Straight to the SOURCE

New FAA programs find and fix hidden risks.

BY JOSEPH TEIXEIRA

In the United States, 99.998 percent of air traffic operations take place according to the U.S. Federal Aviation Administration's (FAA's) strict safety guidelines. However, with controllers guiding as many as 7,000 flights at any one time, even a fraction of a percent of deviation can put an aircraft at risk.

Without waiting for accidents or incidents to occur, the FAA has found a way to identify and correct potential risks. Two FAA voluntary safety reporting programs for front-line employees already are producing results.

The confidential, nonpunitive programs draw information from the men and women

who guide the nation's airplanes and maintain the equipment necessary to keep the National Airspace System (NAS) running. One program was designed to engage air traffic controllers, and the other was designed for technical operations specialists; both were developed in partnership with their respective unions.

The programs go to the source for advanced knowledge. The FAA trusts its front-line employees to be our greatest resource to eliminate risk in the NAS.

Getting Results

The controllers' Air Traffic Safety Action Program (ATSAP) is attracting substantial participation. More than 60 percent of controllers have voluntarily submitted at least one ATSAP report — more than 48,000 total — since the program was implemented in 2008.

Most importantly, the program gets results. After reviewing ATSAP reports, safety panels comprising representatives from the FAA's Air Traffic Organization (ATO) and Air Traffic Safety Oversight Service, and the National Air Traffic Controllers Association (NATCA) have asked for corrections that have been implemented in 150 cases.

Thanks to ATSAP, pilots now get better information about runways that have been shortened for construction, trees have been removed to improve coverage of an airport surveillance radar system, and condensation that obstructed controllers' vision has been cleared from tower cab windowpanes.

The FAA sees another safety benefit from ATSAP: It encourages reflection that leads to learning. Reporting a safety event requires a controller to describe what happened and what should have happened.

The sheer act of explaining what you did and why you did it is the fundamental tenet of voluntary safety reporting. That's how you learn, and that learning often extends beyond the individual who files the report.

Managers See Value

Nysei Moses, a front-line manager at the airport traffic control tower and terminal radar approach control facility in Norfolk, Virginia, said she and other front-line managers were worried at first that controllers would use ATSAP's non-punitive element as an opportunity to take less care when performing their duties. Instead, the program has had the opposite effect, she said. Controllers are reading the program's regular briefing sheets (which do not include information that could identify the reporter) and learning from colleagues' experiences.

"The briefing sheets make the controller know that the things he or she is doing at the point of decision aren't isolated," Moses said. "Other controllers are experiencing the same kinds of breakdowns, and we need to get to the point that we're not setting ourselves up for it to happen again. The information is helping controllers watch for those things and correct those things early, rather than waiting for something to happen and filing an ATSAP report afterward."

The fact that the reports are written by fellow controllers enhances the likelihood that the information will be compelling and remembered. Controllers hear the language and terminology used by other controllers, and it resonates with them much more than anything an outsider could tell them.

Moses has been able to use the information from the briefing sheets to help guide new controllers through training and prepare them to handle air traffic on their own. "With the information from ATSAP, I can see early trends with new controllers," she said. "And we can help people who struggle in training break some of the bad habits that may eventually lead to bigger issues. I hope it becomes entrenched in the operation. I hope we stop calling it a program, and it just becomes part of how we do things."

As it becomes entrenched, ATSAP will continue to help solve safety issues that have nothing to do with the performance of people. In most safety situations, it is not the human being who is the hazard; it is the policy, procedure, training or situation.

Along those lines, ATSAP reports have helped identify and resolve issues with computer-based instruction, a restricted area over Washington,

The FAA said that the success of a safety reporting program for controllers has prompted demonstration of a similar program for technical operations specialists.

Report Gets a WINKK

As a result of an Air Traffic Safety Action Program (ATSAP) report, pilots flying between two busy Northeast U.S. airports now can use a route that they readily can program into their flight management systems, making it easier for controllers to issue the route clearance and reducing pilot-controller communications.

Before the change, the route between Philadelphia International Airport and John F. Kennedy International Airport in New York included a turn at the intersection of an airway and a radial from a nearby navaid. Pilots often had difficulty programming the intersection into their on-board computers and sometimes said they could not accept the clearance. With no other available routing, controllers at Philadelphia had to issue radar vectors as part of the clearance, which required coordination with controllers at New York Center.

On most days, that was not a big deal. Only a few scheduled flights operate from Philadelphia to Kennedy. But when thunderstorms or other impediments impacted the region's airspace, it got complicated. When weather or other issues prevent airplanes from landing at Kennedy, the flights often are diverted to Philadelphia. Once the problem clears, the diverted planes head back toward Kennedy.

Many of the diverted pilots work for international carriers or have flown across the country. During that long flight, they may have faced weather-related problems, endured holding, had to divert and encountered unfamiliar airspace. If a controller does not issue a straightforward route, all those factors create risk. But because a controller filed an ATSAP report, the risk is now reduced and the route is more efficient.

