

**ORDER**

1100.161

## **AIR TRAFFIC SAFETY OVERSIGHT**



March 14, 2005

**DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION**



## FOREWORD

In November 2003 the Federal Aviation Administration (FAA) established the Air Traffic Organization (ATO) as a performance-based organization (PBO).

The 1997 National Civil Aviation Review Commission (NCARC) recommended that the air traffic service provider in FAA be subject to the safety policies of a separate part of the FAA to provide independent safety oversight. On November 1, 2001, the International Civil Aviation Organization (ICAO) adopted an amendment requiring States to implement formal safety management procedures for their air traffic services systems by November 2003.

This Order implements the procedures that will be used within FAA to conduct oversight of the Air Traffic Organization. The Order describes the application of the systems safety approach and identifies the responsibilities of the ATO and the Air Traffic Safety Oversight Service (AOV) regarding safety in the National Airspace System. This Order will ensure that we maintain the highest levels of safety standards within the FAA's Air Traffic Organization.

Marion C. Blakey  
Administrator



## TABLE OF CONTENTS

### CHAPTER 1. GENERAL

1. Purpose.....	1
2. Distribution .....	1
3. Background.....	1
4. Delegation of Authority .....	1
5. Definitions.....	1

### CHAPTER 2. RESPONSIBILITIES

1. The Air Traffic Safety Oversight Service (AOV).....	5
2. Air Traffic Organization .....	6
3. Other FAA Organizations .....	7
4. Safety Council.....	7

### CHAPTER 3. SMS REQUIREMENTS

1. ATO Resources.....	9
2. Safety Risk Management Program .....	9
3. Other Required Programs .....	10

### CHAPTER 4. SAFETY STANDARDS

1. Elements Related to Acquiring and Implementing New Systems .....	13
2. Elements Related to Air Traffic Control Functions.....	13
3. Elements Related to Equipment and Facility Maintenance Functions .....	15
4. Elements Related to Flight Inspection Functions .....	16
5. Elements Related to Flight Procedure Development Functions. ....	17
6. Elements Related to Charting Functions.....	17

### CHAPTER 5. OVERSIGHT PRIOR TO IMPLEMENTATION OF THE SMS

1. ATO Maintains the Current System .....	19
2. Proposed Changes to the Current System.....	19



## CHAPTER 1. GENERAL

**1. PURPOSE.** This order specifies the manner by which safety oversight will be conducted by the Air Traffic Safety Oversight Service (AOV), within the Office of the Associate Administrator for Regulation and Certification (AVR), on the Air Traffic Organization (ATO), and other organizations within FAA regarding safety management of the air traffic system.

**2. DISTRIBUTION.** All FAA organizations involved in/or supporting the operation or maintenance of the National Airspace System (NAS).

**3. BACKGROUND.** In recognition of the emphasis placed on ATO's mission to improve the capacity and efficiency of the National Airspace System, the Administrator has deemed it necessary to ensure that a commensurate level of emphasis is placed on safety in the NAS. To this end, the Administrator created AOV, within AVR, and assigned this service the responsibility for independent safety oversight of ATO's the provision of air traffic services.

**a.** AOV oversight of the ATO will follow a systems safety approach to the operations of the ATO. A systems safety approach requires safety to be an inherent part of the operational system; therefore, the policies, procedures, and practices used by ATO are integral to the safety of the system. The systems safety approach dictates continuous improvement and requires a closed loop system. This means that safety related data is captured regularly, analyzed for trends or hazards, and systems are changed to reduce or eliminate safety risk decisions that potentially have a safety impact.

**b.** This order is intended to describe the application and supporting documents of the systems safety approach, identify the respective responsibilities of ATO and AOV regarding safety in the NAS, and detail the requirements and safety standards under which ATO will operate.

**c.** The Occupational Safety and Health (OSH) requirements (OSHA regulations and FAA Order 3900.19) are not within scope of this order.

**4. DELEGATION OF AUTHORITY.** Authority for future revisions to this order is delegated to the Associate Administrator for Regulation and Certification.

### 5. DEFINITIONS.

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

**b. Approval.** The formal act of approving a change submitted by a requesting organization. This action is required prior to the proposed change being implemented.

