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Safety Management Systems for Domestic, Flag, and Supplemental
Operations Certificate Holders; Final Rule

DEPARTMENT OF TRANSPORTATION**Federal Aviation Administration****14 CFR Parts 5 and 119**

[Docket No. FAA-2009-0671; Amendment Nos. 5-1 and 119-17]

RIN 2120-AJ86

Safety Management Systems for Domestic, Flag, and Supplemental Operations Certificate Holders

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: This final rule requires each air carrier operating under 14 CFR part 121 to develop and implement a safety management system (SMS) to improve the safety of its aviation-related activities. SMS is a comprehensive, process-oriented approach to managing safety throughout an organization. SMS includes an organization-wide safety policy; formal methods for identifying hazards, controlling, and continually assessing risk and safety performance; and promotion of a safety culture. SMS stresses not only compliance with technical standards but also increased emphasis on the overall safety performance of the organization.

DATES: This final rule becomes effective March 9, 2015.

FOR FURTHER INFORMATION CONTACT:

Scott Van Buren, Chief System Engineer for Aviation Safety, Office of Accident Investigation and Prevention (AVP), Federal Aviation Administration, 800 Independence Avenue SW., Washington, DC 20591; telephone: (202) 494-8417; facsimile: (202) 267-3992; email: scott.vanburen@faa.gov. For legal questions, contact Alex Zektser, Regulations Division, Office of the Chief Counsel, Federal Aviation Administration, 800 Independence Avenue SW., Washington, DC 20591; telephone: (202) 267-3073; facsimile: (202) 267-7971; email: alex.zektser@faa.gov.

SUPPLEMENTARY INFORMATION:

I. Authority for This Rulemaking

The Federal Aviation Administration's (FAA) authority to issue rules on aviation safety is found in Title 49 of the United States Code. This rulemaking is promulgated under the authority described in 49 U.S.C. 106(f), which establishes the authority of the Administrator to promulgate regulations and rules and 49 U.S.C. 44701(a)(5), which requires the Administrator to promulgate regulations and minimum

standards for other practices, methods, and procedures necessary for safety in air commerce and national security.

In addition, the Airline Safety and Federal Aviation Administration Extension Act of 2010 (the Act), Public Law 111-216, sec. 215 (August 1, 2010), required the FAA to conduct rulemaking to "require all 14 CFR part 121 air carriers to implement a safety management system." The Act required the FAA to issue this final rule within 24 months of the passing of the Act (July 30, 2012).

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I. Overview of the Final Rule

This final rule requires air carriers authorized to conduct operations under 14 Code of Federal Regulations (CFR) part 121 (part 121) to develop and implement a safety management system (SMS) to improve the safety of their aviation-related activities. SMS includes an organization-wide safety policy; formal methods for identifying hazards, controlling, and continually assessing risk; and promotion of a safety culture. When systematically applied, SMS provides a set of decision-making tools that air carriers can use to improve safety. SMS improves safety by addressing underlying organizational

issues that may result in accidents or incidents.

This final rule is part of the FAA's efforts to continuously improve safety in air transportation by filling gaps through improved management practices. SMS's proactive emphasis on hazard identification and mitigation, and on communication of safety issues, will provide air carriers with robust tools to improve safety. Congress, in the Airline Safety and Federal Aviation Administration Extension Act of 2010 (Pub. L. 111-216, August 1, 2010), directed the FAA to issue a notice of proposed rulemaking within 90 days of enactment, and a final SMS rule by July 30, 2012. In addition, the National Transportation Safety Board (NTSB) has recommended the FAA pursue rulemaking to require all part 121 operators to implement an SMS. Further, the International Civil Aviation Organization (ICAO), in its March 2006 amendments to Annex 6 part I, which addresses operation of airplanes in international commercial air transport, established a standard for member states to mandate that each air carrier establish an SMS. This regulation will comply with the statutory requirement, fully address the NTSB recommendation, and harmonize U.S. requirements with ICAO standards for air carriers operating under part 121.

While the commercial air carrier accident rate in the United States has decreased substantially over the past 10 years, the FAA has identified a recent trend involving hazards that were revealed during accident investigations. The FAA's Office of Accident Investigation and Prevention identified 123 accidents involving part 121 air carriers from fiscal year (FY) 2001 through FY 2010 for which identified causal factors could have been mitigated if air carriers had implemented an SMS to identify hazards in their operations and developed methods to control the risk.¹ This type of approach allows air carriers to anticipate and mitigate the likely causes of potential accidents. This is a significant improvement over current "reactive" safety action emphasis, which focuses on discovering and mitigating the cause of an accident only after that accident has occurred. In order to bring about this change in accident mitigation, as well as the other reasons discussed throughout this document, the FAA is requiring part 121

¹ Initially, the analysis identified 172 accidents, but this number was based on comments to the notice of proposed rulemaking. The accident analysis is discussed further in the Final Regulatory Evaluation.

air carriers to develop and implement an SMS.

The requirements in this rule function as follows. Air carriers authorized to conduct operations under part 121 must develop and implement an SMS within 3 years of the effective date of the final rule. To demonstrate that the air carrier's SMS will be fully implemented by the end of this three-year period, the air carrier will be required to submit an implementation plan within 6 months of the effective date of the final rule. The implementation plan should include any existing programs, policies or procedures the air carrier intends to include in its SMS, such as continuing analysis and surveillance systems, aspects of quality management systems, and employee reporting systems. This implementation plan must be approved by the FAA within 12 months of the effective date of the final rule.

The air carrier's SMS must contain the following four major components: Safety policy, safety risk management, safety assurance, and safety promotion. To satisfy the safety policy component, the air carrier must establish a policy which, among other things, defines the air carrier's safety objectives and commitment toward achieving those objectives. The air carrier will also be required to designate an accountable executive who is ultimately responsible for the safety performance of its operations, as well as sufficient

management personnel who will be responsible for the coordination, implementation, and maintenance of the SMS, as well as integration of SMS processes across the air carrier.

Under safety risk management, air carriers must develop processes to analyze existing and potential systems and use the resulting system analyses to identify hazards that may impact the air carrier's aviation operations.² Air carriers will then analyze the risk of a consequence arising from the hazard occurring and determine if the associated safety risk is acceptable. If it is not acceptable, the air carrier must develop risk controls for implementation.

Through safety assurance, the air carrier will develop and implement processes to monitor the safety performance of its aviation operations. The processes must include means to monitor and audit operational processes, investigate incidents and accidents, and allow for confidential employee reporting of hazards as well as proposing solutions for safety improvement. The air carrier will also conduct evaluations regarding its safety performance to review the effectiveness of risk controls that are implemented as well as to identify any changes in the operational environment that may introduce new hazards.

Under safety promotion, air carriers will be required to train their employees

(including managers) and develop the tools to communicate necessary safety information. Involvement of the air carriers' employees is essential to the success of its SMS. The employees must be properly informed of their responsibilities and trained regarding their duties relevant to the safety performance of the air carrier. In addition, they must be made aware of necessary safety information resulting from the various SMS analyses.

II. Summary of the Costs and Benefits of the Final Rule

This rule requires part 121 air carriers (domestic, flag, and supplemental operations) to establish an SMS. SMS is a tool designed to help air carriers effectively integrate formal risk control procedures into normal operational practices to improve safety for all part 121 air carriers. It is expected that the requirements of the rule will help airlines to identify safety problems, and if airlines take steps to mitigate these problems it is estimated that the benefits from that mitigation could be between \$205.0 and \$472.3 million over 10 years (\$104.9 to \$241.9 million present value at 7 percent discount rate). Costs of the rule's provisions (excluding any mitigation costs, which have not been estimated) are estimated to be \$224.3 million (\$135.1 million present value at 7 percent discount rate) over 10 years.

ESTIMATED COSTS AND BENEFITS FOR ALL PART 121 CARRIERS—2014–2023
 [Millions of 2010 dollars * (discounted at 7% discount rate)]

| | |
|---|---|
| Costs | Rule Implementation Costs: \$135.1. |
| | Mitigation Costs: Not quantified, estimates not included. |
| Benefits from Provisions of the Rule and any Consequent Safety Mitigation Actions** | \$104.9–\$241.9. |

* Table values have been rounded. Totals may not add due to rounding.

** Given the range of mitigation actions possible, it is difficult to quantify potential benefits. This range reflects the potential benefits resulting from examples of possible mitigation actions.

III. Background

A. Summary of NPRM

On November 5, 2010, the FAA published a notice of proposed rulemaking (NPRM) on SMS for part 121 certificate holders (75 FR 68224). In the NPRM, the FAA proposed to require these certificate holders to develop and implement an SMS to improve the safety of their aviation related activities. In response to several commenters' requests, the comment period was extended and ultimately closed on March 7, 2011.

B. Summary of Comments

The FAA received 69 comment documents in response to the NPRM from a variety of commenters, including air carriers, aircraft designers and manufacturers, trade associations, emergency medical transport services, a non-profit safety organization, a university, and private citizens. Commenters included Aerospace Industries Association (AIA)/General Aviation Manufacturers Association (GAMA), Air Charter Safety Foundation (ACSF), Aircraft Electronics Association

(AEA), Aircraft Owners and Pilots Association (AOPA), Air Line Pilots Association, International (ALPA), Air Medical Operators Association (AMOA), Air Transport Association of America, Inc.³ (ATA), American Association for Justice (AAJ), Association of Air Medical Services (AAMS), Association of Flight Attendants (AFA), Communications Workers of America, AFL–CIO, Aviation Safety Council of Alaska (ASCA), Aviation Suppliers Association (ASA), The Boeing Company (Boeing), Bombardier Inc.

² Hazards may also be identified through safety assurance functions, as well as by analyzing a proposed change to the air carrier's system.

³ As of December 1, 2011, the ATA changed its name to Airlines for America (A4A).

(Bombardier), Cargo Airline Association (CAA), Cessna Aircraft Company (Cessna), Clark County (Nevada) Department of Aviation (CCDOA), Delta Air Lines, Inc. (Delta), DTI Training Consortium (DTI Training), Experimental Aircraft Association (EAA), FedEx Express (FedEx), Futron Corporation (Futron), GE Aviation (GE), Gener Ibita Topacio, Hawker Beechcraft Corporation (Hawker Beechcraft), Helicopter Association International (HAI), JetBlue Airways (JetBlue), Modification and Replacement Parts Association (MARPA), National Air Carriers Association (NACA), National Air Transportation Association (NATA), National Transportation Safety Board (NTSB), Omni Air International (Omni Air), Pinnacle Airlines Corp. (Pinnacle), Regional Airline Association (RAA), Rockwell Collins Inc. (Rockwell Collins), Southwest Airlines (SWA), StandardAero, True-lock, United Parcel Service Co. (UPS), United Technologies Corporation (UTC), University of Southern California (U.S.C.), School of Engineering, the U.S. Small Business Administration's (SBA) Office of Advocacy, and 24 individuals.

IV. Discussion of Final Rule and Comments

The FAA is adopting the final rule, as proposed, with minor modifications based on the comments discussed below. The rule requires part 121 certificate holders to submit a plan for implementation of SMS and fully implement an SMS within 3 years of the effective date of the final rule.

A. Scalability

The SBA raised concerns about the scalability of this rule and its impact on small business entities. The SBA, along with True-lock, AEA, MARPA, and ASA, indicated that this rule would be too costly for small businesses to implement. The SBA suggested limiting the final rule to incident management, strategic decision-making, and notification of incidents to the FAA.

The FAA has decided not to limit this rule as suggested by the SBA because adopting the SBA's proposal would only partially enact the safety assurance component and none of the other requirements that the FAA considers to be necessary for an effective SMS. The four parts of an SMS (safety policy, safety risk management, safety assurance, and safety promotion) work together to stress management accountability and decision-making based on forward looking hazard identification and mitigation of risks, rather than a retrospective review of conditions that have already caused

accidents and incidents. The four components working together provide the tools necessary to allow strategic decision-making.

However, the FAA recognizes the perceived impact that this rule may have on small businesses. As of January 6, 2012, there were 90 part 121 certificate holders. The size, scope, and complexity of the operations of each of these certificate holders vary greatly. For example, a third of the part 121 certificate holders have 10 or fewer airplanes, while 10% have more than 270 airplanes.

Given the variance in these types of operations, the FAA designed these requirements to be applicable to air carriers of various sizes, scopes, and complexities, as well as adaptable to fit the different types of organizations in the air transportation system and operations within an individual air carrier. The FAA does not anticipate, nor expect, that small air carriers would require an SMS as complex as one for large air carriers. To further clarify this issue, the FAA has revised 14 CFR 5.3 in the final rule to state that the SMS must be appropriate to the size, scope, and complexity of the certificate holder's operations. As such, it is scalable to the size of a small entity.

