

National Transportation Safety Board

Office of the Chair

Washington, DC 20594



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US Department of Transportation
Docket Operations, M-30
1200 New Jersey Avenue, SE
Room W12-140
West Building Ground Floor
Washington, DC 20590-0001

Attention: Docket No. FAA-2021-0419

Dear Sir or Madam:

The National Transportation Safety Board (NTSB) has reviewed the Federal Aviation Administration's (FAA's) notice of proposed rulemaking (NPRM) titled, "Safety Management Systems," which was published at 88 *Federal Register* 1932 on January 11, 2023.

The NPRM proposes to expand the applicability of Title 14 *Code of Federal Regulations (CFR)* Part 5 Safety Management Systems (SMSs) beyond 14 *CFR* Part 121 operators to include 14 *CFR* Part 135 operators, air tour operators under 14 *CFR* 91.147, and certain certificate holders under 14 *CFR* Part 21.

The FAA states that the successful use of SMSs by Part 121 operators suggests that expanding SMS requirements can benefit other sectors of the aviation system. According to the NPRM, the proposed action addresses a congressional mandate and NTSB safety recommendations and moves the United States closer to harmonizing with International Civil Aviation Organization Annex 19 on SMSs for aviation service providers. The FAA analyzed our accident investigations to support this rulemaking project and demonstrate the benefits of SMSs.

The NTSB has long recognized the value of SMSs for a variety of aviation operations, and some of our safety recommendations to the FAA on this topic have been closed; our safety recommendations will be discussed below. For example, in 2007, we issued Safety Recommendation A-07-10, asking the FAA to require all Part 121 operators to establish SMSs.¹ In response, the FAA published a final rule

¹ We issued Safety Recommendation A-07-10 on January 23, 2007, following the NTSB's investigation into the October 14, 2004, crash of Pinnacle Airlines flight 3701 near Jefferson City, Missouri. See NTSB. 2007. *Crash of Pinnacle Airlines Flight 3701, Bombardier CL-600-2B19, N8396A, Jefferson City, Missouri, October 14, 2004*. [AAR-07-01](#). Washington, DC. Use the [CAROL Query](#) to access information on our safety recommendations and investigations.

titled "Safety Management Systems for Domestic, Flag, and Supplemental Operations Certificate Holders," which became effective on March 9, 2015, and required all Part 121 operators to implement SMSs (80 *Federal Register* 1307). As a result, on December 1, 2015, Safety Recommendation A-07-10 was classified Closed–Acceptable Action. In subsequent comments to the FAA during the rulemaking process leading to the requirement for Part 121 operators to have SMSs, we have consistently supported the expansion of SMS to other aviation service providers.

In 2009, we issued Safety Recommendation A-09-16, which asked the FAA to encourage all Part 91 business operators to adopt SMSs.² In response, on April 11, 2011, the FAA issued Information for Operators 11010, "[FAA SMS] Developments for General Aviation (GA) Operators." As a result, this safety recommendation was classified Closed–Acceptable Action. We also issued Safety Recommendation A-09-89, which asked the FAA to require helicopter emergency medical services (HEMS) operators to implement SMSs.³ In follow-up correspondence, the FAA stated that its goal was to require SMSs for all Part 135 operators, including HEMS. However, the FAA did not take action to require SMSs for HEMS operators, and on September 11, 2014, Safety Recommendation A-09-89 was classified Closed–Unacceptable Action.

In 2016, we commented favorably on the FAA's supplemental NPRM on requiring SMSs for 14 CFR Part 139 airports but disagreed with the proposal's allowance that smaller airports serving air carrier aircraft would be exempted (81 *Federal Register* 45871). Currently, our Most Wanted List of Transportation Safety Improvements for 2021-2023 includes our call to "require and verify the effectiveness of SMSs in all revenue passenger-carrying aviation operations."

Open NTSB Safety Recommendations on SMS

Six of our safety recommendations on SMSs issued to the FAA remain open. The oldest, Safety Recommendation A-16-36, asked the FAA to require that all Part 135 operators establish SMSs. We issued this safety recommendation from the investigation into the 2015 crash of a Part 135 on-demand charter flight in which all

² We issued Safety Recommendation A-09-16 on February 18, 2009, following our investigation into the July 10, 2007, crash of an airplane operated by the National Association for Stock Car Auto Racing corporate aviation division. For more information, see NTSB. 2009. *In-flight Fire, Emergency Descent, and Crash in a Residential Area, Cessna 310R, N501N, Sanford, Florida, July 10, 2007.* [AAR-09/01/SUM](#). Washington, DC: NTSB.