**c. Assumptions.** Characteristics or requirements of a system or system state that are neither validated nor verified.

**d. Cause(s).** Events that result in a hazard or failure. Causes can occur by themselves or in combinations.

**e. Configuration Management.** A management process for establishing and maintaining consistency of a product's performance, functional, and physical attributes with its requirements, design, and operational information throughout its life.

**f. Control.** Anything that mitigates the risk of a hazard's effects. A control is the same as a safety requirement. All controls must be written in requirement language. There are three types of controls:

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

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

(3) **Recommended.** Recommended controls are 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.

**g. Effect.** The effect is a description of the potential outcome or harm of the hazard if it occurs in the defined system state.

**h. 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.

**i. Letter of Correction.** The Letter of Correction formally documents ATO's correction of instances of non-compliance.

**j. Letter of Investigation.** The Letter of Investigation provides official notification to ATO that it has not been able to informally resolve an alleged non-compliance issue. The letter informs ATO of the specific matter being investigated and provides ATO an opportunity to respond in writing.

**k. Maintenance.** Any repair, adaptation, upgrade or modification of National Airspace (NAS) equipment or facility.

**l. Oversight.** To validate the development of a defined system and verify compliance to a pre-defined set of standards; Regulatory Supervision.

**m. Requirement.** A requirement is 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.

**n. Risk.** Risk is the composite of predicted severity and likelihood of the potential effect of a hazard in the worst credible system state. There are three types of risk: (1) initial, (2) current, and (3) residual.

**(1) Initial.** Initial risk is the severity and likelihood of a hazard when it is first identified and assessed. It 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 as recommended controls. Once the initial risk is established, it is not changed.

**(2) Current.** Current risk is the predicted severity and likelihood of a hazard at the current time. When determining current risk, both validated controls and verified controls 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.** 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 for the assessment of residual risk.

**o. Safety Council.** The Safety Council is a forum for top management officials from AOV and the ATO Safety Service to meet and discuss non-compliance and other safety issues in an attempt to resolve those issues.

**p. Safety Directive.** A Safety Directive (SD) is a mandate from AOV to ATO to take immediate corrective action to address a non-compliance issue that creates a significant unsafe condition.

**q. Safety Management System (SMS).** An integrated collection of processes, procedures, and programs that ensure a formalized and proactive approach to system safety through risk management. Risk assessments are required for all changes in order to identify safety impacts. The SMS is a closed-loop system ensuring that all changes are documented and all problems or issues are tracked to conclusion.

**r. Safety Requirement.** A control written in requirement language.

**s. 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.

**t. System Engineering.** A discipline that concentrates on the design and application of the whole (system) as distinct from the parts. It involves looking at a problem in its entirety, taking into account all the facets and all the variables and relating the social to the technical aspect. The translation of operational requirements into design, development, and implementation concepts and requirements in the lifecycle of a system.

**u. System State.** System state is an expression of the various conditions, characterized by quantities or qualities, in which a system can exist.

**v. Validation.** Validation is the process of proving that the functions, procedures, controls, and safety standards are correct and the right system is being built. i.e. the requirements are unambiguous, correct, complete, and verifiable.

**w. Verification.** Verification is the process that ensures that the system requirements have been met by the design solution and the system is ready to be used in the operational environment for which it is intended.

**x. Warning Notice.** The Warning Notice brings to the ATO's attention that immediate action is required to correct a significant unsafe condition. It warns that, if the issue is not corrected, a Safety Directive mandating specified action will be issued. In emergency situations, where time does not permit the issuance of a warning notice, a safety directive may be issued without a warning notice.

## CHAPTER 2. RESPONSIBILITIES

**1. THE AIR TRAFFIC SAFETY OVERSIGHT SERVICE (AOV).** AOV has the following responsibilities regarding safety oversight of ATO:

**a.** Establish, approve, and/or accept the safety standards as outlined in Chapter 4 of this order.

**b.** Establish the requirements for ATO safety management system (SMS) in accordance with International Civil Aviation Organization (ICAO) Annex 11 to the Convention on International Civil Aviation, Air Traffic Services, and ICAO Document 4444 (ATM/501), Procedures for Air Navigation Services, Air Traffic Management.