The controller's report recommended a new area navigation fix at the intersection of the airway and the radial. After local and national safety experts studied the issue, the U.S. Federal Aviation Administration created the new fix, called WINKK, on an accelerated schedule. Controllers can now issue a simple route, and pilots can focus on other duties.

— JT

U.S. Federal Aviation Administration

(WINKK)

A controller's report of a difficult intersection between Philadelphia and New York prompted the creation of a new waypoint: WINKK.

D.C., and a policy issue that resulted from combining sectors at a major terminal radar approach control facility.

Controllers See Value

Resolving systemic issues, some of which have been problems for years, encourages more controllers to use the program. When controllers see that ATSAP is an effective means to resolve long-standing issues, they become strong advocates for the program, said Lisa Cyr, a controller at Albuquerque (New Mexico) Center and NATCA national lead for the FAA's recurrent training program.

As part of implementing the recurrent training program, which draws much of its teaching material from ATSAP reports, Cyr traveled to nearly a dozen air traffic facilities and talked to 300 controllers and managers from all over the country. She heard many stories about how ATSAP's effectiveness won over front-line employees who were suspicious of the program when it first was introduced.

One example came from her control area at Albuquerque Center. After controllers who initially were doubtful about ATSAP saw that it resolved some minor safety issues at the facility, they began to file regular reports on a major problem. Two of the area's sectors, one that handled high-altitude traffic and another that handled very-high-altitude traffic, often had trouble with radio frequencies.

The clarity of transmissions on the frequencies was bad and getting worse, Cyr said. As a result of several ATSAP reports on the problem, the frequencies are being fixed. Now, controllers who initially were skeptical of the program are some of its most vocal proponents at the facility, Cyr said.

In its development of a safety culture, the FAA wants to create an environment in which employees can report safety events without fear of punishment. "We presume the good intent of our controllers and are more interested in the free flow of information than we are in punishing for errors," ATO Chief Operating Officer David Grizzle said. "This allows us to identify and address systemic risk."

Tech Ops Signs Up

Thanks in large part to ATSAP, the FAA has collected 10 times more data in the last three years than it used to receive through traditional reporting systems. The agency expects similar success with the voluntary safety reporting program created for its technical operations (tech ops) specialists.

The Technical Operations Safety Program, or T-SAP, is currently in its demonstration phase in the FAA's Central Service Area. The ATO would like to extend the 18-month demonstration phase, which began in October 2011, for one year, and the program will expand to the other two service areas.

The program already is showing positive results. More than 2,200 employees are eligible to submit reports, and 74 reports have been submitted, several of which have resulted in positive changes.

One report alerted officials that computer screen savers could interfere with the monitoring of airport surface detection equipment used by air traffic controllers. The problem could delay a technician's response to a malfunctioning system, increasing the chances of a runway incursion. A maintenance alert was issued, allowing sites to set up the screen savers properly, and a national change proposal has been submitted to disable automatic screen savers.

Airlines Trade Data

ATSAP and T-SAP are based on the voluntary safety reporting programs in use at several airlines. Nearly 100 aviation companies have operated such programs, and their origin can be traced back to the early 1970s, when United Airlines began using a voluntary safety reporting program.

Now, one of the biggest opportunities to improve understanding and communication on safety issues has been realized by linking the FAA's ATSAP with the airlines' Air Safety Action Programs.

So far, three airlines are connected through the Confidential Information Sharing Programs (CISP): American, Southwest and United. The FAA has agreements in place with Republic Air Holdings airlines, and they will begin actively participating soon. CISP gives the FAA and the airlines access to information they otherwise would not have, elevating managers' awareness of safety issues and providing a more complete picture of safety incidents.

According to Mike Blake, NATCA lead representative for CISP, the program has identified several issues, and efforts are currently under way to resolve them. In one instance, a contradiction between an approach plate and a letter of agreement between two facilities brought airplanes across a navigation fix at unexpected altitudes. Pilots filed Aviation Safety Action Program (ASAP) reports on the issue, and those were shared with the FAA through CISP. The letter of agreement is being modified.

FAA analysts review 50 to 100 CISP reports each week that provide a huge chunk of data that the FAA aggregates to identify and resolve systemic issues. The FAA currently is organizing data as part of an effort to study issues brought up by pilot reports on tail wind landings and security measures around special events, such as NASCAR races and VIP travel.

The airlines frequently share "lessons learned" from ATSAP reports with their pilot groups, and ATSAP has published (with permission) information from pilot reports as well, shedding light on the root causes for certain miscommunications or misunderstandings.

There is no lack of interest in the program on the part of system users. Twenty-seven airlines have expressed a desire to participate.

Reducing Risk

The airlines' enthusiasm for sharing data and voluntary safety reporting is reflected in the way controllers, tech ops specialists and managers are embracing ATSAP and T-SAP as a means to address FAA safety issues long before lives are put at risk.

"The FAA has never been better positioned to embrace every opportunity to identify, understand, correct and communicate the root causes of risk in the system," Grizzle said. ✈

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