The FAA has also revised the guidance material that was published for comment with the NPRM. The revised guidance material provides a variety of examples of how to implement the SMS processes and procedures that an air carrier may develop based on the size, scope, and complexity of its operation. The examples outlined in the guidance material are not intended to limit an air carrier to only these methods of compliance. The following outlines different approaches, based on processes and procedures developed by air carriers participating in the Flight Standards Service (AFS) Voluntary SMS Pilot Project ("Pilot Project"), which may be adapted to fit the operational needs of an air carrier based on the size of its operation.⁴

Larger air carriers participating in the Pilot Project typically use their existing divisional structures as a foundation for SMS management. The flight safety organization or equivalent provides a source of standardization, oversight, and reporting directly to a corporate accountable executive. Each division typically establishes a management review process with a committee

⁴ The Pilot Project was established for operators to develop implementation SMS strategies and oversight interfaces necessary for SMS, as well as gain experience for FAA and operators regarding SMS implementation.

chaired by the most senior manager (generally a senior vice president) in the division. This senior manager may be one of the management personnel that is already required of an air carrier conducting operations under part 121 under 14 CFR 119.65. These committees are most often supported by a staff-level working group that attends to day-to-day safety management functions, and advises the senior management committee. These working groups are usually made up of existing safety and quality assurance personnel, along with representatives from the functional areas within the division. They are, in turn, supported by the members of the flight safety organization which may also manage corporate level data management and analysis functions. To provide coordination and integration across the air carrier, most large air carriers have a corporate level committee made up of the division managers and including the most senior managers in the air carrier (e.g., Chief Executive Office, President, Chief Operating Officer).

Using this framework, a large air carrier has established a team of sufficient management personnel responsible for the daily oversight of SMS and communication to the accountable executive, to ensure that informed decisions regarding the safety performance of the air carrier's operations are being made. This existing framework can be used to satisfy the management structure requirements in this final rule.

At medium size air carriers, the decision making and information process flows are similar to those of larger air carriers, but the supporting functions are often integrated under the Director of Safety. These structures are similar to what are traditionally used to accomplish the requirements of an independent evaluation program (IEP), which most part 121 air carriers already have in place.⁵

At small air carriers, there will likely not be the multiple tiers of decision making and structures that exist in larger air carriers. For small air carriers, convening ad hoc committees might be an appropriate SMS mechanism. In these cases, the Director of Safety may be the sole support staff available. Using the Director of Safety in this capacity

⁵ IEP is a comprehensive program for evaluating an air carrier's operational systems as well as its assurance programs. It builds on the auditing programs of the internal audit function and provides management with an additional level of assurance that is independent of the operational sub-organizations' audits and reviews. IEPs provide many of the auditing and evaluation safety assurance processes required in the rule.

would be an acceptable means of compliance with the management structure requirements of this final rule for a small air carrier.

Another example of scalability stems from management's need for continued access to information about the air carrier's operational processes. Larger air carriers may, as part of safety assurance, have full time safety and quality auditors who conduct internal audits, or, particularly in smaller divisions, these audits may be performed by personnel from inside the divisions as collateral duties. In addition, automated data entry, record keeping, retrieval, and analysis are nearly universal at larger air carriers. Software may be developed by or for the air carrier, or may be selected from a variety of specialty safety and quality system software providers. Larger air carriers typically also have specialized information technology (IT) staffs that may be used to monitor and complete the recordkeeping requirements of the final rule.

Managers of medium to small air carriers certainly need the same type of information to make decisions. Typically, though, the volume of information is smaller because the operation is smaller and not as complex. The frequency of the air carrier's operations may also affect the rate at which information must be updated and audits must be conducted. Medium and small air carriers often purchase uniform software packages sold by third parties rather than invest in custom-built packages that require hiring in-house staffers to implement, design, and maintain the software. Very small air carriers may use basic desktop software (e.g., spreadsheet and basic database products) to track information. Smaller air carriers often use line personnel to perform audits as a collateral duty. Analysis of individual audits typically is performed as part of the auditing activity with trend analysis being done by the Director of Safety and, if available, safety and quality staff. Using these existing tools are acceptable means of compliance with the requirements of this final rule.

Another example of the scalability of SMS can be seen in the employee reporting system required by this rule. The FAA anticipates that smaller air carriers will have to deal with significantly fewer reports from the employee reporting system than larger air carriers. Also, larger air carriers are more likely to satisfy this requirement through one or more aviation safety action programs' (ASAP) employee group applications. These systems for large employee groups might be more

costly than the minimum requirements imposed by this rule. ASAP is an employee reporting system that air carriers may use to gather information from employees on safety compliance and performance issues. Approximately two-thirds of air carriers conducting operations under part 121 have implemented some type of ASAP program. While ASAP originally was limited to pilots and flight engineers, some air carriers have expanded the program to include their flight attendants, dispatchers, and mechanics; and one air carrier has an ASAP for ground service personnel.

To further ensure that the SMS is scaled to fit the needs of the air carrier's operations, the FAA recommends each air carrier evaluate its existing management systems and regulatory compliance programs and then incorporate those systems and programs that exemplify the key components of SMS as appropriate. The FAA designed the final rule to allow for this flexibility. The FAA acknowledges that many air carriers already have quality management systems (QMS) and other processes currently in place to monitor performance of their operations. In addition, some current regulatory and voluntary programs, like the continuing analysis and surveillance system (CASS) and ASAPs, can be incorporated into the SMS and used to meet the safety assurance requirements of the final rule. Incorporating those existing systems that already meet the performance objectives of this rule will only serve to expedite an air carrier's implementation of SMS, and allow for a smoother transition for employees expected to participate in the air carrier's SMS because of their familiarity with their employers' existing systems.

In addition to the flexibility incorporated in the final rule and the ability to leverage existing processes to meet SMS requirements, the FAA has offered a tool to air carriers that will facilitate SMS implementation and data management. It is important to note that this rule does not specifically require automated information technology systems. However, several SMS processes will require management of varying amounts of data, depending on the size and complexity of the air carrier's organization. Currently, air carriers have free access to the FAA's web-based application tool (WBAT) to assist in satisfying the data collection and management aspects of the final rule. WBAT is a federally developed and funded software system that may be used to assist the air carriers with data management.

WBAT began as an ASAP and incident reporting tool. Its use was expanded to contain functions that more broadly support SMS. Specifically, WBAT currently has modules that support the data management needs of safety risk management and safety assurance functions (e.g., employee reporting, audits, investigations, and evaluations). WBAT also contains an SMS implementation plan manager module, which supports the air carrier's implementation of SMS by providing a tool to guide air carriers through a gap analysis and implementation planning process. The results of the gap analysis and implementation planning are also documented and stored in WBAT. While WBAT data are treated as proprietary to the air carrier, permission can be given to the FAA to access it and review draft plans online and provide feedback, greatly expediting the review and approval process. WBAT is currently used by approximately 64 air carriers authorized to conduct operations under part 121. Of those 64 carriers, 55 use WBAT to support their SMS implementation as part of their participation in the Pilot Project.

While the FAA is not requiring air carriers to use WBAT, it is one option that is available and it reduces the costs of developing and implementing a separate platform. The FAA has made a commitment to continue to support WBAT for basic services as a result of the comments submitted to the NPRM.

B. Scope and Definition of Hazard

ATA, AIA/GAMA, and Delta asserted that the rule was too broad and could be applied to areas beyond the FAA's oversight authority. To address this issue, the commenters suggested revising the final rule to limit the SMS to those areas of a certificate holder's business that have a direct operational impact on aviation activities.

To address the commenters' concerns regarding the FAA's oversight of SMS, the FAA has incorporated the suggestions of the commenters to limit that oversight to the air carrier's aviation activities conducted under part 121. While some air carriers may narrowly tailor their SMS to address only these activities, the FAA acknowledges that some air carriers may opt to extend their SMS to other aviation related activities for which they hold certificates, such as 14 CFR part 145 (part 145) repair station activities, or 14 CFR part 142 training center activities. Some air carriers might also extend their SMS to their non-aviation related activities, such as security and occupational safety and health issues. If an air carrier elects to do so, the FAA would only conduct

oversight of the SMS activities related to its aviation operations that the air carrier conducts in accordance with the provisions of part 121. In the final rule, the FAA has revised the regulatory text to limit the application of SMS only to the aviation-related activities conducted under the air carrier's 14 CFR part 119 (part 119) certificate.

The FAA also limited the scope of SMS, in part, by defining hazard more narrowly. There were thirteen comments related to the definition of "hazard." U.S.C. stated that the definition of hazard should be expansive enough to include non-operational elements (*e.g.*, human resources, finance, information technology) of an organization. Twelve commenters (including SBA, ATA, AIA/GAMA, GE, and MARPA) suggested limiting the term "hazard" to the aviation operational environment. Specifically, these commenters were concerned about the scope and depth of expectations regarding hazard identification. They stated that the SMS should focus solely on conditions affecting the safety of aviation operations and not occupational safety or environmental protection, as could be inferred in the definition proposed in the NPRM. Other commenters asked whether certificate holders would be expected to track every conceivable hazard, even those instances in which exposure to the hazard is remote or the likelihood and/or severity of potential outcomes would be negligible.

Upon review of the comments, the FAA recognizes that the scope of the hazard and risk analysis and control processes required of the SMS must be consistent with the FAA's statutory authority and the intended scope of the SMS. Therefore, the FAA has amended the definition of "hazard" to limit it to a "condition that could foreseeably cause or contribute to an aircraft accident as defined in 49 CFR 830.2." This definition more clearly limits the potential events to be considered to those directly related to aircraft operations and the potential severity of those events to aircraft accidents, which is consistent with the FAA's statutory authority in 49 U.S.C. 44702. The FAA definition, though it is tailored specifically to aviation, is consistent in intent and application with long standing industry system safety definition and practice. The revised definition also incorporates the NTSB's definition of "aircraft accident," as provided under 49 CFR 830.2. According to 49 CFR 830.2, an "aircraft accident" means an occurrence associated with the operation of an aircraft which takes place between the

time any person boards the aircraft with the intention of flight and all such persons have disembarked, and in which any person suffers death or serious injury, or in which the aircraft receives substantial damage.

C. Protection of Information/Data From Disclosure Under Freedom of Information Act (FOIA)

AMOA, AOPA, ASA, ATA, Boeing, Bombardier, CAA, EAA, FedEx, GE, HAI, JetBlue, MARPA, NACA, UTC, and RAA all raised concerns that if SMS data is not protected from disclosure under FOIA, the FAA's oversight over SMS could be compromised due to a lack of data being submitted to the FAA. ATA and GE, while supporting the FAA's approach in the NPRM to not require the physical submission of any data, asserted that this is not adequate protection. These commenters indicated that protection of this data is vital to ensuring this information is shared with the FAA.

Exposing submitted safety data to public scrutiny may have a chilling effect on reporting practice. ATA acknowledged that this information should be shared only with the FAA. JetBlue suggested the FAA develop a 14 CFR part 193 (part 193) protection order, extending the same protections to SMS data that currently exist for ASAP, the Flight Operational Quality Assurance Program (FOQA), the Line Operations Safety Audit (LOSA), etc. AAJ opposed the protection of information beyond existing FOIA protections because of the impact the protection may have on the ability to gather information during discovery processes.

The FAA recognizes that protection of certain safety information is vital to ensuring that employees and air carriers provide sufficient data to the FAA to ensure effective oversight over SMS. Section 44735 of title 49 of the United States Code, as amended by the FAA Modernization and Reform Act of 2012, Public Law 112-95 (Feb. 14, 2012), specifically contemplates the protection of voluntarily submitted reports, data, or other information produced or collected for purposes of developing and implementing a safety management system acceptable to the Administrator. It is important to note, however, such protection could not be afforded to information that is required to be kept to satisfy compliance with other regulatory requirements, such as crewmember training records or maintenance service records.

To further clarify the extent of protection that may be afforded under the statute, the FAA notes that any

record or other documentation that is required to show compliance with other regulatory requirements would not be protected. Protection also would not extend to records that must be made available under the provisions of 14 CFR 119.59. Furthermore, any information protected under the statute is only protected from release by the FAA. If the information is submitted or released by the air carrier to another government entity, the protections of the statute are not binding on these other entities. Nor are these documents necessarily protected from discovery in civil litigation, although the carrier would be free to ask the court for whatever protections would be appropriate under the rules of the relevant jurisdiction.

D. Enforcement

ACSF, AEA, and DTI Training raised concerns about the manner in which the FAA plans to enforce the requirements of the new rule and address issues of noncompliance identified through SMS policies and procedures. ACSF recommended that the FAA publish its plan for compliance and enforcement, and provide industry the opportunity to comment.

In regard to enforcement of the provisions of 14 CFR part 5 (part 5), the FAA acknowledges that each SMS will be uniquely designed to meet the needs of that air carrier's operations. Determining compliance with the requirements of part 5 will be dependent on the specific facts of each case. As such, the FAA will exercise its discretion in deciding to pursue enforcement of the requirements of part 5.

The FAA also recognizes that a fundamental concept of SMS is for air carriers to identify and correct their own instances of noncompliance and invest resources and efforts to preclude their recurrence. This concept is not new to FAA enforcement policy. Many air carriers are currently addressing these issues under the voluntary disclosure reporting program (VDRP). When an apparent violation is detected through SMS processes and procedures, the FAA encourages air carriers to use VDRP as appropriate to disclose the violation.

E. Scope of SMS and Compliance With Administrative Procedure Act

AOPA, ASA, MARPA, NATA, SBA, and True-Lock raised concerns that the FAA could use SMS to extend regulatory requirements without going through notice and comment rulemaking as required under the Administrative Procedure Act (APA), 5 U.S.C. 552. Specifically, concerns were

raised with regard to the requirement under the rule that the certificate holder develop risk controls for those hazards that require mitigation as identified under the certificate holder's safety risk management analysis.