**c.** Approve the SMS Manual and any changes to the SMS Manual.

**d.** Monitor ATO compliance with the safety standards and the SMS.

(1) AOV will require ATO to provide reporting, as requested, of the status of the SMS, including information on safety occurrences/data.

(2) AOV will primarily use audit techniques to monitor ATO compliance with the safety standards and the SMS, but is free to use direct sampling (e.g., inspections) or other methods to determine the level of compliance.

(3) AOV will have access to any and all records in ATO that AOV believes are useful in determining ATO compliance with the safety standards and the SMS.

(4) AOV will monitor corrective actions taken by ATO to assure resolution of identified safety hazards. The focus of both AOV and ATO is on continuous improvement.

(5) AOV, through AVR, will provide essential information to the FAA Administrator regarding ATO compliance with safety standards and the SMS.

**e.** Approve the following actions prior to implementation by ATO:

(1) Controls that are defined to mitigate or eliminate initial or current high risk hazards.

(2) Changes or waivers to provisions of those handbooks, orders, and documents, including 7110.65, that pertains to separation minima.

(3) NAS equipment availability program and any changes to the program.

**f.** AOV has the authority to issue Letters of Correction, Warning Notices and Safety Directives requiring ATO to make a change, stop a procedure, or alter a practice where there is a safety concern that warrants such an action.

**g.** Review, for concurrence, any proposed responses to safety recommendations from the National Transportation Safety Board (NTSB), the Office of the Inspector General (OIG), or General Accounting Office (GAO) involving ATO.

**h.** Review, for concurrence, any notifications of differences proposed to be filed by ATO with ICAO.

**i.** Serve as the primary interface with ATO on safety issues, integrating the input from other AVR components and providing ATO with the official AVR position on those issues.

**j.** Share safety data with ATO.

**2. AIR TRAFFIC ORGANIZATION.** Responsibilities of ATO under this order are:

**a.** Operate the NAS at the highest practicable level of safety. The primary responsibility for the safety of the NAS rests within ATO.

(1) The COO will have primary responsibility for system safety. Clear and unambiguous lines of authority and responsibility for ensuring safety will be established and maintained at all organization levels.

(2) Everyone involved in the provision of NAS services has an individual safety responsibility for his/her own actions. Further, managers are responsible for the safety performance of those ATO elements for which they are responsible.

(3) Accountability for safety within ATO is a critical aspect of the systems safety approach. A safety culture must be developed within ATO in which all employees feel personally responsible for the aspects of safety under their control and all managers understand that many of their decisions have safety implications.

**b.** Ensure that there is a documented and auditable process to manage, conduct, and record required training, certifications, and ratings for all employees performing safety-related duties. Ensure that all contractors performing safety-related duties maintain a training and certification program that meets or exceeds all pertinent FAA requirements.

Develop and maintain an SMS and submit it and any changes thereto, to AOV for approval.

**c.** Comply with established safety standards, the approved SMS and any Safety Directive(s) issued by AOV.

**d.** Maintain and adhere to a system of FAA directives, manuals, and orders that document the specifications, processes, and procedures that are used to operate and maintain the NAS.

**e.** Provide to AOV regular and periodic (as set by AOV) status briefings, to include information regarding NAS changes being tracked by the ATO Safety Service. The NAS change

tracking data will be developed. ATO compliance with this reporting requirement will be effective 18 months after the issuance of this order.

f. Develop and maintain a hazard tracking database in which all types of medium and high risk hazards are tracked, and provide continuous AOV access to the database. ATO compliance with this reporting requirement will be effective 18 months after the issuance of this order.

g. Report safety data to AOV in accordance with section 3.3.c of this order.

**3. OTHER FAA ORGANIZATIONS.** Changes to FAA safety standards initiated by FAA organizations other than the ATO, that will create an operational impact on the provision of air traffic services, or significantly change operating practices or procedures for ATO personnel and/or FAA stakeholders, must comply with safety management system requirements.

**4. SAFETY COUNCIL.** The Safety Council is a forum for top management officials from AOV and ATO Safety Service to meet and discuss non-compliance or other safety issues in an attempt to resolve those issues.



