

Implementing SMS at Airports: PROGRESS AND CHALLENGES

Safety Management Systems (SMS) will likely be a pervasive part of airport development and operations in the years to come. The Federal Aviation Administration (FAA) is currently undertaking an internal and external initiative to implement SMS to comply with International Civil Aviation Organization (ICAO) requirements. This implementation is sure to have significant impacts on airports and their consultants. So far, the experiences at some airports have shown promise, as well as challenges. One thing is evident: as the implementation of SMS evolves in the United States, consulting opportunities may become more about local understanding, airport relationships, and individual cultures than generic implementation checklists and guides.

SMS and Part 139

Last year, the Seattle-Tacoma International Airport (Sea-Tac) joined 25 other airports as part of an FAA Pilot Program to develop and implement SMS programs. The Pilot Study focused on a gap analysis, specifically examining how the typical SMS elements (Policy, Risk, Assurance, Promotion) compared to existing operations for both the movement (runways and taxiways) and non-movement (ramp and baggage) areas.

A central question was to what extent US Title 14 Code of Federal Regulations (CFR) Part 139 certification requirements could be adapted or modified to support an SMS program. The results were promising at Sea-Tac: approximately 45 percent of the current Part 139 program could be included in an SMS program. Snow removal, emergency response, pavement, training tracking, fire and rescue, wildlife hazards, hazardous materials, fueling, and self inspection are all examples of applicable Part 139 programs.

Sea-Tac had advantages, including an automated self-inspection tool that rigorously manages its Part 139 program. This software application has long-term potential to include SMS reporting and inspection/audit elements. Sea-Tac, like most Part 139 airports, is excellent at meeting certification requirements by employing qualified staff and establishing programs to ensure operations are meeting federal regulations. Sea-Tac also has existing safety-related programs, communication routes, committees, and relevant departments that could be adapted to support an SMS program.

Part 139 airports are typically adept at developing fit-for-purpose programs from complex FAA regulatory and advisory guidelines. This is an important finding that indicates airports

could, with adequate funding and guidelines, implement SMS programs as successfully as Part 139 programs.

Not surprisingly, Sea-Tac had some SMS gaps. Its biggest limitation is staffing, and current economic constraints will not allow for additional hires. As a result, implementation of an SMS program would require collateral duty assignments to existing staff. This is a significant challenge for Sea-Tac and most likely for other airports.

Phase II and Beyond

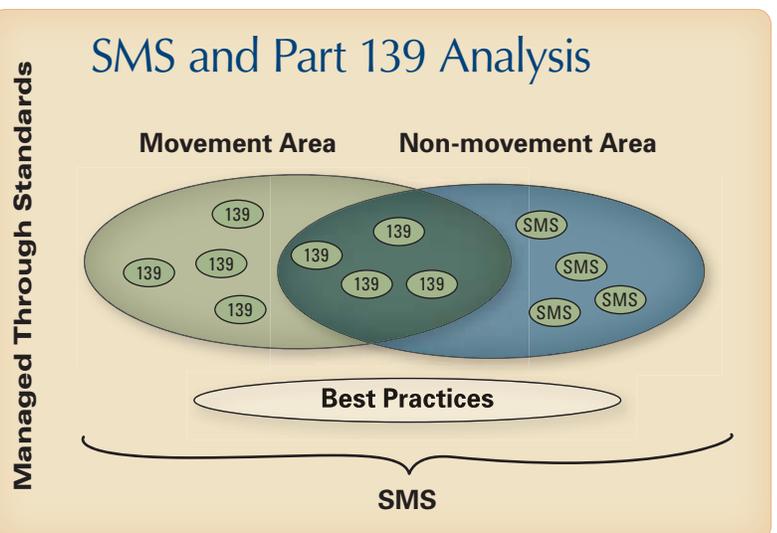
Sea-Tac delivered its Pilot Study findings to the FAA in mid-2008. After reviewing and compiling all Pilot airport results, the FAA decided to continue its research and further clarify the impact of SMS on Part 139 Airports. The FAA's second series of Pilot Studies is focused on smaller Part 139 airports (Class II, III, and IV). These airports are conducting studies similar to the first series of pilot airports, but are developing gap analyses and safety implementation plans that address unique strategies, staffing impacts, environments, and cultures for their smaller or non-commercial operations.