³ We issued Safety Recommendation A-09-89 on September 24, 2009, as part of our study into the increase in fatal accidents involving HEMS operations. For more information, see NTSB. 2009. [Letter from Chairman Deborah A.P. Hersman to J. Randolph Babbitt, Administrator, Federal Aviation Administration, issuing Safety Recommendations A-09-87 through -96, September 24.](#) Washington, DC: NTSB.

nine persons onboard the airplane died.⁴ In the years since, we reiterated this safety recommendation in the final reports of seven Part 135 accidents resulting in 39 fatalities and nine serious injuries, and it is currently classified Open–Unacceptable Response.⁵ In 2019, Safety Recommendation A-19-28 asked the FAA to require all commercial air tour operators, regardless of their operating rule, to implement an SMS. This safety recommendation resulted from the investigation of an air tour accident conducted under 14 *CFR* 91.147 in New York, New York, in which the five passengers on board died.⁶

In March 2021, we reiterated Safety Recommendation A-19-28 in our investigation report on the safety of revenue passenger-carrying operations conducted under Part 91; the safety recommendation is currently classified Open–Acceptable Response. We also issued two new safety recommendations in that report: Safety Recommendations A-21-13 and -14 expanded our call for SMSs to include all Part 91 revenue passenger-carrying operations such as sightseeing flights conducted in hot air balloons, intentional parachute jump flights, living history flight experience and other vintage aircraft flights, among others. Both recommendations are currently classified Open–Acceptable Response.⁷

In November 2021, following an accident involving the cross-wiring of the airplane’s antiskid brake systems that resulted in one fatality, we issued Safety Recommendation A-21-48 asking the FAA to require organizations that design,

⁴ We issued Safety Recommendation A-16-36 on November 3, 2016, as part of the final report of the investigation into a November 10, 2015, accident in Akron, Ohio. The Hawker 700A airplane operating as an on-demand charter flight under 14 *CFR* Part 135 departed controlled flight while on approach to the airport and impacted an apartment building. For more information, see NTSB. 2016. *Crash During Nonprecision Instrument Approach to Landing, Execuflight Flight 1526, British Aerospace HS 125-700A, N237WR, Akron, Ohio, November 10, 2015.* [AAR-16-03](#). Washington, DC: NTSB.

⁵ These accidents involved HEMS, air tours, and on-demand charter operations. See NTSB accident reports [AAR-17-02](#), [AAR-18-02](#), [AAR-19-02](#), [AAR-20-01](#), [AAR-21-01](#), [AAR-21-04](#), and [AIR-22-05](#). For a history of reiterations and correspondence with the FAA about this safety recommendation, see [Safety Recommendation A-16-36](#).

⁶ For more information on this March 11, 2018, accident involving an Airbus Helicopters AS350 which lost engine power during cruise flight, see NTSB. 2019. *Inadvertent Activation of the Fuel Shutoff Lever and Subsequent Ditching, Liberty Helicopters Inc., Operating a FlyNYON Doors-Off Flight, Airbus Helicopters AS350 B2, N350LH, New York, New York, March 11, 2018.* [AAR-19-04](#). Washington, DC: NTSB.

⁷ Safety Recommendation A-21-13 asked the FAA require SMSs for the revenue passenger-carrying operations conducted under Part 91 or 14 *CFR* 119.1(e) exceptions, and Safety Recommendation A-21-14 asked that the FAA provide ongoing oversight of each operator’s SMS once established. For more information, see NTSB. 2021. *Enhance Safety of Revenue Passenger-Carrying Operations Conducted Under 14 Code of Federal Regulations Part 91.* [AAR-21-03](#). Washington, DC: NTSB.

manufacture, and maintain aircraft to establish an SMS. Safety Recommendation A-21-48 is currently classified Open–Await Response.⁸

Most recently, in May 2022, we issued Safety Recommendation A-22-15 asking the FAA to develop guidance for small operators for scaling an SMS that includes methods and techniques for implementation and specific examples applicable to several operational sectors, including air tours.⁹ In the 15 years since our first aviation safety recommendation for SMSs in 2007, our investigations have consistently shown the need for aviation safety providers to implement SMSs to ensure its benefits to industry and the public are realized.

