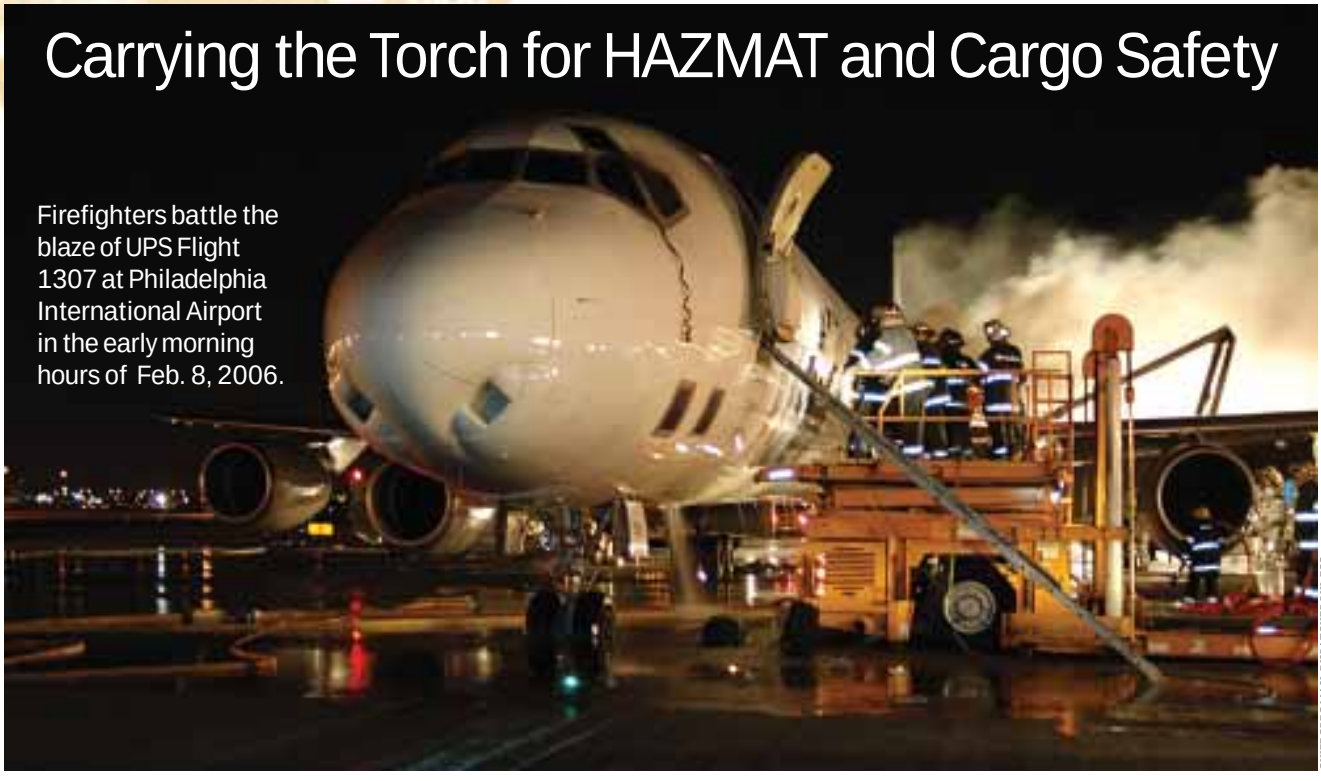
STRENGTH IN UNITY

Airline Pilots Securing Their Future Through ALPA

Carrying the Torch for HAZMAT and Cargo Safety



Firefighters battle the blaze of UPS Flight 1307 at Philadelphia International Airport in the early morning hours of Feb. 8, 2006.

CHIEF GREG MASI, DISPATCHER PHL FCC

On the night of Feb. 7, 2006, United Parcel Service (UPS) Flight 1307, a DC-8-71, landed at Philadelphia International Airport after the pilots reported cargo smoke in the airplane. The flight crew managed to get the airplane safely onto Runway 27R, stop, and escape the burning Stretch Eight's smoke-filled cockpit. The fire burned for another 4 hours, despite the efforts of 80 firefighters, and caused substantial damage to the airplane and numerous cargo containers aboard.

The NTSB has been investigating the accident. As part of that investigation, the Safety Board held a 2-day public hearing July 12–13 in Washington, D.C., to hear testimony on several safety issues spotlighted by the accident.

NTSB Investigator-in-Charge Frank Hilldrup said the Safety Board found "no fire damage to the lower cargo areas" of the airplane and "no evidence that the airplane wiring or other systems were involved in [starting] the fire."

Among Flight 1307's cargo were several lithium ion batteries from laptop computers. (Lithium *ion* batteries are often referred to as "rechargeable" or "secondary" lithium batteries.) Hilldrup emphasized that the NTSB did not yet know what role, if any, the batteries may have played in the fire.