## CHAPTER 3. SMS REQUIREMENTS

**1. ATO RESOURCES.** All elements of ATO are bound by all requirements of the SMS, unless specifically excluded by the ATO Safety Service, with the exclusion being acceptable to AOV. It is essential that ATO assign resources to support the SMS. The following are the minimum requirements:

**a.** ATO must maintain an organization that has the necessary competent personnel, procedures, and facilities and equipment as are necessary to meet requirements of this order and to develop, operate, and support the SMS.

**b.** ATO will establish an ATO Safety Service responsible for developing and maintaining the Safety Management System.

(1) The Safety Service must be organizationally independent from the service delivery portion of ATO.

(2) The ATO Safety Service will be headed by the Vice President of Safety who will report directly to ATO Chief Operating Officer.

## 2. SAFETY RISK MANAGEMENT PROGRAM.

**a.** As part of the SMS, the ATO shall develop and use a formal, documented, methodology for conducting safety risk assessments that is tailored to the scope and timeliness of the planned change. However, planned changes within the NAS, including those at the local level, must apply safety risk assessment techniques before changes can be implemented. Safety risk assessment techniques may range from formal statistical modeling, to dynamic simulations, to qualitative judgments from content experts. The analysis must be conducted at the appropriate level of complexity and rigor for the scope and immediacy of the potential hazard. Tactical decision making in the field, even involving significant safety risk, may require such rapid decision-making that formal safety risk assessment is not feasible.

(1) Risk assessments must be conducted in accordance with the provisions of the FAA SMS Manual.

(2) Risk assessments must include a plan to evaluate identified safety critical parameters during and after initial operational implementation is complete. These measurements shall be taken in the actual operating environment to validate that predicted performance is being realized and therefore, the original safety assessment remains valid.

(3) The ATO will develop and implement a safety status reporting program consistent with its own internal review of programs to provide AOV insight into NAS changes. The ATO will provide to AOV regular and periodic (as set by AOV) status briefings, to include information regarding NAS changes.

(4) AOV may, at its discretion, participate in the planning and conduct of safety risk assessments.

b. In accordance with the FAA SMS Manual, the safety risk management program will include hazard identification, risk assessment, risk-control decision-making, and a hazard tracking and risk resolution process.

c. High risk hazards identified in the safety risk assessment.

(1) ATO must mitigate all high residual risk hazards. No changes will be allowed that result in high residual risk hazards, which cannot be mitigated down to medium or low risk.

(2) Controls that are defined to mitigate or eliminate initial or current high risk hazards must be approved by AOV before the change can be implemented.

d. Medium risk hazards may be accepted. The ATO will develop and maintain a hazard-tracking database in which all medium and high-risk hazards are tracked, and provide AOV with continuous access to the database. The ATO will maintain an AOV approved process for acceptance of medium risk hazards and/or approval of medium hazard mitigations.

e. Low risk hazards may be accepted. The ATO will maintain an AOV approved process for acceptance of low risk hazards and/or approval of low hazard mitigations.

f. In cases where medium or low safety risk and/or controls/mitigations go outside of the ATO (i.e., Airports (ARP) and/or AVR) the mitigations must be approved by the designated management officials within each affected Line of Business and accepted by AOV. The ATO safety service will ensure that other FAA lines of business are apprised of medium/low risk hazards that it has either accepted or approved.

**3. OTHER REQUIRED PROGRAMS.** In addition to the safety risk management program, ATO must have the following other programs:

a. Internal oversight, evaluation, and quality assurance. The program(s), at a minimum, must have the following components.

(1) Regularly scheduled internal ATO inspections of air traffic control, airway facility operations and maintenance, acquisition programs, and the Aviation System Standards organization.

(2) Internal ATO no-notice spot inspections of air traffic control, and airway facility operations and maintenance, including the Aviation System Standards organization, conducted by a party independent of the service organization that is inspected.

(3) A process for inclusion of AOV personnel in the inspections, audits, and/or evaluations. ATO must allow AOV personnel to be included in inspections, audits, and/or evaluations when AOV requests to do so.

(4) Development of minimum NAS service level availability requirements, which includes validation and verification of these requirements for new systems entering the NAS and hardware, software and liveware improvements to existing systems.

(5) Monitoring and validation of NAS service availability standards, which includes the comparison of fielded service availability performance with the standards.

