

CONVECTIVE SIGMET
 VALID UNTIL 22
 TX OK
 FROM 40SE MLC-40ENE
 LINE SEV TS 20 NM WIDE
 MOV FROM 27025KT. TOPS
 TO FL400.
 TORNADOES...HAIL TO 2 IN...
 WIND GUSTS TO 60KT POSS.

Most of the time, two heads are better than one. Sometimes, however, two heads are not enough. When trip conditions are changing rapidly or the situation is far outside the norm, additional information and ideas that are timely and digestible can make the difference in effective risk management.

About a year ago, a corporate flight crew departed from Detroit for White Plains, New York, U.S., in their large-cabin aircraft. They had a team of their company's top executives aboard. Because neither Detroit nor White Plains was their home base, the crew did what most corporate aviation crews do every day — they self-dispatched.

Their aviation department was certified as meeting the International Standard for Business Aircraft Operations (IS-BAO). As was their custom, the flight crew followed the format of the department's safety management system (SMS). They conducted a preflight analysis that included identification and assessment of risks for the trip, and development of risk-mitigation strategies and tactics.

A major opportunity to improve safety.

BY PETER V. AGUR JR.

Dominating their risk assessment that day was a dry, high-energy cold front that would pass through the White Plains area during their arrival window. They agreed to pay particular attention to the automatic terminal information system (ATIS) for White Plains and pull in other weather reports as they neared the New York area.

Unknown to the pilots, while they were en route, at least six commercial and corporate flight crews aborted takeoffs or landings at the Newark and Teterboro airports in nearby New Jersey due to extreme winds, wind shear conditions and strong low-level turbulence.

As the pilots neared the White Plains airport, the ATIS was reporting that the surface winds were gusty but less than 20 kt from about 60 degrees off runway heading. During their entry onto final approach, they noted that the winds at the outer marker were nearly 50 kt. At the middle marker, they asked for a wind check. The wind conditions reported by the tower controller were the same as the ATIS broadcast.

As they flared for touchdown, severe turbulence caused the aircraft to roll both left

Real Time Risk Management



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and right, requiring full aileron input to recover. Although it was a rough landing, no passengers were injured; they were all belted in, and their gear was properly stowed. However, during the postflight walk-around, the crew discovered that they had damaged a wing tip by ground contact during the landing.

The pilots considered themselves lucky

that their surprise last-minute encounter with severe turbulence had not had more dire consequences. But, if their department had been using a *real time risk management* program, the crew likely would have been advised of the severe turbulence — and they might not have needed any luck at all.

Borrowing a Page

Real time risk management programs have been used for decades by the airlines. Professional dispatchers constantly track weather and other critical variables that can adversely affect their flights. When conditions warrant, the dispatchers contact the flight crews to alert them to what is happening, describe the potential risks and suggest mitigating options.

Many business aviation pilots take pride in the fact that they are not coddled like their airline counterparts. They aren't handed a briefing and a flight plan that tell them what to do and how to do it. Most business aviation pilots consider themselves problem solvers and jacks-of-all-trades.

Indeed, the vast majority of business aviation flight crews are on their own. They do their own preflight planning and preparation. They might even believe that they are ready for whatever comes their way. That sense of superiority and independence sounds like the gist of

concerns that led to the emergence in the 1970s of crew resource management (CRM).

A few business aviation departments have discovered the power of additional support in their risk-mitigation and trip-management processes. Cox Enterprises in Atlanta is one of them. During a visit to their facilities last spring, I had the opportunity to see firsthand how they do it. One of their Hawkers was returning home from the Washington area. It was mid-morning, and lines of convective weather associated with a moist cold front were developing rapidly over the aircraft's route. Their licensed dispatcher, Dave Small, was tracking the flight and the weather on his high-definition display. He called the crew to recommend a routing change that would take the Hawker around the trailing edge of the weather.

The crew readily accepted the suggestion. It wasn't long before the original route became a mess, with other crews asking to divert due to severe turbulence and heavy precipitation. The Hawker crew reported that they completed the trip without a ripple. The Cox team had effectively identified a significant risk and mitigated it, in real time.

Home-Based Help

Following my observations of the Cox Enterprises processes, I talked with numerous members of other aviation departments about the use of home-based staff to support trip risk identification and mitigation. In general, two camps emerged: Those who wholeheartedly endorsed immediate implementation of the concept, and those who made excuses as to why it could not work in their departments because of the lack of staff.

Certainly, not every aviation department has a scheduler or a dispatcher. And many schedulers are not trained to interpret weather data effectively. But most departments have pilots who are.

For example, there is a department in Naples, Florida, that operates a single long-range aircraft without the services of a scheduler or dispatcher. But, for years, George Adams, the department's director of aviation, has acted as a

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resource to his crew when they are in the air. He routinely monitors weather, air traffic control (ATC) routing patterns, crew duty and workload issues, as well as anything else that may affect the safety or service of a trip. He communicates with the crew via voice and digital messaging to let them know what to expect, as well as to give them options to consider.

When the crew is making a return trip from Europe, for instance, Adams confirms that customs and quick-turn fuel arrangements are in place at the technical stop site. He assesses the crew's duty times, previous rest cycle and trip operating conditions to help them decide whether they should continue toward their maximum allowable duty day limits or to call it quits early. Based on their collaborative decision, he then further reduces the flight crew's workload by filing their flight plan for the next leg.

Best or Better

George Adams, Dave Small and several others have recognized that blending CRM and SMS has a very positive impact on trip outcomes. As the director of aviation, Adams did not have much difficulty implementing his program. He had the authority to do it. Small, a senior dispatcher, did not.