This issue is not unique to SMS. Many regulations impose performance requirements that may be met in different ways. For example, certificate holders are required under 14 CFR 121.135 to develop and document certain procedures, methods, and instructions to personnel. This provision sets forth areas that must be addressed by these procedures, but does not prescribe the exact procedures that must be incorporated into the certificate holders' manuals. This discretion is evident in the requirement of 14 CFR 121.135(b)(15), which requires the manual to include "procedures for operating in periods of . . . potentially hazardous meteorological conditions." As the regulation does not establish a prescriptive, exclusive list of hazardous meteorological conditions for which procedures must be developed, the certificate holder must identify those conditions that are likely to impact its operation and address them appropriately in its manual. If these procedures are incorporated in the certificate holder's required manual, the certificate holder must ensure compliance with the procedures it develops and documents in its manuals.

A practical outcome of the safety risk management and safety assurance components of SMS is that procedures developed and documented under 14 CFR 121.135 may need to be revised, or new procedures added, to mitigate risk from identified hazards. It is not the intent of this rulemaking to alter the existing regulatory standards or the approval and acceptance processes that already apply to each certificate holder.

In some instances, the FAA may determine that a particular mitigation is necessary for all certificate holders based on the identification of a system-wide hazard. If the FAA identifies the need for such mitigation, the FAA would conduct rulemaking in accordance with the APA in order to apply the standard to all certificate holders.

F. Duplicative Rulemaking

ACSF, EAA, and NATA raised concerns about the different set of SMS requirements for airports and suggested combining these two rulemaking actions into one to ensure consistency. ASA and MARPA asserted that the FAA should not create a general part 5, but rather should incorporate the proposed requirements into a new subpart for part

121. This would allow for SMS requirements to be tailored to each specific part to address technical issues that are unique to the regulated entities.

As stated in the NPRM, the FAA developed the framework of the rule as a means of harmonizing with ICAO standards, while establishing a uniform standard that could be extended to apply to 14 CFR part 135 (part 135) certificate holders, part 145 repair stations, and design and manufacturing entities. The uniform standard is necessary because some of these regulated entities may hold more than one FAA certificate and may need or want to create one SMS to encompass all of their aviation-related activities. The general standards set forth in part 5 would permit such integration with only minor modifications. Any extension of the applicability of part 5 required by the FAA will be made through the APA notice and comment rulemaking process.

In regard to the separate standards for airports, the FAA notes that both SMS rules are structured in accordance with the ICAO SMS framework, which is identical in Annex 6 (air operators) and Annex 14 (airports). However, the FAA recognizes that there are inherent differences in the operation of an airport and an air carrier. Based on a review of these differences, the FAA determined that the rulemakings should proceed as separate projects.

Although there may be two separate regulations addressing SMS, the FAA encourages air carriers and airports to communicate with one another when hazards are identified through their respective SMS procedures and processes. In that way, they can determine which SMS may best address the hazard. For example, if an air carrier's employee identifies a hazard on the movement area of the airport, the air carrier's employee would likely report the hazard through the air carrier's employee reporting system. Once reported, the FAA recommends that the air carrier notify the airport of the identified hazard so the airport is aware of the issue and can analyze the risk accordingly. In addition, the air carrier may also analyze the risk of the hazard and determine if it warrants any sort of mitigation through the revision or further development of the air carrier's procedures. This type of communication will serve to ensure that hazards, whether unique to the certificate holder or more systemic to the airport, are being addressed effectively by all parties.

G. Credit for Pilot Project Participants and Adoption of Third Party/Accredited SMS

ATA, Delta, NACA, and StandardAero suggested grandfathering in the participants in the Pilot Project, or otherwise providing credit for their progress in developing and implementing an SMS based on the framework set forth in AC 120-92A. Delta requested additional guidance for those certificate holders transitioning from the levels of validation in the Pilot Project to satisfying the requirements of part 5. In addition, ASA and StandardAero requested that they receive credit for third party systems that are similar to SMS that they have implemented, such as QMS, IEP, or International Standard for Business Aircraft Operations (IS-BAO).

The FAA developed the requirements in the NPRM based on the ICAO SMS framework in Annex 6 and the guidelines for developing a voluntary SMS described in AC 120-92A, Appendix I. Despite the attempt to harmonize the proposed regulatory standards with the ICAO framework and guidance material, there may be some differences between what the air carriers have done in the Pilot Project and what would be required under part 5 once the rule becomes effective. Rather than exempt the Pilot Project participants from the requirements of part 5, the FAA believes that these air carriers would benefit from reviewing their existing implementation plans, and comparing the plans with the final rule. If gaps are found, the carriers would update the implementation plans to fill the gaps identified and submit their plans to the FAA for approval to satisfy the requirements of 14 CFR 5.1(b).

Some air carriers completed SMS implementation through the Pilot Project under the framework of AC 120-92A and their SMS has been validated by the FAA. To comply with the implementation plan requirements of 14 CFR 5.1(b), these air carriers will need to conduct a gap analysis of the systems currently in place under their SMS and the requirements of the final rule, and identify any gaps that will need to be addressed to bring their existing SMS into compliance with the requirements of the final rule. However, they may not have to repeat the entire gap analysis and planning process in areas where there are no differences between the final rule and Pilot Project guidance.

In regard to the request for credit for implementation of third party systems, like International Air Transportation Association (IATA) Operational Safety Audit (IOSA), International Standards

Organization (ISO)–9000/AS–9100, these systems have not been subject to review and acceptance by the FAA. It would be inappropriate to provide credit or waive compliance requirements to these air carriers who have implemented these third party systems. These systems may include some elements of an SMS, but may not contain all the necessary elements.

These third-party systems may be incorporated into an air carrier's SMS if the systems satisfy the requirements set forth in the final rule. If an air carrier plans to incorporate these other systems into its SMS, the air carrier should outline the incorporation of these systems in its implementation plan. Given these avenues for incorporating existing processes and procedures, the FAA has not revised the final rule to allow credit for Pilot Project participants, nor other air carriers who have implemented third-party SMS systems or other management tools.

H. Applicability, Subpart A—Implementation Plans

ACSF, ATA, Bombardier, NACA, and RAA requested the timeframe for submission of the implementation plans be extended from 6 months to anywhere from 9 to 18 months. ASCA, ATA, Bombardier, FedEx, Omni Air, and RAA expressed concern with the FAA's ability to manage the 90 submissions it will receive, as well as the FAA's ability to establish a consistent process for review and acceptance of the plans. Bombardier, EAA, and RAA asserted that an extension of this time is needed because the FAA would not be held to a timetable for accepting the implementation plans. FedEx suggested the FAA consider a timetable of three months to approve the implementation plan, or, in the alternative, to simply accept the plan. ASCA, Bombardier, and FedEx requested that the time to submit and wait for the FAA to approve an implementation plan should not be included in the 3-year implementation timeframe.

In addition, ATA, AOPA, ASCA, and Bombardier indicated that three years was not adequate for carriers to develop and implement an SMS. In contrast, AFA, ALPA, NTSB, Omni Air, and SWA acknowledged that the proposed timeframes for implementation plan approval and SMS acceptance were reasonable.

The FAA notes that 24 of the part 121 certificate holders participating in the SMS Pilot Project have submitted an SMS implementation plan as part of the pilot project. The typical implementation plans received in the pilot projects indicated that full

implementation of SMS could be achieved within three years. None of the participants indicated the need for more time during development of their plans. Because this timeframe is consistent with the comments received from AFA, ALPA, NTSB, Omni Air, and SWA, as well as the lessons learned from other Civil Aviation Authorities (CAAs), the FAA has determined that three years is an adequate timeframe for implementation of SMS.

However, upon review of the comments, the FAA has revised 14 CFR 5.3 to require submission of the implementation plan for review within 6 months of the final rule's effective date, and for approval of the plan no later than 12 months after the effective date of the final rule. As of January 11, 2012, 72 of the approximately 90 part 121 certificate holders are participating in the Pilot Project. Of these, 17 have completed implementation plans, which have been validated by the FAA. The average time for completing and receiving approval of these plans is approximately one year. Based on this average, the FAA expects that certificate holders will be able to meet this requirement. Certificate holders that already have a validated implementation plan through the Pilot Project will not be required to resubmit their original implementation plan for approval, but rather may submit an abridged analysis that identifies the areas in their existing implementation plans that need to be revised to comply with the new regulatory requirements. Many Certificate Management Teams (CMTs), which are the FAA field offices responsible for managing individual part 121 certificates, have been exposed to these implementation plans due to their work with the Pilot Project and, therefore, there should be no extended delays in reviewing and ultimately approving these plans. Accordingly, the FAA believes this timeframe is sufficient and will not cause undue burden on either the affected certificate holders or the FAA.

Pinnacle disagreed with the proposal to require implementation plans be approved. Due to the dynamic nature of the airline industry, Pinnacle asserts that these plans must be routinely modified to accommodate changes to an airline's organization or environment. If a plan requires approval, an airline would not be able to proceed with a change to a plan until the FAA reviewed and approved each change. Bombardier, while not objecting to the requirement to have the plans approved, recommended some minimum requirements for the content and level of detail for the implementation plan.

The FAA recognizes the dynamic nature of an air carrier's operations, and, thus, maintains that the SMS should be accepted rather than approved to allow the air carrier to make the necessary changes to address issues in its operations. However, to ensure that the SMS is properly developed within the required timeframe, some measure of additional oversight control is necessary. One of the foremost acknowledged sources of hazards is change in an air carrier's operation, and it is one of the principal reasons for special or expanded oversight by the FAA. The FAA, therefore, has not revised the requirement that the implementation plan must ultimately be approved. Any changes to the implementation plan and SMS will be documented and submitted to the FAA by the air carrier. If a modification is required, the FAA will provide additional guidance to the air carrier to ensure that the SMS remains in compliance with part 5 and is implemented within 3 years of the effective date of the final rule.

ATA suggested extending the effective date of the final rule because the proposed 60-day period is not sufficient time to review the rule and understand what is required to be in the implementation plan before the time for submission of the implementation plan begins to run. In contrast, AFA, NTSB, Omni Air, and SWA stated that the 60-day effective date was reasonable.

The FAA has determined that the 60-day effective date is appropriate. The changes to the final regulatory text are not significant and, again, more than 50% of the part 121 certificate holders already are engaged in developing and implementing an SMS. Therefore, the 60-day effective date is a reasonable timeframe for certificate holders to conduct their review of the final rule and initiate compliance.

I. Subpart B, Safety Policy—Designation of a Single Accountable Executive and Sufficient Safety Management Personnel

a. Single Accountable Executive

Bombardier raised concerns that proposed 14 CFR 5.25 does not permit any flexibility for the certificate holder to delegate tasks to more than one executive or other management representatives as appropriate, based on the size and complexity of the organization. ATA recommended further clarifying the role of the accountable executive, and removing the requirement that the accountable executive be responsible for implementation of the SMS. ATA, NACA, and RAA asserted that this

responsibility is better suited for the safety management representative. ALPA supported the designation of a single, accountable executive. Cessna and Futron recommended that the authority to make operational decisions and the authority to allocate resources should be better defined for the accountable executive, or otherwise removed from this paragraph. Futron asserted that the accountable executive should be outside of the normal safety chain and directly involved in the operational chain.

As proposed, 14 CFR 5.25 defines both the accountable executive and the management personnel. The accountable executive must be a single, identifiable person having final authority and responsibility for the safety performance of the air carrier. This ensures that executive management is integrally involved in the oversight of the air carrier's safety performance. The FAA has not revised this requirement in the final rule.

To address the commenters' concerns about the accountable executive's responsibilities, the FAA has clarified the criteria and responsibilities set forth in 14 CFR 5.25. As prescribed, the accountable executive needs to be able to organize, direct, and control the air carrier's activities, as well as allocate resources to make safety controls effective. The accountable executive must also develop the documented safety policy proposed under 14 CFR 5.21, communicate the policy throughout the air carrier, and regularly review the safety policy and safety performance of the air carrier. The accountable executive must review safety information to assess the overall performance of the air carrier and make necessary changes.

b. Management Representative

Delta suggested that the involvement of a part 119 management position in the efficient working of an SMS must suffice as a required resource for the implementation of the SMS. Other commenters questioned the need to require only one management representative and suggested revising the rule to allow for the certificate holder to determine how to structure a management team responsible for monitoring the daily operation of the SMS.

Part 119 identifies various management personnel needed for an air carrier to function and maintain a certificate. The FAA does not believe it is necessary to restrict part 121 air carriers from using only the Director of Safety or another part 119 management personnel position to perform the duties

specified in 14 CFR 5.25(c). The requirement to have a designated management representative was intended to ensure coordinated and consistent implementation of a fully integrated SMS throughout the air carrier's aviation related activities, as well as to provide adequate support for continued operation and maintenance of the SMS.

