Why Cargo? Why Now?

Over the 77 years of ALPA's existence, waves of change have helped shape the profession that is airline piloting. The founders of ALPA didn't spend any time worrying about what kind of routes or aircraft the union's members would one day fly. They didn't concern themselves with what kind of freight would occupy their hulls—airmail, humans, animals, etc. No, they knew that a pilot was a pilot was a pilot—and that their union would have to deal with possibilities they could not even imagine.

But those Key Men knew that future leaders of ALPA would not have the same luxury. They would have to deal with changes in their industry—and that the success of their union would depend on adapting to an unending series of new challenges and opportunities.

Enter cargo operations. Simply put, the projections of future global growth of the cargo industry are impressive to say the least (see page 24). In an economy in which airlines in general are suffering, all-cargo operations have been flourishing—and that means jobs for pilots. So while ALPA deals with contract negotiations and enforcement for all its represented pilot groups, special attention must be paid to the growing cargo sector.

Furthermore, cargo operations are indeed a horse of a different color. From unique operational issues (see page 45) to nettlesome security challenges (see section beginning on page 31) to the effects of back-side-of-the-clock operations on pilot performance (see page 36), cargo pilots live in their own world.

In this special issue of *Air Line Pilot*, the pilots' union has brought to you several perspectives on this important and growing segment of the ALPA family. While much of the life of a cargo pilot resembles the life of all other line pilots, much of this magazine highlights those factors that make them distinct. We hope that every ALPA member, no matter what kind of flying you perform, can learn a valuable lesson or two from this effort.

A pilot is a pilot is a pilot, but a cargo pilot has his or her own tale to tell.

What follows is a brief overview of ALPA's cargo pilot groups.

ALASKA

Number of Pilots: 1,509

Fleet: Alaska recently spent $100 million to retrofit six Boeing 737-400 aircraft into one all-cargo and five "combis." Alaska pilots are the only U.S. pilots to fly such airplanes, which carry both upper deck cargo and passengers. Pilots from all three bases (SEA, ANC, and LAX) fly these freighters as well as B-737-400, -700, -800, and -900 variants. Pilots commonly fly several variants in one trip pairing.

Cargo Services: Alaska Airlines pilots have a proud tradition of flying cargo into and out of small towns and villages in Alaska and, more recently, Mexico. The first Copper River salmon to reach the lower 48 states, for example, arrives in Seattle via Alaska cargo and is hand-delivered each year, over a red carpet, to one of Pike Place Market's fishmongers. Besides commercial fish, Alaska pilots transport a wide range of products from hunting trophy heads to hazardous materials to fresh fruits and vegetables along with flying miners into Red Dog and patients to Seattle to undergo medical treatment.

Contract Status: The Alaska Master Executive Council has been in direct negotiations with management for more than 17 months. Because management has been unwilling to agree to a contract that the pilots have already earned—one that reflects

Alaska Airlines pilots fly cargo into and out of small towns and villages in Alaska and, more recently, Mexico.

the unique work they perform and the value they bring to their company, the MEC was forced to file for mediation with the National Mediation Board in July.
Fact: Alaska Airlines offered summer service to several cities in Russia's Far East, including Magadan and Vladivostok, during the 1990s, but discontinued service after the Russian financial crisis of 1998.

ASTAR AIR CARGO

(Formerly known as DHL Airways—has been DHL's primary airline for North America for 30 years.)
Number of Pilots: Approximately 525 pilots are on the seniority list, and they carry roughly 50 percent of the cargo tons each night for DHL's North American operations.
Fleet: ASTAR operates a fleet of 44 aircraft consisting of 29 B-727s, eight DC-8s, six A300-B4s, and one Bell B206 helicopter . All are painted in DHL colors except for one DC-8.
Cargo Services: ASTAR serves commercial and military customers throughout 53 cities in the U.S., Europe, and the Middle East. ASTAR directs flight operations out of its Wilmington, Ohio, hub with gateways in Newark, Los Angeles, Miami, and New York.
Contract Status: Earlier this year, the crewmembers ratified a new 4-year agreement, their third labor contract. They received retro pay and more than 20 percent in pay increases over the the 4-year agreement. In addition, the crewmembers received furlough protections and a commitment by management to secure new airplanes.