(6) Audits of the SMS performance and operations.

(7) A defined decision-making process for the implementation of corrective actions that result from the findings of these programs.

(8) Internal ATO executive management review of the results, findings, and corrective actions.

(9) Collection of data from the operating NAS on safety and quality incidents, concerns, and issues.

(10) A process that periodically verifies that the controls required mitigating hazards identified during risk assessments, and tracked in the hazard tracking and risk resolution system, are being met throughout the NAS. The ATO will develop and implement a methodology to determine the frequency of verification based on risk classification at a minimum.

**b. Personnel qualifications, training, testing, and proficiency.**

(1) Employees must be provided training, in accordance with current directives, to perform their specific job functions.

(2) Employees' proficiency must be tested and deficiencies dealt with in an effective and timely manner as it relates to safety.

(3) There must be a program that provides safety risk management training for all personnel involved in executing the SMS.

**c. Assess the effectiveness of the SMS in affecting the safety of the NAS.**

(1) Collect, track, and analyze safety data, to include:

(a) Air traffic control operational error rates.

(b) Runway incursion rates (at controlled airports).

(c) Operational deviation rates.

(d) Pilot deviations (Air Traffic Control contributed).

- (e) Near midair collisions (Air Traffic Control contributed).
  - (f) ATO-related accident rates.
  - (g) Missed equipment preventative maintenance.
  - (h) Expired equipment certifications.
  - (i) Missed periodic flight inspections.
  - (j) Failure to mitigate high risk hazards identified as part of a safety risk assessment.
  - (k) Results of internal audits and surveys conducted in the internal oversight, evaluation, and quality assurance programs.
- (2) ATO must compare safety data to past baselines in its analysis, when past baselines are available. Establish baselines where none exist.
- (3) Additional safety indicators will be identified to demonstrate that ATO is meeting the safety objectives outlined in the SMS strategic plan.
- (4) If safety indicators point to a safety concern, ATO will take action to mitigate the issue, and perform ongoing analysis to assess the effectiveness of those actions.
- d. Communicate the results of SMS operations throughout ATO and to AOV.
  - e. Safety strategic planning.
    - (1) ATO must address safety and Safety Management Systems (SMS) in its strategic plan.
    - (2) ATO must develop specific safety objectives and policies based on its strategic plan.

## CHAPTER 4. SAFETY STANDARDS

### 1. ELEMENTS RELATED TO ACQUIRING AND IMPLEMENTING NEW SYSTEMS.

(Includes new equipment, as well as hardware and software modifications to existing equipment).

**a.** The FAA Acquisition Management System (AMS) and Configuration Control change Board (CCB) policies and procedures shall comply with the FAA SMS Manual. New systems and modifications will be assessed in accordance with the FAA SMS Manual.

**b.** In the case where the hazard and/or failure of the system has a direct impact on aircraft operations, those systems will instead be evaluated in accordance with the risk chart and classification documented in the latest and most current version of Advisory Circular (AC) 25.1309, ICAO SARPs, National Standards and Operations Specification. For example, hazards associated with an Instrument Landing System (ILS), a ground system, (ILS outputs have a direct effect on the aircraft) would be classified according to AC25.1309, System Design and Analysis. Other examples include Navigational Aids (NAVAIDs) and Microwave Landing Systems (MLS).

**c.** The safety requirements identified during the safety risk management process shall be validated and verified prior to deployment and full operational use by the appropriate ATO element.

### 2. ELEMENTS RELATED TO AIR TRAFFIC CONTROL FUNCTIONS.

**a. Organization.** ATO or any contractor must maintain an organization that has competent personnel, procedures, and processes for:

- (1) The proper provision of air traffic control services in the NAS.
- (2) The management, maintenance, and distribution of aeronautical information.
- (3) The management of the sovereign airspace and delegated international airspace.

**b. Operations.**

(1) Air traffic control services provided by ATO and by each person or provider, with whom it arranges for the performance of that work, must be performed in accordance with appropriate FAA directives, manuals, and orders.

(2) Aeronautical information must be provided by ATO in accordance with its manuals and all appropriate rules and regulations.