Our specific comments on areas of the NPRM relevant to these open safety recommendations follow.

Title 14 CFR Parts 135 and 91.147 SMS

We strongly support the proposed expansion of SMS requirements to include Part 135 operations without exceptions for the size of the operator. Safety Recommendation A-16-36 applies to all Part 135 operators because our investigations demonstrated that catastrophic accidents in Part 135 operations occur across a wide range of operator sizes. We believe that the safety of all Part 135 operations can be improved through implementation of SMSs. If the FAA issues a final rule requiring SMS for all Part 135 operations, it will likely satisfy the intent of Safety Recommendation A-16-36. We appreciate that the FAA has recognized the need for SMS for HEMS operations, as we have previously recommended.

We also strongly support the proposed expansion of SMS requirements to include all operators conducting air tours under 14 *CFR* 91.147. As with our discussion on Part 135, we note that Safety Recommendation A-19-28 applied to all operators conducting air tour operations under 14 *CFR* 91.147 regardless of size. If this aspect of the NPRM were adopted as presented, it would likely satisfy the intent of Safety Recommendation A-19-28.

We appreciate that the diversity of Part 135 operators requires the FAA to consider how the rule can be effectively interpreted and heeded by operators spanning a wide range of characteristics, including their size and type of operations and available resources; this also applies to air tour operators under 14 *CFR* 91.147. In the NPRM, the FAA sought feedback (Question 2) from industry on whether the requirement for SMS should be limited to a certain subset of 14 *CFR* Part 135 and

⁸ For more information, see NTSB. 2021. *Runway Overrun During Landing, Peninsula Aviation Services Inc., d.b.a. PenAir flight 3296, Saab 2000, N686PA, Unalaska, Alaska, October 17, 2019.* [AAR-21-05](#). Washington, DC: NTSB.

⁹ Safety Recommendation A-22-15 is currently classified Open–Initial Response Received. For more information, see NTSB. 2022. *Collision into Terrain, Safari Aviation Inc., Airbus AS350 B2, N985SA, Kekaha, Hawaii, December 26, 2019.* [AIR-22-05](#). Washington, DC: NTSB.

91.147 operators, and what alternatives would achieve the same safety objectives as SMSs for operators not included under an SMS rule.

However, the value of an SMS to an operator comes from proactive management of safety through implementation of its four clearly defined and interdependent components (safety policy, safety risk management, safety assurance, and safety promotion). Each of the components are essential for the benefits of SMSs to be realized. Operators are required to implement all four components in their SMSs, but inherent in the performance-based structure of 14 *CFR* Part 5 is that the operator determines how to implement each of the four components.

Because the specific methods an operator uses to implement their SMS are not prescribed in the rule, we believe that the current SMS framework provides sufficient flexibility to small operators under both Part 135 and 14 *CFR* 91.147, and there are no alternatives that would achieve the same safety objectives as SMSs. Robust guidance on SMS scalability, as in Safety Recommendation A-22-15, is essential for the implementation of SMSs for operators of any size as well as FAA oversight of small and medium sized operators' development and use of SMSs, as discussed later in our comments.

Finally, we note that the NPRM's scope is limited to only air tour operations conducted under 14 *CFR* 91.147 and does not apply to other operations under Part 91. Specifically, it would not require SMSs for revenue passenger-carrying operations conducted under Part 91 as we recommended. Thus, the proposed rule does not address the intent of Safety Recommendations A-21-13 and -14. We remain steadfast in the position taken in our special investigation report that SMSs are necessary to improve the safety of all Part 91 revenue passenger-carrying operations, and we urge the FAA to address this omission in the final rule.

Title 14 *CFR* Part 21 SMS

We support the expansion of SMS requirements to production certificate and type certificate holders under Part 21, and we agree with the FAA's statement that this action could help mitigate or prevent accidents involving design and production issues. However, if adopted, this action would likely only partially satisfy the intent of Safety Recommendation A-21-48, as this safety recommendation asked for organizations that design, manufacturer, and maintain aircraft to establish an SMS.