Sea-Tac, along with South Bend Regional Airport in Indiana and Concord Regional Airport in North Carolina, were selected for a

A PRIMER ON PART 139

14 CFR Part 139 requires the FAA to issue Airport Operating Certificates to airports that serve scheduled and unscheduled air carrier aircraft with more than 30 seats and scheduled air carrier operations in aircraft with more than 9 seats but less than 31 seats.

Airport Operating Certificates ensure safety. To obtain a certificate, an airport must agree to defined operational and safety standards outlined in the Part 139 Regulations and Advisory Circulars. These requirements vary depending on the size of the airport and the type of flights available.





separate year-long, follow-up Pilot Study that is currently underway. These airports are diverse in size and complexity, and they are tasked with testing the First Pilot Study's SMS Manual and Implementation Plan. Specifically, the airports will be analyzing whether the proposed plans are operationally feasible, functional, and cost-effective to implement.

One of the concerns identified in the First Pilot Study was the ability to incorporate an ICAO-centric SMS program into a Part 139 operation. Philosophically, ICAO's SMS should work in US Airports, but a test implementation could show possible differences. The combined findings from the prior and current studies are expected to provide the FAA additional information to assist with a Notice of Proposed Rule Making (NPRM) scheduled for early 2010.

Sea-Tac now plans to test critical elements of a typical SMS program against day-to-day operations. To complete a more thorough analysis, the consulting team is job-shadowing airport duty managers and airfield inspectors, reviewing standard operating procedures, tracking data from start to finish, meeting with tenants, participating in safety meetings, assessing legal and risk impacts, testing possible audit and inspection programs, documenting staff roles and responsibilities, documenting duties and reporting hierarchies, and re-visiting Part 139. The consulting team is co-located with the aviation operations team three to four days a week over the next five to six months to accomplish this task.

Mark Coates, SMS Sponsor and Senior Manager of Airport Operations at Sea-Tac,

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decided early in the follow-up Study proposal stage to require a 70 percent onsite presence from his consultants. Said Coates,

"I can't imagine implementing an SMS system without a committed and integrated on-site team. Understanding our airport's complex operations, teams, processes, and culture would be challenging to grasp through a couple of site visits. Having the team work directly with our operations staff will encourage buy-in and create synergies that I believe will result in a program that fits for the Sea-Tac community. It would be impossible to understand these relationships from an organizational chart; with SMS so much of the success relates to understanding the airport's culture."

Consultants' Role

Not all airports have the ability to integrate consultants into their daily operations, but the value of being on-site can certainly help consultants understand the subtle differences in management styles and organizational cultures as they craft an airport-specific SMS program. At Sea-Tac, the consulting team continues to gain an understanding of aviation operations. As a result, the final SMS program should more accurately reflect the airport's specific needs and have fewer implementation problems.

Leveraging the strategies, templates, and guides available in the aviation community are an excellent start to developing an SMS program, but assuming the implementation can be done exactly the same at all airports could potentially compromise the success of the program and the safety of the operations. ✈

List of Three Follow on Study Airports

- » Seattle-Tacoma International Airport
- » South Bend Regional Airport (IN)
- » Concord Regional Airport (NC)

Key tasks each airport will investigate as part of the follow on study:

Airport Safety Policy

Task 1. Develop standard elements for an SMS Policy.

Task 2. Define Safety Manager's roles and responsibilities including Safety Committee functions, where applicable.

Task 3. Review non-punitive programs with regard to legal authority.

Task 4. Research third party data collection, collaboration, and reporting systems.

Safety Risk Management

Task 1. Identify hazards.

Task 2. Determine the risk, assess the risk, and analyze the risk associated with hazards identified.

Task 3. Treat (mitigate) the risks for hazards identified and analyzed.

Task 4. Reevaluate, analyze and communicate risks.

Safety Assurance

Task 1. Establish a FOD program for the movement area, ramp, and bagwell areas.

Task 2. Develop a personnel training and record keeping program that meets the requirements developed under the airport's SMS Program.

Task 3. Develop a ramp and bagwell self-inspection program that ensures safety is maintained.

Task 4. Develop a minimum standard for safe operations on the ramp and in the bagwell.

Safety Promotion

At this time, no Federal funds may be used in the implementation of proving of safety promotion actions under the airport's SMS.

A presentation of the FAA's First Pilot study findings can be found at:
www.faa.gov/airports_airtraffic/airports/airport_safety/safety_management_systems/