Upon review of the comments, it appears that either one person, or a combination of personnel, could perform the function of the management representative as proposed in the NPRM. The FAA does not expect that the accountable executive will always perform every day-to-day activity that the function of the management representative requires. As air carrier operations are diverse, one method of managing implementation and continued operation of an SMS cannot be exclusively defined. To do so may stifle innovation and creativity.

Although a single management representative, designated by and reporting directly to the accountable executive, is conceptually the most direct means of establishing a point of responsibility for an integrated system, this does not represent the only means. Depending upon the size and complexity of the air carrier, the functions of the management representative or personnel may range between being a collateral duty of the accountable executive, to a team of representatives working under the guidance and coordination of a team leader who is responsible for the effectiveness of the team. Accordingly, the FAA has revised 14 CFR 5.25(c) to allow the air carrier to designate sufficient management personnel responsible for the coordination and implementation of the SMS.

Whatever structure is implemented by the air carrier, 14 CFR 5.25(c)(4) requires that these personnel regularly report to the accountable executive. Personnel designated to perform this function must be in positions in the organization of sufficient independence to have direct access to the accountable executive to report on the safety performance of the operation and recommend any necessary improvements.

c. Role of Line Employees

AFA raised concerns that the line employees are not defined as having a key role in the decision-making process and that they are merely a reporting mechanism for the SMS. AFA asserted that these employees should also have input into the decision-making process.

For an SMS to be effective, input and active participation is essential from all levels of employees in an air carrier. Many air carriers have different decision-making processes, some of which include line employees. Roles that employees play within that air carrier's SMS must be identified and documented in the safety policy as described in 14 CFR 5.21. If line employees are identified to participate in safety boards, working groups or audit review teams, they must be trained to actively support the safety policy of the accountable executive as well as comply with all established organizational safety initiatives. Another aspect of SMS that requires line employee participation is the employee reporting system. The participation of line employees is critical in developing improvements in functions that directly impact their job tasks.

J. Subpart C, Safety Risk Management (SRM)

AIG, ASA, ATA, Boeing, GAMA, MARPA, Pinnacle, and RAA recognized the importance of SRM, but requested clarification regarding when the SRM processes and procedures are triggered and what constitutes a "system." The commenters also suggested reorganizing 14 CFR 5.51, 5.53, and 5.55, to emphasize hazard identification and to eliminate system analysis.

The FAA has revised the regulatory text to clarify how safety analyses must be used under safety risk management. With regards to this rule, the term "system" is used to describe the operational components used to deliver aviation-related services. Systems may include hardware, software, people, procedures, resources, or functions directly related to the delivery of air transportation services. For example, a system would include, among others: The aircraft, the crewmembers, crew training, crewmember duty time tracking programs, dispatch functions, maintenance of the aircraft, fueling, servicing, and flight operations. The term "system" does not include those people, procedures, resources, hardware, and software that are not directly related to the delivery of air transportation services (e.g., advertising, building maintenance, payroll). The FAA's use of the term "system," in this rulemaking, is consistent with long-standing use of the term within the industry.

As part of the SRM process, air carriers need to consider the operational environment directly related to the delivery of air transportation services. The operational environment that should be considered includes not only

the physical environment (e.g., terrain, weather, geographic location) but also any constraints on the air carrier's actions due to business needs and other laws or regulations that may affect the air carrier's air transportation services.

Regarding when SRM would be triggered, 14 CFR 5.51 (Applicability.) requires that the SRM process be applied under the following conditions: Planning for and implementation of new systems; revision of existing systems; development of operational procedures; or identification of hazards or ineffective risk controls through the safety assurance processes in subpart D of part 5. Some examples of these triggers are outlined below.

Changes to an air carrier's operation could include addition of new routes, opening or closing of line stations, adding or changing contractual arrangements for services, additions of new fleets or major modifications of existing fleets, addition of different types of operations such as extended-range operational performance standards operations, or a change in the software for operational systems such as flight planning and dispatch. Any of these additions or changes would trigger the use of the SRM process.

A further trigger for SRM would be cases when the safety assurance processes reveal hazards that have not been addressed or instances when the procedures that have been specified fail to control risk. For example, an air carrier might discover through employee reporting or internal auditing that procedures for loading data into the airplane flight management computer are confusing. This would result in action such as the air carrier modifying the procedures themselves or the training and checking process in use. In another example, an analysis of internal audits could reveal that a maintenance tracking and control program failed to identify required inspections, resulting in some of them being missed or overdue. In this case, the air carrier may decide that the program itself is defective and must be reengineered, again, requiring the application of SRM. These are just some examples of systems and triggers for the SRM processes of subpart C of the final rule.

RAA suggested that 14 CFR 5.53(c) include the requirement to track hazards. This practice would prevent hazards from being identified and recorded without further action. The FAA has reviewed this suggestion and determined that the purpose of the suggested revision is already met under the final rule. Subpart C, SRM, and Subpart D, Safety Assurance, work together such that identified hazards

must be tracked in addition to being identified. Thus, the FAA has not adopted this suggested revision in the final rule.

K. Subpart D, Safety Assurance

AIG, ASA, ATA, Boeing, Cessna, GAMA, MARPA, Rockwell Collins, and U.S.C. agreed on the importance of safety assurance practices, but recommended the FAA clarify the applicability of safety assurance and the definition of "system" to mirror the definition of "system" for SRM. Boeing also suggested revising 14 CFR 5.71 and 5.73 to limit the scope of the SMS to the aviation-related activities of the company. In addition, Boeing, GAMA, MARPA, and Rockwell Collins recommended replacing the term "operation" with "system" because operation implies the activities of an air carrier, and would require modification if these provisions were extended to other types of operators in future rulemakings.

AIA/GAMA, Boeing, Cessna, and Rockwell Collins all questioned using the terms "continuous" and "periodic" in 14 CFR 5.71. The commenters asserted that the terms are ambiguous and do not establish a frequency for adequate monitoring. For example, one commenter stated that the continuous monitoring requirement could imply monitoring the system 24 hours a day, which could be burdensome.

Because different systems will require different monitoring processes, the FAA has removed the terms continuous and periodic from 14 CFR 5.71. Additional clarification of the monitoring requirements is also provided in the advisory material associated with this final rule. In regards to the suggestion to define the term system for safety assurance, the FAA has determined that such a definition would not be necessary in the regulatory text because the list in 14 CFR 5.71(a) provides the scope of safety assurance activities. Further, as stated in section J, the term "system" is used to describe the operational components used to deliver aviation-related services. Systems may include hardware, software, people, procedures, resources, and functions directly related to the delivery of air transportation services. The systems addressed by this rule do not include those elements that are not directly related to the delivery of air transportation services.

L. Subpart F, Recordkeeping and Documentation Requirements

AIA/GAMA, Boeing, Bombardier, Omni Air, and Rockwell Collins asserted that the record keeping and

documentation requirements for SMS are too prescriptive and onerous. ATA and Delta advocated the retention requirement be scalable and flexible according to the certificate holder's policy and that outputs of the SMS should be retained for as long as deemed necessary by the air carrier. EAA questioned the operational reason for mandating the retention of SMS records beyond existing industry standards and requirements. NATA requested clarification on the types of documents that must be maintained under the proposed standards.

Bombardier and Boeing suggested revising recordkeeping provisions in 14 CFR 5.97 to require certificate holders to maintain these records for 5 years. AIA/GAMA also supported a 5-year retention requirement for outputs of SRM processes. NACA acknowledged that the recordkeeping requirements were acceptable as proposed.

Neither the proposed rule text nor the preamble implies that an air carrier would have to undergo a complicated and expensive revamping of its organization to accommodate document and record retention requirements. The required records can be kept electronically or in paper format. For SRM outputs, the timeline associated with the retention of the documents must be scalable to the air carrier's operation. The outputs of SRM processes should be kept for as long as they remain relevant to the air carrier's operation to allow the air carrier to evaluate whether the controls put in place under SRM are effective and needed. Once the action that triggers the development of the control is no longer present in the air carrier's operation, the air carrier may determine that the records no longer need to be kept. Thus, it is important that the air carrier exercise discretion to determine how long SRM output records are kept.

Similarly, this rule requires a certificate holder to retain records of SMS-required training that is administered to the accountable executive, members of the certificate holder's management, and other employees for as long as the individual who received the training is employed by the certificate holder. Once the individual who received the training is no longer employed by the certificate holder, there is no longer a need for the certificate holder to retain these records.

The recordkeeping requirements associated with the safety assurance's processes and procedures serve a different purpose. The goal of safety assurance is to collect historical data on an operating system for analysis. The air carrier needs to have sufficient

historical data to review. The 5-year period proposed in the NPRM is reasonable and will provide the air carrier with adequate records to conduct analysis. The FAA has determined that the proposed recordkeeping retention requirements are appropriate and has retained the requirements in the final rule.

M. Flow-Down of Requirements

ALPA asserted that an air carrier must exercise some oversight of those entities providing services to them and that the proposed rule would naturally have some flow down effect. ALPA asserted there should be a requirement to develop and document an avenue for the reporting of hazards from subcontractor field employees to the air carrier. This may include establishing a liaison that would communicate necessary safety information to the subcontractor and take corrective action as necessary.

RAA stated that, even though the FAA will not expand these existing requirements to entities other than certificate holders authorized to conduct operations under part 121, it can be expected that air carrier SMS programs will produce positive trickledown benefits to the operational safety of contractors. Under this scenario, air carriers will provide safety-enhancing guidance and oversight (at some level) to relevant elements of their contract service providers operations, and contractors will share information with the air carriers on the risks or safety trends that the contractors may from time to time identify.

Bombardier stated that it is expected that SMS regulated entities will determine what aspects of the SMS need to be passed on to non-regulated suppliers and pass those requirements along through business requirements. Inevitably, this will then result in additional burden on the regulated entities to provide support and increased oversight to ensure compliance of these suppliers, contractors and sub-contractors with these SMS related requirements. The SMS rule should be carefully constructed to allow those part 121 or 135 carriers to accept their part 145 certificated suppliers' SMS without deviation. Otherwise, inconsistent requirements will be passed on from different operators.

ASA and MARPA stated it is normal in the industry for air carriers and other certificate holders to flow-down their requirements to their suppliers, even without a regulatory requirement. For example, many certificate holders may decide to use their suppliers as data

sources for their SMS (e.g., reports of identified hazards). There is nothing in the regulation that prevents the FAA from stating that once the flow-down is in the manual, the supplier becomes part of the SMS system and thus becomes subject to SMS oversight. They recommended that the rule specify that a company may rely on its business partners as data sources for its SMS, but even if it does so, this act alone would not impose SMS regulations (or FAA SMS oversight) on the business partner.

NACA agreed, asserting that it is not necessary to require contractors or subcontractors to develop an SMS at this time. They should be permitted to let data flow into a part 121 carrier's program when handling their aircraft. This would add valuable information to SMS and produce a more comprehensive program.

AOPA strongly disagreed with the FAA's assessment and believed the FAA has greatly underestimated the trickle down implications for contractors and subcontractors of regulated certificate holders. The more functions a certificate holder contracts out, such as fueling, deicing, and pilot training, the more critical it is that the certificate holder include its contractors in its SMS process. Although the FAA is not seeking regulation of these contracted entities, AOPA asserted that FAA should not discount the potential effects of this proposed regulation on these entities. AOPA is concerned that this ripple effect would become even more apparent when the FAA expands the requirements of 14 CFR part 5 to encompass part 135 certificate holders.

Delta Air Lines did not see a significant impact or flow down effect of the development of SMS and its implications on vendors and contractors providing services to the operator. The comprehensive implementation in all levels of the organization has allowed the vendors and contractors to be assessed under the safety assurance component of its SMS and findings and observations are mitigated under a risk-based system documented and tracked according to the SMS requirements and SRM techniques.

Boeing said that the product/service provider should be allowed to determine the level of integration based on business needs and operational efficiency, without incurring undue compliance burden.

The SMS requirements of the rule are intended to be applied to individual air carriers. This rule does not require the air carrier to require SMSs on the part of contractors, code-share partners, or other business affiliates. This rule permits the use of contractors as a data

source, but will not mandate this requirement. Associated policy and advisory documents will not specify or imply these requirements as conditions of acceptance. An air carrier may include SMS in its negotiated business arrangements, consistent with the common practice in industry where air carriers require registration under such programs as AS 9100, IOSA, and Coordinating Agency for Supplier Evaluation (C.A.S.E.) audits. Contractual requirements for arrangements do not relieve the air carrier from its responsibilities under this rule.

N. FAA Capability To Manage Oversight

AIA/GAMA, AOPA, Hawker Beechcraft, JetBlue, Omni Air, and RAA asserted it is essential that the FAA develop and deploy appropriate training and guidance material for the inspector workforce involved in SMS assessment and oversight. Hawker Beechcraft and Omni Air questioned whether the FAA would be able to handle the significant surge in plan submissions as the deadline nears.

FedEx suggested that the FAA consider a process by which differences in interpretation, applicability, and direction between a carrier and the FAA approval authority can be elevated within the FAA for resolution.

Clear and comprehensive guidance documents have been developed and will be provided to the Aviation Safety Inspectors (ASIs) prior to this rule's effective date to ensure standardization. The SMS Program Office is also available as subject matter experts to assist the field office inspectors. Training is also currently underway for part 121 ASIs. This training includes the principles and precepts of SMS. Additional training is being designed to enhance the ASI's knowledge and ability to assess the compliance of an air carrier's SMS with part 5.

