracked throughout its lifecycle.

ff. SRM Decision Memo (SRMDM). The documentation of the decision that a proposed change does not impact NAS safety. The memo includes a written statement of the decision and supporting argument and is signed by the manager and kept on file for the lifecycle of the system or change.

gg. SRM Document (SRMD). A thorough description of the safety analysis for a given proposed change. It documents the evidence to support whether the proposed change to the system is acceptable from a safety risk perspective. SRMDs are kept and maintained by the organization responsible for the change for the lifecycle of the system or change.

hh. SMS Implementation Plan. A consolidated plan prepared by a Service Unit detailing the projects and programs that must be conducted and the resources required to meet the requirements of this order. This plan should also describe the interactions among the Service Units, Service Areas, and Service Centers.

ii. System. An integrated set of constituent pieces that are combined in an operational or support environment to accomplish a defined objective. These pieces include people, equipment, information, procedures, facilities, services, and other support services.

jj. System Safety Working Group (SSWG). The ATO-sanctioned group responsible for advising the Director of SRM on system acquisition reviews of Safety Plans and SRMDs, including safety analyses as appropriate to the nature of the proposed change.

kk. System State. The conditions (e.g., extremely high levels of traffic, extreme weather disruption) in which a hazard occurs. The system state that facilitates the worst credible hazard severity occurring is of primary interest.

Appendix B. Acronyms

AMS	Acquisition Management System
AOV	Air Traffic Safety Oversight Service
ATC	Air Traffic Control
ATO	Air Traffic Organization
CNSRM	Casefile/NAS Change Proposal Safety Risk Management Checklist
COO	Chief Operating Officer
FAA	Federal Aviation Administration
ICAO	International Civil Aviation Organization
ISR	In-Service Review
NAS	National Airspace System
NTSB	National Transportation Safety Board
OIG	Office of the Inspector General
SMS	Safety Management System
SRM	Safety Risk Management
SRMD	SRM Document
SRMDM	SRM Decision Memo
SRMGSA	SRM Guidance for System Acquisitions
SSWG	System Safety Working Group