(3) Sovereign airspace and airspace in which ATO has been assigned the responsibility for service provisions will be managed in accordance with its manuals and all appropriate rules and regulations.

**c. Personnel and Training.**

(1) ATO may not use any person or provider to perform direct safety-related air traffic control services unless the person performing the work is appropriately qualified, properly trained, certificated, and authorized to do so in accordance with ATO policies and manuals.

(2) ATO or any person performing air traffic control services for it must have a training program to ensure that each person (including inspection/evaluation personnel who determine the adequacy of work done) is fully informed about procedures, techniques, and new equipment in use, and is competent to perform his/her duties. ATO will:

(a) Maintain a training program that meets the requirements described in this order such that each person in a safety-related position is adequately trained to perform his/her assigned duties.

(b) Provide training facilities and properly qualified instructors.

(c) Provide and keep current with respect to each service type, appropriate training material, examinations, forms, instructions, and procedures for use in conducting training and checks.

(d) Provide enough instructors to conduct required training courses.

(3) Each supervisor who is responsible for a particular employee's course of training and/or competence check must certify as to the proficiency and knowledge of the employee upon completion of that training and/or check. That certification shall be made a part of the employee's training/certification record.

(4) Changes to personnel certification requirements contained in FAA Order 7220.1, Certification and Rating Procedures require acceptance of AOV.

**d. Operations and Procedural Handbooks, Orders and Documents:**

(1) ATO will prepare and keep current, handbooks, orders and documents that delineate procedures, standards, and processes for the provision of air traffic control services and the management of its personnel in conducting its operations.

(2) ATO is delegated the authority to make changes to those handbooks, orders, and documents within the existing standards.

(3) Any provisions of those handbooks, orders, and documents, including FAA Order 7110.65, that pertain to separation minima will not be changed or waived without prior approval of AOV.

### **3. ELEMENTS RELATED TO EQUIPMENT AND FACILITY MAINTENANCE FUNCTIONS.**

#### **a. Organization.**

(1) ATO, in performing operations, maintenance (other than required inspections), preventive maintenance, or modifications, and each person or provider with whom it arranges for the performance of that work, must have an organization to perform the work.

(2) ATO must maintain an organization that has the necessary competent personnel, procedures, and facilities and equipment (including spare parts, supplies, and materials) as are necessary for the proper servicing, maintenance, and preventive maintenance of the NAS.

#### **b. Equipment Maintenance Availability Program.**

(1) ATO will have an overall NAS equipment availability program. This program will define the required availability of all safety critical NAS equipment used in the provision of air traffic services and the methods to measure and report on achieved availability on a regular basis.

(2) The availability program, and any changes to the program, shall be approved by AOV.

#### **c. Maintenance Operations and Technical Manuals.**

(1) ATO shall prepare, keep current, and comply with, manuals, which delineate procedures, standards, and processes for equipment and facility maintenance and the management of its technical personnel in conducting its operations.

(2) Changes to Certification Criteria in Order 6000.15, The General Maintenance Handbook, (in paragraph 504) require acceptance of AOV.

#### **d. Personnel and Training.**

(1) ATO may not use any person or provider to perform required direct safety-related maintenance or inspections/evaluations unless the person performing the work is appropriately qualified, properly trained, certificated, and authorized to do so in accordance with ATO policies and manuals.

(2) ATO or any person performing maintenance or preventive maintenance functions for the ATO will have a training program to ensure that each person (including inspection/evaluation personnel) who determines the adequacy of work done is fully informed about procedures, techniques, and new equipment in use, and is competent to perform his/her duties. ATO will:

(a) Maintain a maintenance-training program such that each person in a safety-related position is adequately trained to perform his/her assigned duties.

(b) Provide training facilities and properly qualified instructors to conduct the training.

(c) Provide and keep current with respect to each system type, appropriate training material, examinations, forms, instructions, and procedures for use in conducting the training.

(3) Each supervisor who is responsible for a particular employee's course of training and/or performance evaluation must certify as to the proficiency and knowledge of the employee upon completion of that training and/or check. That certification will be made a part of employee's training/certification record.