Air carriers also will be able to use the Consistency and Standardization Initiative⁶ to appeal decisions related to the review of their SMS. The FAA will consider a process by which differences in interpretation, applicability, and direction between an air carrier and the FAA approval authority can be elevated to the applicable FAA office for resolution.

O. Guidance Material

ACSF, AOPA, Boeing, GE, Hawker Beechcraft, and NATA suggested rescinding draft FAA Order 8900xx and reissuing simplified guidance material

⁶ For more information regarding the Consistency and Standardization Initiative please refer to: http://www.faa.gov/about/office_org/headquarters_offices/avs/consistency_standardization/.

because the draft order is too prescriptive. The commenters were concerned that the guidance material and orders significantly expands the regulatory requirements in proposed part 5. Commenters noted that the draft order contained material that was too academic and should be revised for clarity.

Upon review of the comments, the FAA has revised the guidance material to ensure that there is a clear delineation between regulatory requirements and other information.⁷ The FAA has also revised the draft guidance for inspectors to provide instruction on various methods that may be employed to satisfy the requirements of this rule.

P. Determination of Acceptable Levels of Safety

AEA, AOPA, ASCA, and ATA asked for a definition of acceptable level of safety. They expressed concern that lacking a clear definition of this term would leave the industry and the FAA in a position where inspectors would be defining what constitutes an acceptable level of safety. This would lead to inconsistent application across the industry. The SBA also asserted that the FAA should conduct a gap analysis of its regulations and fill any holes to establish standardized acceptable levels of safety through the regulations that can be uniformly applied throughout the industry.

The term “acceptable level of safety” is only used in the preamble of the NPRM and is only mentioned when referencing ICAO standards/framework and an NTSB recommendation. In determining the safety performance measurement for the air carrier’s operation, each air carrier should use the regulatory minimums set forth in Chapter I, Title I, of 14 CFR as the baseline.

Q. Performance Based v. Process Based Regulation

ASA and MARPA stated that the proposed part 5 was a process-based rule. In contrast, AIA/GAMA and Bombardier stated that the proposal was a performance-based rule. All of these commenters expressed a strong desire to avoid a prescriptive-based rule because of the dynamic nature of air carrier operations. They were also concerned that a performance-based rule could lead to wide variances in interpretation as to what is acceptable for an SMS.

The ARC, ATA, and GE expressed a strong desire for a rule that closely

matched the ICAO framework to allow for increased acceptance of an air carrier’s SMS by foreign civil aviation authorities. They stressed the need to balance prescription with the need for adequate description and flexibility to develop multiple solutions in the interest of increased innovation. They stated that the proposed requirements met all of these needs.

Changing the regulatory text to a pure performance-based rule would deviate from the ICAO SMS requirements. This increases the risk that the FAA’s SMS rules would fail to meet the requirements of other sovereign nations, and thus jeopardize the ability of U.S. air carriers to operate in countries where compliance with these standards is enforced. This final rule specifies a basic set of processes to form a framework for the SMS, but does not specify particular methods for implementing these processes. This provides a balance between standardization and a robust SMS structure while allowing considerable flexibility for how an individual air carrier chooses to establish its SMS.

R. Employee Reporting Systems

Proposed 14 CFR 5.21(a)(4) states there must be an employee reporting system, and that the reporting system must be confidential as per 14 CFR 5.71(a)(7). AFA, ALPA, RAA, and SWA were concerned that unless an explicit restriction is imposed to prevent abuse, disclosures of safety improvement opportunities, concerns, or issues submitted by any employee may be used against the reporting employee in a disciplinary manner. They suggested that the employee reporting system be non-punitive.

The confidential reporting system in 14 CFR 5.71(a)(7) is a conduit for employees to raise safety issues without fear of reprisal. There is a distinction in a non-punitive reporting system and the requirement in 14 CFR 5.21(a)(5) to require the certificate holder to establish a policy that defines unacceptable employee behaviors. There are some instances where disciplinary action is warranted (*e.g.*, the behavior indicates a willful disregard to comply with company procedures or regulations) and 14 CFR part 5 recognizes this fact. Therefore, the rule requires a certificate holder to establish a confidential employee reporting system and define unacceptable behaviors. This allows the confidential gathering of safety information from employees while maintaining the certificate holder’s freedom to address unacceptable behavior.

V. Regulatory Notices and Analyses

A. Regulatory Evaluation

Changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 and Executive Order 13563 directs that each Federal agency shall propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 (Pub. L. 96–354) requires agencies to analyze the economic impact of regulatory changes on small entities. Third, the Trade Agreements Act (Pub. L. 96–39) prohibits agencies from setting standards that create unnecessary obstacles to the foreign commerce of the United States. In developing U.S. standards, this Trade Act requires agencies to consider international standards and, where appropriate, that they be the basis of U.S. standards. Fourth, the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4) requires agencies to prepare a written assessment of the costs, benefits, and other effects of proposed or final rules that include a Federal mandate likely to result in the expenditure by State, local, or tribal governments, in the aggregate, or by the private sector, of \$100 million or more annually (adjusted for inflation with base year of 1995). This portion of the preamble summarizes the FAA’s analysis of the economic impacts of this final rule. We suggest readers seeking greater detail read the full regulatory evaluation, a copy of which we have placed in the docket for this rulemaking.

In conducting these analyses, FAA has determined that this final rule: (1) Has benefits that justify its costs, (2) is not an economically “significant regulatory action” as defined in section 3(f) of Executive Order 12866, (3) is “significant” as defined in DOT’s Regulatory Policies and Procedures; (4) will not have a significant economic impact on a substantial number of small entities; (5) will not create unnecessary obstacles to the foreign commerce of the United States; and (6) will not impose an unfunded mandate on state, local, or tribal governments, or on the private sector by exceeding the threshold identified above. These analyses are summarized below.

i. Total Benefits and Costs of This Rule

This rule requires Part 121 operators (domestic, flag, and supplemental operations) to establish an SMS. It is expected that the requirements of the rule will help airlines to identify safety problems, and if airlines take steps to mitigate these problems it is estimated

⁷ The FAA acknowledges that Advisory Circular 120–92 is not binding.

that the benefits from that mitigation could be between \$205.0 and \$472.3 million over 10 years (\$104.9 to \$241.9 million present value at 7 percent

discount rate). Costs of the rule's provisions (excluding any mitigation costs, which have not been estimated) are estimated to be \$224.3 million

(\$135.1 million present value at 7 percent discount rate) over 10 years.

ESTIMATED COSTS AND BENEFITS FOR ALL PART 121 CARRIERS—2014–2023

[Millions of 2010 Dollars * (Discounted at 7% Discount Rate)]

| | |
|--|---|
| Costs | Rule Implementation Costs: \$135.1. |
| | Mitigation Costs: Not quantified, estimates not included. |
| Benefits from Provisions of the Rule and any Consequent Safety Mitigation Actions ** | \$104.9–\$241.9. |

* Table values have been rounded. Totals may not add due to rounding.

** Given the range of mitigation actions possible, it is difficult to quantify potential benefits. This range reflects the potential benefits resulting from examples of possible mitigation actions.

ii. Who is potentially affected by this rule?

All Part 121 Operators

iii. Assumptions

- All costs and benefits are presented in 2010 dollars.
- All costs and benefits are estimated over a 10-year period from 2014 through 2023.
- Benefits of SMS implementation would begin to accrue in 2017.
- Costs to air carriers would begin to accrue in 2014.
- The present value discount rate is 7 percent.
- The Value of Statistical Life = \$8.9 million in 2010\$.

iv. Benefits of This Rule

The benefits of this final rule consist of the value of averted fatalities, casualties, aircraft damage, accident investigation costs, and reduced employee compensation claims. These benefits are a result of identifying safety issues, spotting trends, implementing necessary safety mitigations, and communicating findings before they result in a near-miss, incident, or accident. Over the 10-year period of analysis, it is estimated that the benefits from averted accidents, reduced employee compensation claims, and safety mitigations could range between \$205.0 and \$472.3 million (\$104.9 to \$241.9 million present value at 7 percent discount rate).

v. Costs of This Rule

Each air carrier will be required to develop an SMS that includes the four SMS components: Safety Policy, Safety Risk Management, Safety Assurance, and Safety Promotion. To support each component, the FAA projects that the compliance cost of this rule will come from the initial development and documentation of the carriers' SMS, implementation and continuous operating costs to include the

modification or purchasing of new equipment/software, additional staff and promotional materials, and training. Costs increase with the size of the carrier and the type of operations that they provide. However, medium and large operators have existing quality management systems which will lower their estimated compliance costs. Costs of the rule's provisions (excluding any mitigation costs, which have not been estimated) are estimated to be \$224.3 million (\$135.1 million present value at 7 percent discount rate) over 10 years.

B. Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (Pub. L. 96–354) (RFA) establishes “as a principle of regulatory issuance that agencies shall endeavor, consistent with the objectives of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the businesses, organizations, and governmental jurisdictions subject to regulation. To achieve this principle, agencies are required to solicit and consider flexible regulatory proposals and to explain the rationale for their actions to assure that such proposals are given serious consideration.” The RFA covers a wide-range of small entities, including small businesses, not-for-profit organizations, and small governmental jurisdictions.

Agencies must perform a review to determine whether a rule will have a significant economic impact on a substantial number of small entities. If the agency determines that it will, the agency must prepare a regulatory flexibility analysis as described in the RFA. Section 603 of the Act requires agencies to prepare and make available for public comment an initial regulatory flexibility analysis (IRFA) describing the impact of proposed rules on small entities.

As required by Section 603(a) of the RFA, we prepared and published an initial regulatory flexibility analysis

(IRFA) as part of the NPRM for this rule (75 FR 68240, November 5, 2010). As a result of that analysis we determined this rule would have a significant impact on a substantial number of small entities for the following reasons: We estimated that 64 operators were small entities. Even though the proposed rule responds to the PL 111–216 Congressional requirement, we structured the requirement such that small entities could meet the requirements with lower costs than a larger firm.

Section 604 of the RFA also requires an agency to publish a final regulatory flexibility analysis (FRFA) in the **Federal Register** when issuing a final rule. Section 604(a) requires that each FRFA contain:

- A statement of the need for, and objectives of, the rule;
- a statement of the significant issues raised by the public comments in response to the initial regulatory flexibility analysis, a statement of the assessment of the agency of such issues, and a statement of any changes made in the proposed rule as a result of such comments;
- the response of the agency to any comments filed by the Chief Counsel for Advocacy of the Small Business Administration in response to the proposed rule, and a detailed statement of any change made to the proposed rule in the final rule as a result of the comments;
- a description of and an estimate of the number of small entities to which the rule will apply or an explanation of why no such estimate is available;
- a description of the projected reporting, recordkeeping and other compliance requirements of the rule, including an estimate of the classes of small entities which will be subject to the requirement and the type of professional skills necessary for preparation of the report or record; and,

- a description of the steps the agency has taken to minimize the significant economic impact on small entities consistent with the stated objectives of applicable statutes, including a statement of the factual, policy, and legal reasons for selecting the alternative adopted in the final rule and why each one of the other significant alternatives to the rule considered by the agency which affect the impact on small entities was rejected.

A Statement of the Need for, and Objectives of, the Rule

The objective of Safety Management Systems (SMS) is to proactively manage safety, to identify potential hazards, to determine risk, and to implement measures that mitigate the risk. The FAA envisions operators being able to use all of the components of SMS to enhance a carrier's ability to identify safety issues and spot trends before they result in a near-miss, incident, or accident. For this reason, the FAA is requiring carriers to develop and implement an SMS.

A Statement of the Significant Issues Raised by the Public Comments in Response to the Initial Regulatory Flexibility Analysis, a Statement of the Assessment of the Agency of Such Issues, and a Statement of any Changes Made in the Proposed Rule as a Result of Such Comments

AEA commented that the FAA failed to analyze alternatives and stated that small carriers do not have enough incidents to make SMS cost-beneficial. The FAA maintains that SMS is congressionally mandated and we did look at two alternatives. For the final rule we discussed: (1) Extending the timeframe for development of SMS implementation plans; and (2) extending the timeframe for implementation of SMS. However, as stated above, the FAA ultimately determined that delaying the implementation of SMS delays the safety benefits and this delay in benefits is not offset by the small, delayed compliance cost. Upon a review of these costs, the FAA determined the compliance costs are not a significant economic impact.

The Response of the Agency to any Comments Filed by the Chief Counsel for Advocacy of the Small Business Administration in Response to the Proposed Rule, and a Detailed Statement of any Change Made to the Proposed Rule in the Final Rule as a Result of the Comments

The Small Business Administration (SBA) commented that an SMS would

be burdensome for a small carrier, plus SMS may be more suitable for larger carriers because it aids in reducing silos which many not be an issue because of size for many smaller carriers. The FAA maintains the program is flexible and there are several existing programs that small carriers can leverage to make SMS less expensive. For example, many small and medium sized carriers reported that they would use the Web-Based Application Tool (WBAT), which is an FAA sponsored tool, to report and house their data. In addition, carriers that are currently pursuing an SMS reported benefits similar to their larger counterparts.