Despite its successful past, DHL's recent announcement that it will outsource all of its North America domestic flying to UPS, one of its chief competitors, leaves ASTAR Air Cargo and its employees' future in limbo. The UPS announcement comes less than 3 months after ALPA and ASTAR agreed to a new collective bargaining agreement with job security commitments from ASTAR that DHL backed and approved.

ALPA is currently investigating the legalities of the proposed deal to determine if it violates any U.S. antitrust laws. If the deal is allowed to proceed, and the company is unable to secure other flying, it could spell the end of ASTAR and the rich history the pilots and employees have had in making DHL a success.
Fact: The Bell helicopter is operated by ASTAR pilots and serves as a courier air service for Manhattan's financial district, transporting people, currency, and sensitive documents to and from JFK International Airport.
Company History: Deutsche Post completed its acquisition of DHL in late 2002. To comply with the U.S. citizenship requirement that U.S. law imposes on domestic airlines, DHL Airways was spun off and immediately entered into an ACMI (aircraft, crew, maintenance, and insurance) agreement with DHL. In 2003, DHL Airways was sold to a group of investors and renamed ASTAR Air Cargo, Inc. In 2007 DHL bought back a 49 percent share in ASTAR Air Cargo.

ATLAS AIR, INC.

Number of pilots: 642
Fleet: The fleet consists of 36 B-747-200 and -400 airliners. Deliveries of 12 new B-747-8s will begin in early 2010, with options on 14 additional airplanes.
Cargo Services: Atlas Air is the world's largest provider of ACMI (aircraft, crew, maintenance, and insurance) freighters for lease service. The airline's large fleet of all-cargo B-747 freighters services major airlines and freight forwarders around the globe. Customers enter into long-term leases with agreed-upon rates and levels of operation. Atlas customers include Air New Zealand, British Airways, Emirates, Korean Air, Lufthansa, and Qantas. Atlas also provides scheduled and charter service as well as flights in support of the U.S. Air Force's Air Mobility Command (AMC).

Atlas is a wholly-owned subsidiary of Atlas Air Worldwide Holdings, Inc. (AAWW), based in Purchase, N.Y. Atlas also provides ACMI charter services, tailored to meet its customers' individual needs. An Atlas charter includes not only aircraft, crew, maintenance and insurance, but also all landing/traffic permits, fuel, air waybill, aircraft handling, and Atlas' on-demand customer service center.

Founded in 1993 with one B-747-200 contracted to China Airlines, Atlas expanded rapidly and by the end of 2000 had a fleet of 36 airliners. In 2001, AAWW was formed, and in November of that year, the company acquired Polar Air Cargo Worldwide, Inc.
Contract Status: With management's announcement of a merger of Atlas and Polar in late 2004, ALPA's Executive Council set a policy initiation date in late 2005. Atlas crewmembers are currently working to prepare for joint contract negotiations with Polar Air Cargo and management.
Fact: During the company's bankruptcy, ALPA worked to ensure that Atlas crewmembers not only kept their 12 percent annual raises, but also regained their stock options and profit sharing. In 2007, the profit-sharing paid to each crewmember an average return of 12.6 percent of the crewmember's 2007 wages.

BEARSKIN

Number of Pilots: 58
Fleet: Bearskin operates 18 Fairchild Metroliners.
Cargo Services: The airline has hubs in Ontario in Thunder Bay and Sioux Lookout, and an additional cargo office in Winnipeg, Manitoba. It operates 100 daily passenger flights to 17 locations, many of which also carry cargo throughout the region. Each of the Fairchild Metroliners carries 19 passengers, mostly members of the First Nation communities and sportsmen looking to take advantage of Canadian fishing sites.
Contract Status: Bearskin merged, along with the other Canadian ALPA pilot groups, into ALPA in 1996. The pilots' current 5-year contract becomes amendable the end of 2011.
Fact: In 1972, a former Bearskin pilot, Harvey Friesen, purchased a 50 percent share of the company. In 1977, he gained control of the company and is now the airline's president.


A Calm Air HS-748.

CALM AIR

Number of Pilots: 91

Fleet: Calm Air operates a fleet of 15 airplanes, including Cessna Grand Caravans, Hawker Siddeley 748s, ATR 42-300s, and Saab 340Bs. Two of the Hawker Siddeleys have been modified with 5′7″ x 8′9″ cargo doors for oversized payloads. These airplanes can carry boats, off-road vehicles, generators, construction materials, and drilling and mining equipment of all shapes and sizes.