In 1999, Cox's department decided to elevate their operating standards to "best practices or better." Since then, they have implemented a number of changes, including improving the capabilities of their people through a variety of training and education initiatives. For instance, their schedulers are licensed dispatchers. They also have upgraded their office information systems to include real time flight tracking, digital weather displays and ground-to-air voice and digital communication links.

The impetus for Cox's decision to provide dispatcher support of trip crews was the ATC system shutdown in the aftermath of 9/11. It gave Small a heightened awareness of how the home-based Cox aviation team could be a powerful tool in support of crews during trips. Although Small

clearly understood the opportunity right away, in the beginning, some of the department's captains did not. Nevertheless, with the endorsement of the director of aviation, he began to warn crews about the projected arrival of thunderstorms at their locations or destinations, ATC routing patterns and other factors that could impact trips and their planning.

Today, it is normal for Small to contact a crew en route to alert them about conditions they will encounter. They have come to value their dispatchers' information and suggested alternatives. Nevertheless, it is very clear to the entire Cox team that the ultimate responsibility for the flight's decisions remains with the crew.

The real time risk management programs that Adams and Small implemented are rarely used by business aviation departments, but they have resulted in improved safety, service and efficiency. Implementing the programs required modest investments in hardware and software. And, like all things related to safety, the biggest challenges they faced were people-related.

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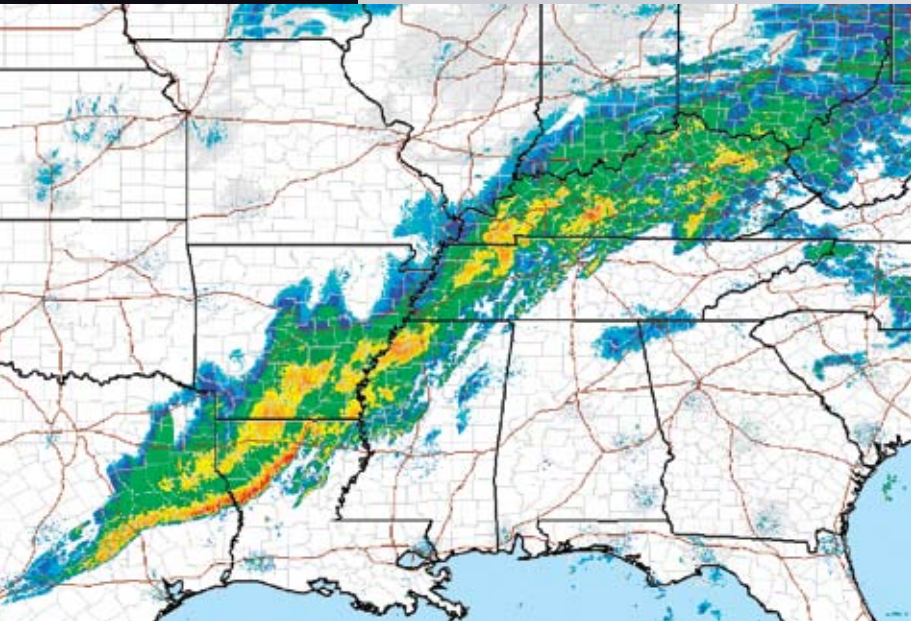
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Small admits that his enthusiasm for supporting trips under way was not shared by all in the department. Some "old school" captains politely declined his offers of service in the beginning. But, over time, even the most independent souls were won over.

Safety Investment

During conversations with leaders and managers of aviation departments about the concept and practice of real time risk management, I have found a substantial number to be less than enthusiastic. The most often stated barrier was: “We don’t have the people.”

But, if you have a scheduler/dispatcher, you *do* have the people. If you have a pilot who is



U.S. National Oceanic and Atmospheric Administration

not directly involved with a trip, you *do* have the people. If you don’t have a scheduler or a non-trip pilot, then you need even stronger on-board technology, such as an XM satellite weather uplink, to get every edge you can.

And if you do have the bodies, you need to make certain that their heads and hearts are in the right places. Many schedulers are hired to be the customer’s link with the department. They may not need any in-depth aeronautical knowledge and expertise when hired. But, if you have attended a National Business Aviation Association (NBAA) Schedulers and Dispatchers Conference, you know that these aviation professionals typically are bright, enthusiastic people on a quest to find ways to help their departments and their customers succeed. Real time risk management is right up their alley.

If you use a non-trip pilot as your risk identifier and solution adviser, you have a different

set of opportunities. Is he or she appropriately trained and experienced to assess developing weather patterns? If not, you can arrange to have a certified meteorologist come to your department and provide a half day or more of introductory training on weather depiction technology and suggested sources of up-to-date information.

Some of the questions and concerns about real time risk management that I have heard are more administrative than substantive: “How are you going to get a pilot to do this on his day off?” “Won’t we be interfering with the off-duty crewmember’s rest cycle?”

The answer to the first question is relatively easy. Certainly, additional duties must be assigned equitably. As to the second question, quality of work/life does deserve strong consideration. The hierarchy of benefits to the department and its customers must be considered when establishing administrative processes that assure crew work/life balance. According to Adams, this is relatively simple in a smaller department operating one aircraft because there is only one trip at a time. Using his laptop computer and BlackBerry, he finds it easy to track the progress of a trip and to communicate with the crew while they are on the ground or in the air. Adams says that these tasks do not take much away from work or personal time.

Real time risk management improves the quality of operational safety and service. The biggest investment for most business aviation departments — whether managed or internal — is time. Those involved in business aviation should take a hard look at how real time risk management can be implemented in their department. When it comes to safety, there is no better time than now. ●

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