Auditing for Best Practices

The September 2006 *Aviation Safety World* article in this series described the FSF Audit Team's most frequent findings related to flight monitoring, training and personnel. Let's look at the team's recommendations for best practices in these areas.

Flight crew altitude awareness callouts were inconsistent in six of 20 audits (30 percent) conducted in 2004. The FSF Audit Team recommends that operators develop a flight crew altitude awareness program based on the December 1995 *Flight Safety Digest* article, "Altitude Awareness Programs Can Reduce Altitude Deviations."

Flight departments should stress pilot readback/hearback procedures when air traffic controllers assign altitude changes. Flight crew recording of the altitude assignment is a best practice.

Departments should establish an altitude assignment procedure that requires the pilot monitoring (PM) to select a new altitude in the altitude alerter and challenge the pilot flying (PF) with the new altitude while pointing at the alerter setting. The PF should repeat the new altitude while pointing at the alerter to confirm that the correct altitude has been set.

The FSF Audit Team recommends a policy that requires the PF to make the altitude callouts. This pilot is actually controlling the aircraft, so it is critical that he or she is keenly aware of the altitude. The role of the PM is to back up and challenge the PF if the callout is not made. Altitude callouts should be made prior to the sounding of the altitude alerter's "1,000 ft to level-off" tone.

An effective altitude awareness program should discourage crewmembers from doing nonessential tasks (such as paperwork, eating or searching for the next destination approach chart) at times when altitude callouts must be made.

Another way that operators can foster improvement in this area is to conduct standardization or route checks at least annually, in the simulator or with a third pilot in the aircraft, to ensure the altitude awareness standard operating procedures (SOPs) are being followed.

Improperly organized and inconsistent pilot training records were found in six of 20 audits by the FSF Audit Team.

Pilot training records are necessary to validate the training provided for pilots. Following an accident or significant incident, the investigating agency, such as the U.S. National Transportation Safety Board (NTSB), will request copies of the training records for the crewmembers involved.

The ready availability of complete and accurate records is paramount to ensure that the company, as well as the individual crewmember, receives proper credit for training during the investigation.

Detailed training records can be augmented by a computer-based tracking/recording system to monitor the required training. This system can document a list of the pilot record contents and provide next-due information. The NTSB and U.S. Federal Aviation Administration (FAA) now accept copies of computer-based tracking/recording documents.

In reviewing many different operators' training records, the FSF Audit Team has examined many methods of compiling and arranging such files. In the team's opinion, the most effective training record files consist of a five-part folder, with categories of training and personal data separated as follows:

Licenses (Photocopies)

- Airline Transport Pilot (ATP) rating, with second page showing aircraft type ratings, which is mandatory;
- Flight instructor, if applicable;
- Advanced ground instructor, if applicable; and,
- Airframe and powerplant (A&P), if applicable.

Certificates (Photocopies)

- First- or second-class medical certificate;
- Random drug-testing document — verification, not the results; and,
- Radiotelephone operator's permit, an International Civil Aviation Organization requirement.

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Qualification Documentation (Originals or Photocopies)

- Flight crew company qualification authorization letter; and,

- Flight time records.

Supplemental Documents (Photocopies)

- Passport — first two pages; and,

- Driver's license — current.

Flight Training Verification Documents (Originals)
Simulator Training Documents

- Primary and secondary aircraft initial training documents with instructor comments; and,

- Primary and secondary aircraft recurrent training — most current attendance with the listing of the areas covered.

Pilot supplemental training issues were a finding in another six of 20 audits by the FSF Audit Team.

Pilot supplemental training is not mandated in any specific regulatory document for U.S. Federal Aviation Regulations (FARs) Part 91 operators. Part 135, 121, 125 and 129 operators have a clearly defined training regimen that is spelled out in the regulations. The team has established the following guidelines for Part 91 operators and noted the authority for the training requirements, if applicable.

Professional Supplemental Training
(Originals or Photocopies on File)

- Instrument landing system (ILS)/precision runway monitor (PRM);

- International procedures;

- Reduced vertical separation minimum (RVSM)/required navigation performance (RNP)-10/RNP-5/minimum navigation performance specifications (MNPS);

- Crew resource management (CRM) — initial and then recurrent every 36 months;

- Cardiopulmonary resuscitation (CPR)/automated external defibrillator (AED) and first aid — initial and then recurrent every 24 months;

- Minimum equipment list (MEL) use and application — annual review;

- High altitude training/oxygen physiology — every three to five years;

- Hazardous materials familiarization — every 24 months;

- Winter operations — aircraft surface contamination training, with an annual review because of frequent changes;

- Mountain operations — every 24 months;

- Aircraft upset/advanced maneuvering — every three to five years;

- Aircraft emergency evacuation — every 24 months or change of aircraft type;

- Ditching — every 36 months;

- Survival — every 36 months; and,

- Fire — every 24 months.

Fire training should include actually extinguishing a fire with an aircraft-type fire extinguisher every 24 months, as recommended for flight crewmembers by the National Fire Protection Association.

NTSB has recommended to FAA that all pilots be required to have annual weather refresher training. FAA has not adopted this recommendation as of November 2006.

Personnel factors were cited in the findings of six of 20 audits.

Although employee background checks have become routine since the Sept. 11, 2001, terrorist attacks, the FSF Audit Team still finds some operators whose human resources or personnel departments have not established this requirement or conduct inadequate checks.

Operators should verify that the corporate human resources or personnel department has established an employee background check procedure and ensure that an FAA license verification and an accident/incident record review is completed.

The key members of the flight operation leadership team, such as the director/manager and chief pilot, should be fully aware of the contents of the employee background check.

Current copies of the prospective employee's FAA license and medical and flight-hour records should be on file and verified before indoctrination and aircraft type training. Prospective employees should be advised that any falsification of a pilot record is cause for immediate termination.

Medical certification was the subject of findings in six audits. In those audits, ATP rated pilots maintained only an annual second-class medical certificate.

When exercising the privileges of an ATP rating, a pilot must hold an FAA first-class medical certificate in accordance with Part 61.23 (a)(1).

If an operator has an established policy that a captain/pilot-in-command must be ATP rated to operate a company aircraft, a first-class medical certificate should be an ongoing requirement.

The practice of maintaining a second-class medical certificate or annually completing a first-class medical review and then letting it lapse to a second-class medical certificate during the second six-month period should be discontinued. Maintaining a first-class medical certificate as an ATP is an industry best practice.

Alternatively, an operator establishing a requirement for a first-class medical certificate annually and having its personnel also complete a more extensive company management–level medical review is also an industry best practice. ●

This article extends the discussion of the aviation department problems most frequently found by the FSF Audit Team, based on the final reports submitted to clients that contracted for operational safety audits during 2004, detailing the observations, findings and recommendations identified during the review (Aviation Safety World, September 2006, page 46). Observations are documented policies, procedures and practices that exceed the industry best practices; findings identify areas in which the team advises the client to adopt better policies, procedures or practices to parallel industry best practices; and recommendations describe actions that could be taken by the client to meet industry best practices. The recommendations cited in this story are the opinions of the FSF Audit Team.

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