Cargo Services: Calm Air operates cargo as well as scheduled passenger and charter flights throughout Manitoba and the newly created Nunavut Territory. Airplanes are based in Winnipeg and Thompson, and Calm Air cargo freighters can carry as much as 12,000 pounds of freight. Calm Air operates an HS-748 that can be configured to transport bulk fuels to communities with paved, gravel, or ice strips. These bulk fuels are transported in eight interconnecting fuel tanks, which run the length of the fuselage.

Contract Status: The current pilot contract was negotiated in 2007 and becomes amendable April 30, 2013.

Fact: The company moniker comes from the initials of the founder's full name, Carl Arnold Lawrence Morberg.

CAPITAL CARGO INTERNATIONAL AIRLINES

Number of Pilots: 129

Fleet: The fleet consists of 14 B-727-200s and one B-757. All aircraft are freighter conversions.

Cargo Services: Capital Cargo is an aircraft, crew, maintenance, and insurance (ACMI) carrier that provides both domestic and international airport-to-airport transportation services. The airline has two primary customers—

- **BAX Global**, which was acquired by Schenker in July 2006, provides service out of its Toledo hub with flights to St. Louis, El Paso, Kansas City, Phoenix, Denver, San Diego, Minneapolis, Rochester, Boston, Raleigh/Durham, Fort Lauderdale, Atlanta, Orlando, Memphis, Harlingen, and Monterey, Guadalajara, and Queretaro in Mexico.
- **DHL Latin America**, which provides service based out of Miami, Fla. to destinations in Latin America.

Contract Status: Capital Cargo pilots are currently in Section 6 negotiations with regularly scheduled negotiating meetings with management set through September 2008. Despite the aggressive meeting schedule, progress has been slow but continues.

Cargo Holdings, Inc. (CHI) was acquired in December 2007 by ABX Holdings, Inc., and has two principal operating businesses: ABX Air, an air cargo services provider operating out of Wilmington, Ohio, and Cargo Holdings, which has four operating subsidiaries—including two separate airlines, ATI and Capital Cargo International Airlines, Inc. ABX Holdings, Inc., changed its name in May 2008 to Air Transport Service Group, Inc. Teamsters-represented ABX pilots fly for DHL and, like ASTAR, expect to lose a substantial portion of their pilot jobs if the DHL-UPS agreement proceeds.

Fact: The Capital Cargo crewmembers just celebrated their one-year anniversary with ALPA on June 1.

EVERGREEN INTERNATIONAL AIRLINES, INC.

Number of Pilots: 220

Fleet: The airline operates 11 B-747-100/-200 airplanes. In the fleet are two operational Boeing 747 Large Cargo Freighters, known as the Dreamlifters, with a third one scheduled to arrive in the near future. Dreamlifters are designed to haul B-787 component pieces for final assembly.

Cargo Services: Most of the airline's present operations support the troops in Iraq and Afghanistan via the Air Mobility Command (AMC) Civil Reserve Air Fleet (CRAF) operations. Pilots fly common-carriage operations from Hong Kong and Shanghai as back-hauls when the AMC flights are empty. The airline also provides aircraft, crew, maintenance, and insurance (ACMI) contracts worldwide.

Past ACMI customers include Qantas, Air New Zealand, British Airways, Saudia Arabia Airlines, Garuda Airlines, UPS, FedEx, UTA, Lufthansa, Air France, Air India, Japan Airlines, Asiana Air, and USPS.

Evergreen has operated numerous other contracts for private forwarders located in Kenya, Israel, Norway, and South America. Evergreen has also been involved in private charters for relief and NASA missions in Russia. The airline has operated on every continent except Antarctica.

Contract Status: The Evergreen pilots joined ALPA in November 2007. Before becoming part of ALPA, the pilots were represented independently by The Aviators' Group (TAG). Evergreen crewmembers have been in contract talks with management since January 2005. The pilots have been locked into a 1999 contract that contains annual wage increases that are less than the rate of inflation. In February 2006, the National Mediation Board assigned a federal mediator due to lack of progress in direct negotiations between the parties. As 2007 ended, the mediated talks had produced only minimal progress. In 2008, the parties resumed mediated negotiations, with the next session planned for August.