A Description of and an Estimate of the Number of Small Entities To Which the Rule Will Apply or an Explanation of why no Such Estimate is Available

Under the North American Industry Classification System (NAICS) codes 481111 and 481112, for scheduled air transportation, small entities would be all part 121 carriers with less than 1,500 employees. The FAA estimates that there are approximately 90 part 121 operators and 60 of these operators meet the definition of a small entity; therefore the FAA believes that there are a substantial number of small entities impacted by this rule.

A Description of the Projected Reporting, Recordkeeping and Other Compliance Requirements of the Rule, Including an Estimate of the Classes of Small Entities Which Will be Subject to the Requirement and the Type of Professional Skills Necessary for Preparation of the Report or Record

An SMS is a formalized approach to managing safety by developing an organization-wide safety policy, developing formal methods of identifying hazards, analyzing and mitigating risk, developing methods for ensuring continuous safety improvement, and creating organization-wide safety promotion strategies. Each air carrier would be required to develop an SMS that includes the four SMS components: Safety Policy, Safety Risk Management, Safety Assurance, and Safety Promotion. To support each component, the FAA projects that the compliance cost of this rule would come from the initial development and documentation of their SMS, implementation and continuous operating costs to include the modification or purchasing of new equipment/software, additional staff and promotional materials, and training. Costs increase as the size of the carrier increases. However, carriers have the ability to use existing programs such as

an Aviation Safety Action Programs (ASAP) or the Web-Based Application Tool (WBAT) to meet these requirements.

The FAA estimated the average annual compliance cost during the first three years the rule is in effect for the 60 carriers identified as small entities and compared these costs to calendar year 2011 operating revenues (the most current data available).⁸ The compliance cost for small entities was then averaged for three groups based on carrier fleet size (small, medium, and large). Carriers with a fleet of 9 or less aircraft are in the "small" group; carriers with between 10 and 47 aircraft are in the "medium" group; and carriers with a fleet size greater than 47 aircraft are in the "large" group.

Each of the 29 carriers in the "small" group fits the criteria of a small entity. The compliance cost for this group of carriers will average \$164,500 per year. For the 26 small entities in the "medium" group, the compliance cost will average \$206,400 per year. The compliance cost for the five carriers identified as small entities in the "large" group will average \$408,000 per year. Each carrier's compliance cost will vary from the averages presented here due to carrier size (in terms of employee headcount), and the extent to which a carrier already has an ASAP or other safety program already in place.

Of the 60 carriers classified as small entities, 54 reported operating revenues on Form 41. For these 54 reporting carriers, annual compliance costs during the first three years the rule is in effect were less than two percent of their calendar year 2011 operating revenues. A determination for the six remaining small entities was not possible because financial data was not publicly available.

A Description of the Steps the Agency Has Taken To Minimize the Significant Economic Impact on Small Entities Consistent With the Stated Objectives of Applicable Statutes, Including a Statement of the Factual, Policy, and Legal Reasons for Selecting the Alternative Adopted in the Final Rule and Why Each One of the Other Significant Alternatives to the Rule Considered by the Agency Which Affect the Impact on Small Entities Was Rejected

To relieve the burden of this rule on small entities, the FAA considered extending the timeframe for

⁸ U.S. Department of Transportation Form 41 (Schedule P1.1, and P1.2), and Form 298-C (Schedule F1). For carriers not reporting a full year of CY 2011 operating revenues, the most recent four consecutive quarters of data was used.

development of SMS implementation plans. In making this determination, the FAA considered longer and shorter terms. However, it settled on one year based on information from the SMS Pilot Project, which showed that an average of one year was sufficient to develop and approve an implementation plan.⁹ As part of its analysis, the FAA noted that pilot project participants ultimately had differing levels of SMS implementation. However, because all pilot project participants had initially developed (and received FAA validation on) an implementation plan that provided for full SMS implementation, the FAA was able to use this data to estimate how long it would take a certificate holder to develop such a plan and get the plan approved by the FAA.

The FAA also considered extending the timeframe for implementation of SMS. However, the FAA ultimately concluded that three years for full implementation of SMS is appropriate. In making this determination, the FAA considered longer and shorter terms. Based on information from the SMS Pilot Project, as well as lessons learned from other Civil Aviation Authorities (CAAs), which showed that three years was an appropriate timeframe for implementation of an SMS, the FAA decided that three years was the best interval to allow carriers to prepare and begin implementation.¹⁰ With regard to both of these alternatives, the timelines chosen for implementation plans and final implementation of SMS are mitigated for small entities to the extent that SMS plans and programs must be appropriate to the size, scope, and complexity of the certificate holder's operations, and are therefore scalable to the size of the small entity.

In conclusion, while the FAA found this rule will affect a substantial number of small entities, we found annual compliance cost was less than two percent of annual revenue for the firms with public data. As the compliance cost is less than two percent of annual revenue, the FAA concludes there will

not be a significant economic impact. Therefore, as the FAA Administrator, I certify this rule will not have a significant economic impact on a substantial number of small entities.

D. International Trade Impact Assessment

The Trade Agreements Act of 1979 (Pub. L. 96–39), as amended by the Uruguay Round Agreements Act (Pub. L. 103–465), prohibits Federal agencies from establishing standards or engaging in related activities that create unnecessary obstacles to the foreign commerce of the United States. Pursuant to these Acts, the establishment of standards is not considered an unnecessary obstacle to the foreign commerce of the United States, so long as the standard has a legitimate domestic objective, such the protection of safety, and does not operate in a manner that excludes imports that meet this objective. The statute also requires consideration of international standards and, where appropriate, that they be the basis for U.S. standards. The FAA has assessed the potential effect of this final rule and determined that it uses ICAO international standards as its basis and therefore is in compliance with the Trade Agreements Act.

E. Unfunded Mandates Assessment

Title II of the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4) requires each Federal agency to prepare a written statement assessing the effects of any Federal mandate in a proposed or final agency rule that may result in an expenditure of \$100 million or more (in 1995 dollars) in any one year by State, local, and tribal governments, in the aggregate, or by the private sector; such a mandate is deemed to be a “significant regulatory action.” The FAA currently uses an inflation-adjusted value of \$143.1 million in lieu of \$100 million. This final rule does not contain such a mandate; therefore, the requirements of Title II of the Act do not apply.

F. Paperwork Reduction Act

The Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)) requires that the FAA consider the impact of paperwork and other information collection burdens imposed on the public. According to the 1995 amendments to the Paperwork Reduction Act (5 CFR 1320.8(b)(2)(vi)), an agency may not collect or sponsor the collection of information, nor may it impose an information collection requirement unless it displays a currently valid Office of Management and Budget (OMB) control number.

This final rule will impose new information collection requirements. The estimated burden of those requirements is discussed below. As required by the Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)), the FAA has submitted these information collection requirements to OMB for its review. Notice of OMB approval for this information collection will be published in a future **Federal Register** document.

Under this final rule, each certificate holder operating under part 121 will develop an SMS, tailored to its unique operating environment, comprised of the four key components: Safety policy, safety risk management, safety assurance, and safety promotion. Collection and analysis of safety data is an essential part each carrier's SMS. The FAA has identified the following areas that will create information collection burdens under this final rule: Development and implementation of the SMS; implementation plan and documentation; recordkeeping requirements associated with the safety policy, safety risk management and safety assurance processes; training records, and communication records. In addition, based on comments received to the proposed rule, the FAA has also identified information collection burdens associated with expanding existing programs that may be used to satisfy the requirements of the final rule. For all information required to be submitted, documented, or collected under this final rule, the FAA does not specify how, or in what media, the documents and records must be maintained relative to the requirements of the final rule. Air carriers are encouraged to use existing mechanisms and systems to minimize the burden of the final rule. These burdens are outlined below. The cost estimates associated with these burdens are based on comments from the ARC, information from the SMS pilot program participants, and comments received in response to the NPRM.

i. Expansion of Existing Programs

The FAA has strongly encouraged air carriers to use existing programs, such as the Aviation Safety Action Program (ASAP), and the Internal Evaluation Program (IEP), to satisfy some of the requirements for the safety assurance component of SMS. The FAA expects that the 59 air carriers with existing ASAP programs will expand their programs to cover those employees currently not covered, to satisfy the employee reporting system requirement of the final rule. For the 31 remaining air carriers, the FAA expects that these carriers will use the employee reporting

⁹ MITRE Corporation conducted a study of the pilot project participants and concluded that it took, on average, approximately one year for pilot project participants to complete implementation plans.

¹⁰ While many pilot project participants are not small carriers, the large and mid-size carriers that make up a large portion of the pilot project participants had to build an SMS from the ground up. The typical implementation plan received from these carriers showed that they would be able to fully implement an SMS within three years. Because SMS is scalable, a small carrier's SMS will be less complex than a large or mid-size carrier's SMS. Accordingly, the FAA does not expect small carriers to need more time to implement an SMS than the large and mid-size carriers that were part of the pilot project.

tools in the Web-Based Application Tool (WBAT), which is a federally developed and funded software system that can be used, for example, to develop an implementation plan,

document hazards, and create an employee reporting system. Because this is a federally funded system, the FAA estimated a minimal burden for those 31 carriers using WBAT. The information

collection costs for air carriers expanding existing programs to comply with this rule are as follows.

a. Estimate Annual Cost of Expanding Existing Programs

| | |
|-----------------|--|
| 59 | Part 121 Carriers with an ASAP for one or more employee groups ¹¹ |
| 1 | Full Time Employee (FTE) = 2000 hours per year |
| 2 | FTEs per additional ASAP @ 0.2 FTE each ¹² = 800 hours per ASAP |
| 3 | Pilot ASAPs |
| 14 | Mechanic and Engineering (M&E) ASAPs |
| 18 | Dispatcher ASAPs |
| + 32 | Flight Attendant (FA) ASAPs |
| <hr/> | |
| 67 | Total Employee Group ASAPs |
| \$2,000 | Hardware/software, administration, and meeting logistics per group ¹³ |
| × 67 | Total Employee Group ASAPs |
| <hr/> | |
| \$134,000 | Material Cost per Year |

| Employee group | Annual salary | Hourly salary |
|--|---------------|---------------|
| Airline pilots/copilots/flight engineers salary: ¹⁴ | \$151,248 | \$75.6239 |
| Maintenance staff salary: ¹⁵ | 73,606 | 36.8031 |
| Dispatchers salary: ¹⁶ | 70,250 | 35.1249 |
| Flight attendants salary: ¹⁷ | 54,290 | 27.1452 |

| | |
|--|---------------|
| 3 Pilot ASAPs * 800 hours: | 2,400 hours. |
| 14 M&E ASAPs * 800 hours: | 11,200 hours. |
| 18 Dispatcher ASAPs * 800 hours: | 14,400 hours. |
| + 32 FA ASAPs * 800 hours: | 25,600 hours. |
| <hr/> | |
| Total Labor Hours per Year | 53,600 hours. |

| | Hours * labor rate | In 000's |
|---|----------------------------|-----------|
| 3 Pilot ASAPs | 2,400 hr * \$75.6239 | \$181.497 |
| 14 M&E ASAPs | 11,200 hr * 36.8031 | 412.195 |
| 18 Dispatcher ASAPs | 14,400 hr * 35.1249 | 505.798 |
| + 32 FA ASAPs | 25,600 hr * 27.1452 | 694.917 |
| <hr/> | | |
| Total Labor Cost per Year | | 1,794.408 |
| + Total Material Cost per Year | | 134.000 |
| <hr/> | | |
| Total Cost per Year for Expanding Existing Programs | | 1,928.408 |

b. Estimated Implementation Cost of Expanding of Existing Programs

The FAA assumes that the 59 carriers expand these programs over 3 years. A third of the expansion will be completed in year one, two-thirds of the

program will be completed in year two, and the program will be fully operational by the third year.

| | | |
|-----------------------------------|-----------------------------|-----------|
| Year 1 | 53,600 hours * 33.3% | 17,848.8 |
| Year 2 | 53,600 hours * 66.6% | 35,697.6 |
| + Year 3 | 53,600 hours * 100.0% | 53,600.0 |
| <hr/> | | |
| Total Labor Hours for 3 Years ... | | 107,146.4 |

| | | In 000's |
|--------------|---------------------------|------------|
| Year 1 | \$1,928.408 * 33.3% | \$ 642.160 |
| Year 2 | \$1,928.408 * 66.6% | 1,284.320 |

¹¹ <http://www.faa.gov/about/initiatives/asap> (August 23, 2011).

¹² ATA response to NPRM "Request for Comments" (Docket No. FAA-2009-061), Figure 3, page 35.

¹³ Ibid.

¹⁴ http://www.bls.gov/oes/current/naics3_481000.htm, <http://www.bls.gov/news.release/pdf/ecec.pdf>, BLS reports in Table A. Relative importance of employer costs for employee compensation, June 2011 that additional employer

compensation per employee is roughly 31% of an employee's salary

¹⁵ Ibid.

¹⁶ Ibid.

¹⁷ Ibid.

| | | In 000's |
|------------------------------|----------------------------|-----------|
| + Year 3 | \$1,928.408 * 100.0% | 1,928.408 |
| Total Cost for 3 Years | | 3,854.888 |

c. Estimated Total Costs of Expanding Existing Programs

Implementation Cost: 107,146.4 labor hours and \$3.9 million over 3 years.