(4) Each person directly responsible for performing ATO certification of facilities, systems, and services beyond those activities authorized under (1) of this subsection, must hold an appropriate relevant ATO certification in accordance with FAA Order 3400.3, Airway Facilities Maintenance Personnel Certification Program. Changes to the personnel certification requirements contained in FAA Order 3400.3 require acceptance by AOV.

#### **4. ELEMENTS RELATED TO FLIGHT INSPECTION FUNCTIONS.**

**a.** ATO must maintain an organization that has the necessary competent personnel, procedures, and facilities and equipment as are necessary for proper flight inspection of the systems that comprise the NAS.

**b.** Flight inspection services will be conducted in accordance with FAA Order 8200-1, United States Standard Flight Inspection Manual. Changes to the areas of FAA Order 8200-1 this order stated below require approval of AVR though the Flight Standards Service (AFS) and acceptance by AOV.

- (1) Flight Inspector's authority and responsibilities.
- (2) Facility status classification and issuance of Notices to Airmen (NOTAMs).
- (3) Records and reports.
- (4) Extensions in the periodicity or interval of inspections.
- (5) Changes in established tolerances or those proposed for new equipment or new functionality.
- (6) Changes in required checklist items for specific areas of systems to be inspected.
- (7) Changes in the procedures for evaluating safety and flyability of instrument flight procedures.

c. No person will perform flight inspection duties unless they have been trained and certified in accordance with Order VN 8240.3, Certification of Flight Inspection Personnel.

d. Changes to personnel certification requirements contained in Order VN 8240.3, Certification of Flight Inspection Personnel, require approval of AFS and acceptance by AOV.

## **5. ELEMENTS RELATED TO FLIGHT PROCEDURE DEVELOPMENT FUNCTIONS.**

a. ATO must maintain an organization that has the necessary competent personnel, procedures, and processes as are necessary for the development of instrument flight procedures and aeronautical charts.

b. Instrument flight procedures must be developed in accordance with Appropriate FAA Orders, policy promulgated by the Director, Flight Standards Service.

c. Before any terminal procedures (TERPS) criteria (e.g., special procedures) are constructed and approved for issuance they must meet the requirements of the Safety Risk Management Program in the SMS and obtain AFS approval. Additionally, in the absence of an operating SMS, such procedures require approval of AFS prior to their use in the NAS.

d. Any person who designs or certifies instrument flight procedures must be properly trained, qualified, and certified in accordance with standards established or approved by the Director, Flight Standards Service Order VN 3330.2, National Flight Procedures Office (NFPO) Certification Program for Procedures Personnel.

e. Changes to the certification standards contained in Order VN 3330.2, NFPO Certification Program for Procedures Personnel, require approval of AFS and acceptance by AOV.

**6. ELEMENTS RELATED TO CHARTING FUNCTIONS.** Charting will be accomplished in accordance with Interagency Air Cartographic Committee (IACC) specifications.



## CHAPTER 5. OVERSIGHT PRIOR TO IMPLEMENTATION OF THE SMS

**NOTE: While this order is implemented immediately upon signature, several elements will require some time for full implementation. In particular, the development and full implementation of the SMS by ATO will require three to five years for all of the necessary personnel to be trained on safety risk management and the SMS. This section describes the method by which ATO will operate while it is developing and implementing the SMS.**

**1. ATO MAINTAINS THE CURRENT SYSTEM.** At the time this order is implemented the current NAS is accepted as the baseline. This means the processes, procedures, specifications, and other conditions of the system have been accepted as the starting point for oversight of safety in the NAS. ATO must maintain the NAS at a safety level that is at least equal to this state, in compliance with current policies, processes, and procedures that are documented in its orders, handbooks, and manuals.

**2. PROPOSED CHANGES TO THE CURRENT SYSTEM.** Proposed changes to the NAS must follow the procedures described below.

**a.** Proposed changes to the NAS must meet the full SMS requirements for safety risk assessment, unless all the following conditions are met:

(1) The office proposing the change has not received SMS training and is not yet operating under the purview of the SMS.

(2) The change does not affect any safety standard as described in Section Chapter 4 of this document.

(3) The change is documented per the direction of the ATO Safety Service.

(4) The change is made in accordance with orders and operating practices in place immediately prior to SMS implementation.

**b.** Waivers to safety standards as described in Chapter 4 of this document require approval of the AOV.