The NPRM's revisions related to Part 21 only address the design and manufacturer aspects of our safety recommendation and not the maintenance aspect. If the FAA expanded SMSs to include all Part 135 operators, that action would likely help (with the current requirement for SMSs in Part 121 operations) to partially address our concern for maintenance SMSs if those operators maintain their own aircraft. There would, however, remain areas of maintenance not required to have SMSs. Specifically, certificate holders of repair stations under 14 *CFR* Part 145.

In recent correspondence to the NTSB regarding Safety Recommendations A-21-13 and -14, the FAA said that requiring people who maintain Part 121 aircraft under Part 145 to use an SMS was under consideration in this proposal. The NPRM solicits input (Question 9) on the potential expansion of SMS requirements to Part 145 repair stations in a future rulemaking. We believe that SMS requirements should be applied to Part 145 repair stations to address Safety Recommendation A-21-48, and we look forward to commenting on future rulemaking in this area.

Guidance on Scalability of SMSs

Our investigations have found that there is confusion about the applicability of SMSs to smaller operators. We issued Safety Recommendation A-22-15 to the FAA to address this issue, asking for the development of guidance on scaling an SMS that includes methods and techniques for implementation and specific examples applicable to several operational sectors. Although the NPRM references a draft revision to Advisory Circular 120-92, "Safety Management Systems for Aviation Service Providers," contained in the docket for this rulemaking that includes information on scalability, our initial review of the draft suggests it does not address the call for specificity outlined in Safety Recommendation A-22-15 because it remains too general.

In addition to addressing the misconceptions encountered in our investigations, more explicit guidance on strategies and methods for smaller operators to use to implement SMSs would reduce the burden on a wide range of operators in their efforts to comply with the proposed rules. The guidance is also needed by FAA inspectors performing oversight of smaller operators' compliance with the proposed regulations.

The FAA is in the best position to create a detailed and usable inventory of strategies and methods used by operators of all sizes to help operators scale SMSs to the size of their operations. The FAA could compile this information based on its experience working with operators who adopted SMSs before the issuance of Part 5, overseeing Part 121 operators required to implement SMSs, and working with SMS Voluntary Program participants across Parts 135, 21, and 145. We encourage the FAA to consider creating such a resource on SMS scalability as this rulemaking concludes.

Summary Observations

Our review of the NPRM suggests that, if adopted, the proposed rule would improve aviation safety through expansion of the types of operators and service providers required to use SMSs and the verification and validation of the effectiveness of those providers' SMSs through FAA oversight. The proposed rule changes address our open safety recommendations affecting Part 135 and 14 *CFR* 91.147 operators and designers and manufacturers. Work remains to address expanding SMSs to all Part 91 revenue passenger-carrying operations and Part 145 maintenance operations

and improving guidance to operators on the scalability of SMSs. We applaud the FAA's data-driven, analytic approach in this rulemaking project in supporting the proposed rule and illustrating how the proposed rule changes can improve safety for the proposed operations.

For more than 15 years, we have advocated for SMSs in aviation and commented on previous FAA rulemaking projects that proposed expansion of SMSs to air service providers in line with International Civil Aviation Organization Annex 19. However, in that period, this NPRM is only the FAA's second major rulemaking effort addressing SMSs for air service providers that provide carriage to the public, and within our National Airspace System, SMSs currently are required for only Part 121. We strongly agree with the FAA's observation in the NPRM about the waning value of voluntary compliance compared to mandated SMS:

Although the FAA recognizes the value of the variety of voluntary safety programs, their optional nature and lack of comprehensive application of all elements of Part 5 may not yield as much safety benefit as a mandatory SMS that complies with all proposed requirements of Part 5. Therefore, to ensure that the minimum standard is met, the FAA is proposing to broaden the application of Part 5 SMS requirements.

We believe that the widespread, systematic, and comprehensive use of SMSs as compared to its current patchwork implementation will improve the safety of aviation and benefit both industry and the traveling public. We call on the FAA to expedite progress in creating its desired "network of organizations that speak the same language of safety management" through both the adoption of this NPRM and the continued expansion of SMS requirements to other aviation service providers as described above.

We appreciate the opportunity to comment on this NPRM.

Sincerely,

Jennifer Homendy
Chair