Average Annual Cost: 35,715.5 labor hours and \$1.28 million per year.

ii. Implementation Plan, SMS Documentation and Implementation

All 90 certificate holders will be required to develop and submit an implementation plan. The implementation plan will guide the certificate holder's implementation of SMS, as well as provide the basis for FAA's oversight during the

development and implementation phases. The SMS implementation plan is the only document or data that the certificate holder must submit to the FAA. It is a one-time submission due six months after the effective date of the final rule.

All 90 certificate holders must also develop and maintain documentation that describes the safety policy for the certificate holder. The safety policy must address, among other things, the certificate holder's safety objectives, statements about the necessary resources for the implementation of the SMS, a safety reporting policy that defines requirements for employee

reporting of safety hazards or issues, and an emergency response plan.

In addition to the safety policy, all 90 certificate holders are required under this rule to develop and maintain documentation of SMS processes and procedures, including safety risk management processes and safety assurance processes. Given that these processes and procedures will depend on the size and scope of each air carrier's operation, the amount of documentation will vary greatly amongst these certificate holders.

a. Estimated Cost of Implementation Plan and SMS Documentation

| | |
|--|----------------------------|
| One Full Time Employee (FTE): | 2,000 hours/yr |
| Research Analyst Salary: ¹⁸ | \$92,958/yr or \$46.479/hr |
| Material Documentation Cost (3 years): ¹⁹ | Small \$24,000 |
| | Medium 95,000 |
| | Large 337,500 |

| | Hours |
|---|--------------|
| 30 Large Carriers * 4,256 hrs/yr of labor per carrier: | 127,680 |
| 31 Medium Carriers * 2,732 hrs/yr of labor per carrier: | 84,692 |
| + 29 Small Carriers * 3,045 hrs/yr of labor per carrier: | 88,305 |
| Total Labor Hours per Year for 90 Carriers | 300,677 |
| Total Labor Hours for 90 Carriers over 3 Years | 902,031 |
| <hr/> | |
| Total Labor Hours per Year | 300,677 |
| × Research Analyst Hourly Wage | \$46.479 |
| Total Labor Cost/Per Year for 90 Carriers | \$13,975,166 |
| Total Initial Labor Cost for 90 Carriers over 3 Years | 41,925,498 |
| <hr/> | |
| 30 Large Carriers * \$337,500 material cost over three years: | \$10,125,000 |
| 31 Medium Carriers * \$95,000 material cost over three years: | 2,945,000 |
| 29 Small Carriers * \$24,000 material cost over three years: | 696,000 |
| 90 Carriers Initial Material Cost Over 3 Years | 13,766,000 |
| <hr/> | |
| Initial Labor Cost for 90 Carriers over 3 Years | 41,925,498 |
| × Initial Material Cost for 90 Carriers over 3 Years | 13,766,000 |
| Initial Cost Burden Over Years 1–3 | 55,691,498 |

b. Estimated Annual Cost of SMS Documentation

In comments to the NPRM, ATA estimates that small carriers will spend \$10,000 a year, medium sized carriers

will spend \$15,000, and large carriers will spend \$30,000 on SMS manual revision.

| | |
|--|------------|
| 30 Large Carriers * \$30,000/yr per carrier | \$ 900,000 |
| 31 Medium Carriers * \$15,000/yr per carrier | 465,000 |

¹⁸ Bureau of Labor Statistics, <http://www.bls.gov/oes/current/oes152031.htm>.

¹⁹ Initial Regulatory Evaluation Voluntary Program Participant's Survey.

| | |
|---|-------------|
| + 29 Small Carriers * \$10,000/yr per carrier | 290,000 |
| Document Update Costs per Year for Years 4–10 | \$1,655,000 |

iii. SMS Recordkeeping Requirements

This rule requires air carriers to record outputs from their safety risk management (SRM) processes, safety assurance (SA) processes, safety communications and SMS training. Records of outputs for SRM processes must be maintained for as long as the outputs remain relevant to the certificate holder's operation. Outputs of safety assurance processes must be maintained for 5 years. Training records must be kept for as long as the individual is employed by the certificate holder and all SMS communication records under § 5.93 must be kept for 24 months. The scope and breadth of these

recordkeeping requirements will depend on the size and complexity of the certificate holder's operation. To mitigate these burdens, the FAA has not specified how, or in what media, these records must be maintained, and has also encouraged the use of existing mechanisms. For example, the FAA has estimated the burden of maintaining employee SMS training records to be minimal since 121 certificate holders are already required to maintain training records.

Based on this information, the FAA maintains that only one additional employee will be required for carriers with several existing safety programs, 2 full time employees for large and

medium carriers with few pre-existing programs, and a part-time employee for small carriers. The FAA also maintains that there will be minimal additional material costs and training record costs since all part 121 certificate holders already maintain training records. Operating costs will begin after the development, documentation, and implementation of an SMS.

a. Estimated Annual Cost of SMS Recordkeeping Requirements:

90 Operators
 One Full Time Employee (FTE) = 2000 hours per year
 Research Analyst Salary²⁰ = \$92,958 per year = \$46.479 per hour

| | Hours |
|--|--------------------|
| 59 Large/Medium Carriers * 1 FTE * 2,000 hours | 118,000 |
| 9 Large/Medium Carriers * 2 FTE * 2,000 hours | 36,000 |
| + 22 Small Carriers * 0.5 FTE * 2,000 hours | 22,000 |
| Total Recordkeeping Hours per Year for 90 carriers (Years 4–10) | 176,000 |
| Total Recordkeeping Hours per Year for 90 carriers | 176,000 |
| × Hourly Wage—Research Analyst | \$46.479 |
| Total Recordkeeping Cost per Year for 90 Carriers (Years 4–10) | \$8,180,304 |
| Promotional material per year per carrier ²¹ | \$833 |
| × 90 Carriers | 90 |
| Total Promotional Material Cost per Year for 90 Carriers (Years 4–10) | \$74,970 |
| Total Recordkeeping Cost per Year for 90 Carriers (Years 4–10) | \$8,180,304 |
| + Total Promo Material Cost per Year for 90 Carriers (Years 4–10) | \$74,970 |
| Total Annual Cost (Years 4–10) | \$8,255,274 |

b. Estimated Total Annual Cost of SMS Recordkeeping Requirements

176,000 labor hours and \$8.3 million per year (Years 4–10).

This rule requires air carriers to implement an SMS acceptable to the Administrator within 3 years of the effective date of the final rule. The FAA offers a federally developed and funded software system, WBAT, which serves a

variety of functions in addition to aiding carriers with their ASAPs and SMS. The FAA estimates at most that it costs \$2.6 million per year to maintain WBAT.

iv. Estimated Costs to the Federal Government

v. Summary of Total Burden

a. Implementation Cost

| | | |
|-------------------|--|-------------------|
| Years 1–3 | Develop, Implement, Document SMS-Initial Cost Burden | \$55,691,498 |
| + Years 1–3 | Cost to Expand Existing Programs | 3,854,888 |
| Years 1–3 | Total Implementation Cost | 59,546,386 |

b. Annual Cost

| | | |
|--------------------|---|--------------|
| + Years 1–10 | Federal Govt Cost—WBAT | \$ 2,600,000 |
| Years 4–10 | Staffing and Promotional Material | \$8,255,274 |

²⁰ Bureau of Labor Statistics, <http://www.bls.gov/oes/current/oes152031.htm>.

²¹ Initial Regulatory Evaluation Voluntary Program Participant's Survey.

| | | |
|--------------------|-------------------------------|--------------|
| Years 4–10 | ASAPs | 1,928,408 |
| + Years 4–10 | SMS Manual Updates | 1,655,000 |
| Years 4–10 | Total Cost Per Year | 11,838,682 |
| Years 1–10 | \$ 2,600,000 * 10 years | \$26,000,000 |
| Years 4–10 | \$11,838,682 * 7 years | 82,870,774 |

G. International Compatibility

In keeping with U.S. obligations under the Convention on International Civil Aviation, it is FAA policy to conform to International Civil Aviation Organization (ICAO) Standards and Recommended Practices to the maximum extent practicable. The FAA has reviewed the corresponding ICAO Standards and Recommended Practices and has identified the following differences with these proposed regulations. Amendment 30 to Annex 6 part I Section 3.2 Safety Management, Paragraph 3.3.6 effective 1 January, 2009 requires that a Flight Data Analysis Program be in the SMS standard. The FAA will file a difference with ICAO.

ICAO Annex 6 part I includes a provision that part 121 air carriers operating airplanes having a maximum gross takeoff weight in excess of 27,000 kg (approximately 59,400 lbs.). “. . . shall establish and maintain a flight data analysis programme as part of its safety management system.” Flight Data Analysis Program (FDAP) is a general term encompassing a number of means by which routine flight operations data may be acquired, recorded, analyzed, and shared. Flight Operational Quality Assurance (FOQA) is one such program. FOQA is a formal voluntary program which has been implemented by 41 air carriers conducting operations under part 121. FOQA specifications include installation of extensive flight data recording systems which facilitate rapid transfer of recorded data, de-identification of that data, and agreements between pilot organizations and the air carriers which define how this information may be used.

The part 121 fleet is diverse in terms of size, complexity, and age, as well as the size of the air carriers that operate them. Many of the older aircraft would require extensive modifications to adapt them to the technical requirements of a FOQA program. The investment and expense of implementing and maintaining such a system exceeds the financial capability of many smaller air carriers. There are a number of ways to meet the requirements of an FDAP. Therefore, the FAA will not require FOQA in this rule.

H. Environmental Analysis

FAA Order 1050.1E identifies FAA actions that are categorically excluded

from preparation of an environmental assessment or environmental impact statement under the National Environmental Policy Act in the absence of extraordinary circumstances. The FAA has determined this rulemaking action qualifies for the categorical exclusion identified in Chapter 3, paragraph 312d and involves no extraordinary circumstances.

I. Regulations Affecting Intrastate Aviation in Alaska

Section 1205 of the FAA Reauthorization Act of 1996 (110 Stat. 3213) requires the FAA, when modifying its regulations in a manner affecting intrastate aviation in Alaska, to consider the extent to which Alaska is not served by transportation modes other than aviation, and to establish appropriate regulatory distinctions. In the NPRM, the FAA requested comments on whether the proposed rule should apply differently to intrastate operations in Alaska. The agency did not receive any comments, and has determined, based on the administrative record of this rulemaking, that there is no need to make any regulatory distinctions applicable to intrastate aviation in Alaska.

VI. Executive Order Determinations

A. Executive Order 13132, Federalism

The FAA has analyzed this final rule under the principles and criteria of Executive Order 13132, Federalism. The agency determined that this action will not have a substantial direct effect on the States, or the relationship between the Federal Government and the States, or on the distribution of power and responsibilities among the various levels of government, and, therefore, does not have Federalism implications.

B. Executive Order 13211, Regulations That Significantly Affect Energy Supply, Distribution, or Use

The FAA analyzed this final rule under Executive Order 13211, Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use (May 18, 2001). The agency has determined that it is not a “significant energy action” under the executive order and it is not likely to have a significant adverse effect on the supply, distribution, or use of energy.

VII. How To Obtain Additional Information

A. Rulemaking Documents

An electronic copy of a rulemaking document may be obtained by using the Internet—

1. Search the Federal eRulemaking Portal (<http://www.regulations.gov>);
2. Visit the FAA’s Regulations and Policies Web page at http://www.faa.gov/regulations_policies/ or
3. Access the Government Printing Office’s Web page at <http://www.gpo.gov/fdsys/browse/collection.action?collectionCode=FR>.

Copies may also be obtained by sending a request (identified by notice, amendment, or docket number of this rulemaking) to the Federal Aviation Administration, Office of Rulemaking, ARM–1, 800 Independence Avenue SW., Washington, DC 20591, or by calling (202) 267–9680.

B. Comments Submitted to the Docket

Comments received may be viewed by going to <http://www.regulations.gov> and following the online instructions to search the docket number for this action. Anyone is able to search the electronic form of all comments received into any of the FAA’s dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.).

C. Small Business Regulatory Enforcement Fairness Act

The Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996 requires FAA to comply with small entity requests for information or advice about compliance with statutes and regulations within its jurisdiction. A small entity with questions regarding this document, may contact its local FAA official, or the person listed under the **FOR FURTHER INFORMATION CONTACT** heading at the beginning of the preamble. To find out more about SBREFA on the Internet, visit http://www.faa.gov/regulations_policies/rulemaking/sbre_act/.

List of Subjects

14 CFR Part 5

Air carriers, Aircraft, Airmen, Aviation safety, Reporting and recordkeeping requirements, Safety, Transportation.

14 CFR Part 119

Administrative practice and procedure, Air carriers, Aircraft, Aviation safety, Charter flights, Reporting and recordkeeping requirements.

The Amendment

In consideration of the foregoing, and under the authority of 49 U.S.C. 106(f) and 44701(a)(5), the Federal Aviation amends chapter I of title 14, Code of Federal Regulations, as follows:

- 1. The heading for subchapter A is revised to read as follows:

Subchapter A—Definitions and General Requirements

- 2. Add part 5 to subchapter A to read as follows:

PART 5—SAFETY MANAGEMENT SYSTEMS**Subpart A—General**

- Sec.
- 5.1 Applicability.
 - 5.3 General requirements.
 - 5.5 Definitions.