"Nevertheless," he warned, "secondary lithium batteries as well as primary (or 'nonrechargeable') lithium batteries can present fire hazards due to the heat often generated when they are damaged or suffer a short circuit. Several lithium battery incidents have occurred in recent years."

The public hearing focused on four subject areas: (1) aircraft rescue and firefighting (ARFF), (2) design, testing, and failure modes of lithium batteries, (3) operations and regulations concerning lithium batteries, and (4) aircraft fire detection and suppression systems and regulations.

Sitting quietly but very attentively in the back of the NTSB auditorium was the director of ALPA's Dangerous Goods Programs, First Officer Mark Rogers (United).

At one point during the NTSB public hearing, Bob Richard, deputy associate administrator for the Office of Hazardous Materials Safety of the Pipeline and Hazardous Materials Safety Administration (called PHMSA, pronounced FIM-suh), testified, "Mr. Rogers, who's in the audience, probably will disagree with me on [a specific technical issue]; we talked about this last

ALPA Concerns and Positions

• **Difficulties in detecting and determining the original intensity of smoke, fire, or fumes (SFF) aboard aircraft** remain serious aviation safety issues. On average, SFF causes at least one unscheduled landing per day in the U.S. airline fleet. Flight crews must rely on the color and smell of smoke, fire, or fumes to determine the nature and intensity of the hazard. The only safe way to deal with an SFF event of unknown nature and intensity is to land as soon as possible.

• **Current procedures for handling inflight fires on all-cargo airplanes are inadequate.**

• **ALPA played a key role** in an International Air Transport Association working group made up of manufacturers, airlines, pilots, and professional organizations from around the world to develop standard SFF definitions, philosophy, and a checklist template. The philosophy and the template for the standardized checklist allow the flight crew to try to quickly determine the nature and intensity of the event. The checklist template emphasizes the importance of diverting or landing—early in the sequence of events—and requires the flight crew to divert or land if they cannot quickly resolve an SFF event that has not triggered an alert.

• **The FAA should mandate improved fire suppression for cargo-only airplanes**.

• **The DOT should review dangerous goods incidents involving batteries of all types and bring regulations in line with the safety risk.** Batteries are a major contributor to dangerous goods incidents. Damage to a battery may be all that is necessary to start a fire, possibly hours after the damage has occurred.

• **The DOT should ban bulk shipments** of primary lithium batteries on cargo-only aircraft until adequate packaging standards can be developed. The DOT also should eliminate the special provision allowing virtually unregulated transport of bulk shipments of primary lithium batteries.

• **Cargo-only airports should have ARFF protection;** none is currently required. Cargo flight crews operating at these airports should have ARFF protection comparable to that provided for similarly sized passenger airline flight operations.

• **All air traffic control tower personnel must be practiced in handling emergencies.**

ALPA Supports a Three-Part Solution:

• Improve operational procedures and flightcrew training.

• Mandate that manufacturers or airlines (1) install temperature trend indicators (to help a flight crew determine the general origin of a fire and the propagation of the fire, and to give them a tool to determine if their smoke / fire mitigation procedures are effective); and (2) provide increased fire protection on three- and four-engine long-haul airliners.

• The FAA must work with pilots and industry to develop an FAA advisory circular that informs all pilots and operators about the standardized checklist that ALPA helped develop for dealing with smoke / fire / fumes events (see "ALPA Concerns and Positions," above).

week at the meeting in Geneva." Richard was referring to a meeting of the United Nations Subcommittee of Experts for the Transport of Dangerous Goods. The purpose of that meeting had been to discuss proposals for revising the international standards for transporting dangerous goods.

At another time during the hearing, when NTSB member Deborah Hersman questioned Richard about PHMSA's current procedures for disseminating hazmat information to the airline industry, Richard acknowledged that his agency could work more closely "with ALPA or whatever" to get this information more directly to flight crews.

All of which spoke volumes about ALPA's well-earned reputation and clout on both the national and international level on this subject (as well as many other safety and security issues). ALPA does not represent the pilots who fly for UPS; their in-house union, the Independent Pilots Association, does. The IPA is a party to the UPS Flight 1307 accident investigation and participated in the NTSB's public hearing in July. Rogers advised the IPA before the hearing. Also, before the hearing, the NTSB asked ALPA to discuss the critical safety issues involved. Rogers and Capt. Harry "Boomer" Bombardi (Delta), director of ALPA's Inflight Fire Project, made presentations to the NTSB on safety issues regarding lithium batteries and inflight fires. And during hearing breaks, reporters approached Rogers for interviews.

For a fire to start—and to continue to burn—requires having at least a certain critical mass of combustible material. Starting a campaign for up-to-date dangerous goods regulations and One Level of Safety for all airline operations, whether passenger or cargo, and carrying that campaign to a successful conclusion, requires a critical mass, too—of pilots and their pooled resources.

Or, as we say in this department, Strength in Unity.

—Jan W. Steenblik, Technical Editor