

On the heels of a recent proposal to revamp air carrier crew-member training (ASW, 4/09, p. 39), the U.S. Federal Aviation Administration (FAA) has moved to address another longstanding item on the U.S. National Transportation Safety Board (NTSB) “most wanted” list — to include crew resource management (CRM) in the required training programs for commuter and on-demand pilots and flight attendants.

Commuter operators with aircraft requiring two pilots or having more than 10 passenger seats have been required to

provide CRM training since 1995. The notice of proposed rule making issued by the FAA in May would expand the requirement to all U.S. Federal Aviation Regulations Part 135 operators, including those with single-pilot aircraft.¹

Reviewing Part 135 accidents during a 10-year period ending in March 2008, the FAA identified 244 in which ineffective CRM was a factor and 24 directly related to ineffective CRM. The following fatal accidents were cited as examples of “the critical need to require CRM training in both single- and dual-pilot Part 135 operations”:

- The Raytheon King Air A100 crash at Eveleth, Minnesota, on Oct. 25, 2002. NTSB determined that neither pilot was monitoring the airspeed or course deviation indicators during the nonprecision approach.²
- The Piper Chieftain crash on Hawaii’s Mauna Loa volcano on Sept. 25, 1999. NTSB faulted the pilot’s navigation and disregard for standard operating procedures in continuing the visual air-tour flight into instrument meteorological conditions (IMC).³
- The Eurocopter AS 350BA crash on Mt. Waialeale, Hawaii, on June

SPREADING CRM Instruction

BY PATRICK CHILES

Crew resource management might become a required curriculum for on-demand crewmembers.



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25, 1998. The pilot was flying in two-minute trail behind two other company helicopters. None of the air-tour pilots had obtained a preflight weather briefing from an approved source, and the lead pilot failed to warn the other pilots about deteriorating weather conditions. The accident pilot became disoriented in the deteriorating conditions, misjudged his location and inadvertently entered IMC.⁴

“These three accidents were all the result of poor decision making, a loss of situational awareness, a lack of communication between multiple pilots ... and other key operational personnel, and inadequate leadership,” the FAA said.

Applying Team Concepts

As defined in Advisory Circular (AC) 120-51E, *Crew Resource Management*, CRM is the application of team concepts in the flight deck and cabin environment. As the concept evolved, it expanded to include effective decision making and problem solving by utilizing all resources, including dispatchers, flight attendants, maintenance technicians and air traffic controllers.

CRM has drawn attention to the subtle difference between command and leadership, encouraging pilots-in-command (PICs) to actively solicit input and other crewmembers to speak up when necessary. Problem solving is achieved through the effective use of individual skills, group communication and task management.

The FAA Aviation Rulemaking Committee tailored the proposed regulation to allow for the distinct differences between Part 135 operations and Part 121 air carrier operations. Similar to the recent Part 121 rule making, the proposed Part 135 rules would codify elements of longstanding FAA guidance.

Operators would need to use AC 120-51E for guidance in developing their own CRM program comprising initial training, recurrent practice and feedback, and continuous reinforcement.

Initial CRM training programs typically vary instructional methods among lectures, videos, classroom discussion and operational practice in a simulator. Topics include PIC authority, team building, time and workload management, situational awareness, fatigue mitigation techniques, and aeronautical decision making specific to each company's operations.

The FAA believes that recurrent training is enhanced by reviewing performance-based, “real world” operational scenarios. These should be led by a properly trained facilitator who can provide constructive feedback. Through varied scenarios, this continual feedback process can hone leadership and decision-making skills among crewmembers. Along with formal recurrent training, CRM is expected to be continually reinforced in daily operations.

Line-oriented flight training, in which a full crew conducts a typical line flight in a simulator, is a prominent feature of many airline CRM programs. Several decision-making exercises can be presented in the course of a single flight. These often take the form of unexpected situations, encouraging the PIC to invite input and put the other crewmembers' abilities to their best use.

Challenge to Resourcefulness

With simulators currently less ingrained in Part 135 training, operators may need to plan on investing in simulator access or become very creative in the use of their existing equipment. For smaller companies, especially those operating single-pilot aircraft, it may be appropriate to place more emphasis on

situational awareness, task organization and fatigue management. A combination of skill-building scenarios with a CRM facilitator and an approved flight training device could be put to good use in a small operation. For every challenge, there are often advantages: In the case of a small company with relatively few pilots, these team-building exercises could be more focused and effective compared with a large airline faced with thousands of potential crew pairings.

Anticipating that a large number of crewmembers will need this training, the FAA's proposal includes a two-year interval between adoption of a final rule and compliance by operators. Part 135 crewmembers would be required to complete initial CRM training during that time. There also is some expectation that many affected operators are “small businesses” entitled to seek additional time to comply.

If the Part 135 CRM training regulation is adopted, the good news for operators is that there is a wealth of easily accessible guidance on the market. Numerous textbooks, training aids and complete vendor-supplied programs are already available, thanks to the prevalence of CRM training by the air carriers. ➔

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Notes

1. FAA. *Crew Resource Management Training for Crewmembers in Part 135 Operations*. Docket no. FAA-2009-0023. May 1, 2009. <edocket.access.gpo.gov/2009/pdf/E9-10085.pdf>.
2. NTSB report no. AAR-03/03. (*Accident Prevention*, 10/04).
3. NTSB report no. AAB-01-02. (*Accident Prevention*, 3/02).
4. NTSB report no. LAX98FA211.