Subpart B—Safety Policy

- 5.21 Safety policy.
- 5.23 Safety accountability and authority.
- 5.25 Designation and responsibilities of required safety management personnel.
- 5.27 Coordination of emergency response planning.

Subpart C—Safety Risk Management

- 5.51 Applicability.
- 5.53 System analysis and hazard identification.
- 5.55 Safety risk assessment and control.

Subpart D—Safety Assurance

- 5.71 Safety performance monitoring and measurement.
- 5.73 Safety performance assessment.
- 5.75 Continuous improvement.

Subpart E—Safety Promotion

- 5.91 Competencies and training.
- 5.93 Safety communication.

Subpart F—SMS Documentation and Recordkeeping

- 5.95 SMS documentation.
- 5.97 SMS records.

Authority: Pub. L. 111–216, sec. 215 (Aug. 1, 2010); 49 U.S.C. 106(f), 106(g), 40101, 40113, 40119, 41706, 44101, 44701–44702, 44705, 44709–44711, 44713, 44716–44717, 44722, 46105.

Subpart A—General**§ 5.1 Applicability.**

(a) A certificate holder under part 119 of this chapter authorized to conduct operations in accordance with the requirements of part 121 of this chapter must have a Safety Management System that meets the requirements of this part

and is acceptable to the Administrator by January 8, 2018.

(b) A certificate holder must submit an implementation plan to the FAA Administrator for review no later than September 9, 2015. The implementation plan must be approved no later than March 9, 2016.

(c) The implementation plan may include any of the certificate holder's existing programs, policies, or procedures that it intends to use to meet the requirements of this part, including components of an existing SMS.

§ 5.3 General requirements.

(a) Any certificate holder required to have a Safety Management System under this part must submit the Safety Management System to the Administrator for acceptance. The SMS must be appropriate to the size, scope, and complexity of the certificate holder's operation and include at least the following components:

- (1) Safety policy in accordance with the requirements of subpart B of this part;
- (2) Safety risk management in accordance with the requirements of subpart C of this part;
- (3) Safety assurance in accordance with the requirements of subpart D of this part; and
- (4) Safety promotion in accordance with the requirements of subpart E of this part.

(b) The Safety Management System must be maintained in accordance with the recordkeeping requirements in subpart F of this part.

(c) The Safety Management System must ensure compliance with the relevant regulatory standards in chapter I of Title 14 of the Code of Federal Regulations.

§ 5.5 Definitions.

Hazard means a condition that could foreseeably cause or contribute to an aircraft accident as defined in 49 CFR 830.2.

Risk means the composite of predicted severity and likelihood of the potential effect of a hazard.

Risk control means a means to reduce or eliminate the effects of hazards.

Safety assurance means processes within the SMS that function systematically to ensure the performance and effectiveness of safety risk controls and that the organization meets or exceeds its safety objectives through the collection, analysis, and assessment of information.

Safety Management System (SMS) means the formal, top-down, organization-wide approach to managing safety risk and assuring the

effectiveness of safety risk controls. It includes systematic procedures, practices, and policies for the management of safety risk.

Safety objective means a measurable goal or desirable outcome related to safety.

Safety performance means realized or actual safety accomplishment relative to the organization's safety objectives.

Safety policy means the certificate holder's documented commitment to safety, which defines its safety objectives and the accountabilities and responsibilities of its employees in regards to safety.

Safety promotion means a combination of training and communication of safety information to support the implementation and operation of an SMS in an organization.

Safety Risk Management means a process within the SMS composed of describing the system, identifying the hazards, and analyzing, assessing and controlling risk.

Subpart B—Safety Policy**§ 5.21 Safety policy.**

(a) The certificate holder must have a safety policy that includes at least the following:

- (1) The safety objectives of the certificate holder.
- (2) A commitment of the certificate holder to fulfill the organization's safety objectives.
- (3) A clear statement about the provision of the necessary resources for the implementation of the SMS.
- (4) A safety reporting policy that defines requirements for employee reporting of safety hazards or issues.
- (5) A policy that defines unacceptable behavior and conditions for disciplinary action.

(6) An emergency response plan that provides for the safe transition from normal to emergency operations in accordance with the requirements of § 5.27.

(b) The safety policy must be signed by the accountable executive described in § 5.25.

(c) The safety policy must be documented and communicated throughout the certificate holder's organization.

(d) The safety policy must be regularly reviewed by the accountable executive to ensure it remains relevant and appropriate to the certificate holder.

§ 5.23 Safety accountability and authority.

(a) The certificate holder must define accountability for safety within the organization's safety policy for the following individuals:

(1) Accountable executive, as described in § 5.25.

(2) All members of management in regard to developing, implementing, and maintaining SMS processes within their area of responsibility, including, but not limited to:

(i) Hazard identification and safety risk assessment.

(ii) Assuring the effectiveness of safety risk controls.

(iii) Promoting safety as required in subpart E of this part.

(iv) Advising the accountable executive on the performance of the SMS and on any need for improvement.

(3) Employees relative to the certificate holder's safety performance.

(b) The certificate holder must identify the levels of management with the authority to make decisions regarding safety risk acceptance.

§ 5.25 Designation and responsibilities of required safety management personnel.

(a) *Designation of the accountable executive.* The certificate holder must identify an accountable executive who, irrespective of other functions, satisfies the following:

(1) Is the final authority over operations authorized to be conducted under the certificate holder's certificate(s).

(2) Controls the financial resources required for the operations to be conducted under the certificate holder's certificate(s).

(3) Controls the human resources required for the operations authorized to be conducted under the certificate holder's certificate(s).

(4) Retains ultimate responsibility for the safety performance of the operations conducted under the certificate holder's certificate.

(b) *Responsibilities of the accountable executive.* The accountable executive must accomplish the following:

(1) Ensure that the SMS is properly implemented and performing in all areas of the certificate holder's organization.

(2) Develop and sign the safety policy of the certificate holder.

(3) Communicate the safety policy throughout the certificate holder's organization.

(4) Regularly review the certificate holder's safety policy to ensure it remains relevant and appropriate to the certificate holder.

(5) Regularly review the safety performance of the certificate holder's organization and direct actions necessary to address substandard safety performance in accordance with § 5.75.

(c) *Designation of management personnel.* The accountable executive

must designate sufficient management personnel who, on behalf of the accountable executive, are responsible for the following:

(1) Coordinate implementation, maintenance, and integration of the SMS throughout the certificate holder's organization.

(2) Facilitate hazard identification and safety risk analysis.

(3) Monitor the effectiveness of safety risk controls.

(4) Ensure safety promotion throughout the certificate holder's organization as required in subpart E of this part.

(5) Regularly report to the accountable executive on the performance of the SMS and on any need for improvement.

§ 5.27 Coordination of emergency response planning.

Where emergency response procedures are necessary, the certificate holder must develop and the accountable executive must approve as part of the safety policy, an emergency response plan that addresses at least the following:

(a) Delegation of emergency authority throughout the certificate holder's organization;

(b) Assignment of employee responsibilities during the emergency; and

(c) Coordination of the certificate holder's emergency response plans with the emergency response plans of other organizations it must interface with during the provision of its services.

Subpart C—Safety Risk Management

§ 5.51 Applicability.

A certificate holder must apply safety risk management to the following:

(a) Implementation of new systems.

(b) Revision of existing systems.

(c) Development of operational procedures.

(d) Identification of hazards or ineffective risk controls through the safety assurance processes in subpart D of this part.

§ 5.53 System analysis and hazard identification.

(a) When applying safety risk management, the certificate holder must analyze the systems identified in § 5.51. Those system analyses must be used to identify hazards under paragraph (c) of this section, and in developing and implementing risk controls related to the system under § 5.55(c).

(b) In conducting the system analysis, the following information must be considered:

(1) Function and purpose of the system.

(2) The system's operating environment.

(3) An outline of the system's processes and procedures.

(4) The personnel, equipment, and facilities necessary for operation of the system.

(c) The certificate holder must develop and maintain processes to identify hazards within the context of the system analysis.

§ 5.55 Safety risk assessment and control.

(a) The certificate holder must develop and maintain processes to analyze safety risk associated with the hazards identified in § 5.53(c).

(b) The certificate holder must define a process for conducting risk assessment that allows for the determination of acceptable safety risk.

(c) The certificate holder must develop and maintain processes to develop safety risk controls that are necessary as a result of the safety risk assessment process under paragraph (b) of this section.

(d) The certificate holder must evaluate whether the risk will be acceptable with the proposed safety risk control applied, before the safety risk control is implemented.

Subpart D—Safety Assurance

§ 5.71 Safety performance monitoring and measurement.

(a) The certificate holder must develop and maintain processes and systems to acquire data with respect to its operations, products, and services to monitor the safety performance of the organization. These processes and systems must include, at a minimum, the following:

(1) Monitoring of operational processes.

(2) Monitoring of the operational environment to detect changes.

(3) Auditing of operational processes and systems.

(4) Evaluations of the SMS and operational processes and systems.

(5) Investigations of incidents and accidents.

(6) Investigations of reports regarding potential non-compliance with regulatory standards or other safety risk controls established by the certificate holder through the safety risk management process established in subpart B of this part.

(7) A confidential employee reporting system in which employees can report hazards, issues, concerns, occurrences, incidents, as well as propose solutions and safety improvements.

(b) The certificate holder must develop and maintain processes that

analyze the data acquired through the processes and systems identified under paragraph (a) of this section and any other relevant data with respect to its operations, products, and services.

§ 5.73 Safety performance assessment.

(a) The certificate holder must conduct assessments of its safety performance against its safety objectives, which include reviews by the accountable executive, to:

(1) Ensure compliance with the safety risk controls established by the certificate holder.

(2) Evaluate the performance of the SMS.

(3) Evaluate the effectiveness of the safety risk controls established under § 5.55(c) and identify any ineffective controls.

(4) Identify changes in the operational environment that may introduce new hazards.

(5) Identify new hazards.

(b) Upon completion of the assessment, if ineffective controls or new hazards are identified under paragraphs (a)(2) through (5) of this section, the certificate holder must use the safety risk management process described in subpart C of this part.

§ 5.75 Continuous improvement.

The certificate holder must establish and implement processes to correct safety performance deficiencies identified in the assessments conducted under § 5.73.

Subpart E—Safety Promotion

§ 5.91 Competencies and training.

The certificate holder must provide training to each individual identified in § 5.23 to ensure the individuals attain and maintain the competencies necessary to perform their duties

relevant to the operation and performance of the SMS.

§ 5.93 Safety communication.

The certificate holder must develop and maintain means for communicating safety information that, at a minimum:

(a) Ensures that employees are aware of the SMS policies, processes, and tools that are relevant to their responsibilities.

(b) Conveys hazard information relevant to the employee's responsibilities.

(c) Explains why safety actions have been taken.

(d) Explains why safety procedures are introduced or changed.

Subpart F—SMS Documentation and Recordkeeping

§ 5.95 SMS documentation.

The certificate holder must develop and maintain SMS documentation that describes the certificate holder's:

(a) Safety policy.

(b) SMS processes and procedures.

§ 5.97 SMS records.

(a) The certificate holder must maintain records of outputs of safety risk management processes as described in subpart C of this part. Such records must be retained for as long as the control remains relevant to the operation.

(b) The certificate holder must maintain records of outputs of safety assurance processes as described in subpart D of this part. Such records must be retained for a minimum of 5 years.

(c) The certificate holder must maintain a record of all training provided under § 5.91 for each individual. Such records must be retained for as long as the individual is employed by the certificate holder.

(d) The certificate holder must retain records of all communications provided under § 5.93 for a minimum of 24 consecutive calendar months.

PART 119—CERTIFICATION: AIR CARRIERS AND COMMERCIAL OPERATORS

■ 3. The authority citation for part 119 is revised to read as follows:

Authority: Pub. L. 111–216, sec. 215 (August 1, 2010); 49 U.S.C. 106(f), 106(g), 1153, 40101, 40102, 40103, 40113, 44105, 44106, 44111, 44701–44717, 44722, 44901, 44903, 44904, 44906, 44912, 44914, 44936, 44938, 46103, 46105.

■ 4. Add § 119.8 to read as follows:

§ 119.8 Safety Management Systems.

(a) Certificate holders authorized to conduct operations under part 121 of this chapter must have a safety management system that meets the requirements of part 5 of this chapter and is acceptable to the Administrator by March 9, 2018.

(b) A person applying to the Administrator for an air carrier certificate or operating certificate to conduct operations under part 121 of this chapter after March 9, 2015, must demonstrate, as part of the application process under § 119.35, that it has an SMS that meets the standards set forth in part 5 of this chapter and is acceptable to the Administrator.

Issued in Washington, DC, under the authority provided by 49 U.S.C. 106(f), 44701(a)(5) and Sec. 215 of Pub. L. 111–216, 124 Stat. 2350 (49 U.S.C. 44701 note) on January 5, 2015.

Michael P. Huerta,
Administrator.

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