Fact: One of Evergreen's B-747s starred in the 1990 action film *Die Hard 2*. One of the

LEFT: One of Evergreen's B-747s starred in the 1990 action film *Die Hard 2*. BELOW: Kelowna has an exclusive contract with the largest courier service in Canada, Purolator Courier.

fleet's B-747s (N481-1) is the oldest B-747 flying the line, logging more than 120,000 flight hours.

FEDEX

Number of Pilots: 4,680
Fleet: FedEx operates 669 aircraft, including 60 A300-600s, 66 A310-200/-300s, 1 B-727-100, 94 B-727-200s, 14 DC-10-10s, 13 DC-10-30s, 49 MD-10-10s, 7 MD-10-30s, 58 MD-11s, and 4 B-757-200s.
Cargo Services: FedEx's service area includes 220 countries and territories, including every address in the United States. There are 10 air express hubs in the FedEx system, and the average daily volume is approximately 3.3 million packages.
Contract Status: Even though the pilots' contract has more than 2 years to its amendable date, the FedEx Master Executive Council has taken the first steps in putting together the framework for the next round of negotiations. The Negotiating Committee is in place, and the MEC and key committees have begun holding strategic planning sessions. Current issues being addressed are the opening of crew domiciles in Hong Kong and Paris, the introduction of the B-777 and B-757 freighters into the fleet, and the challenge of operating in a soft economy with crushing fuel costs.
Fact: Every day, a FedEx MD-11 flies 200,000 pounds of T-shirts from Hong Kong to the United States.

FIRST AIR

Number of Pilots: Approximately 140
Fleet: First Air operates 20 aircraft, including B-737s, B-727s, HS-748s, ATR 42-300s, and 2 L-382G Hercules.
Cargo Services: First Air provides scheduled cargo and passenger service between 25 communities in northern Canada with connections to Edmonton, Winnipeg, Montreal, and Ottawa. Contracts have included

- Panarctic Oils—moving oil rigs in the high Arctic
- Echo Bay Mines—supporting the Lupin Gold Mine
- BHP—supporting NWT diamond exploration
- Exxon—cleaning up the Exxon Valdez oil spill
- The International Red Cross—operating famine relief flights in Southwest Africa
- The United Nations—participating in Operation Desert Recovery during the Gulf War crisis for the U.S. Air Force.

Contract Status: The First Air pilots overwhelmingly voted to merge their independent union, the First Air Pilots Association (FAPA), with ALPA, which became effective June 1, 2008. FAPA had represented the First Air pilots since July 1997.
Fact: Wikipedia claims that First Air is one of the few international airlines that does not have a designated ICAO call sign.

GEMINI AIR CARGO

Number of Pilots: 250 flightcrew members
Fleet: Crewmembers fly four MD-11F and seven DC-10-30F airliners.
Cargo Services: As one of the largest aircraft, crew, maintenance, and insurance (ACMI) operators worldwide, Gemini Air Cargo serves a high-profile customer base and supports airline and integrator needs for outsourced airlift in the growing ACMI and sub-service arena.
Contract Status: Gemini crewmembers ratified ALPA as their bargaining agent in 2002 and negotiated their first contract effective Sept. 1, 2004, with an amendable date of August 31, 2009. Section 33 of that contract provided for reopening a limited number of contract sections during specified mid-term negotiations. In March 2006, Gemini pilots served a Section 6 notice to reopen those mid-term negotiations a mere 6 days after a new Master Executive Council took office. Nine days later, Gemini Air Cargo filed for bankruptcy.

Gemini pilots emerged from the mid-term negotiations with a better collective bargaining agreement than when they started, in spite of the bankruptcy, and are scheduled to open full Section 6 negotiations in March 2009. Pilot group leaders and negotiators will meet this summer with ALPA staff from the Representation, Communications, Economic and Financial Analysis, and Retirement and Insurance Departments to develop a strategic plan designed to support the lengthy negotiations process.
Fact: Gemini was the first pilot group in ALPA history to negotiate a contract while concurrently battling bankruptcy, *without giving any concessions* to management.

KELOWNA FLIGHTCRAFT

Number of Pilots: 104
Fleet: The airline has a fleet of 12 B-727s, three CV-580s, and one Astra.
Cargo Services: Kelowna carries nightly

Northwest Cargo operates 2 B-747 -200s and 10 -200Fs. Pilots can fly both models (cargo and passenger) on any given day.

600,000 pounds of freight across Canada. In a country only second in size to Russia, air cargo is by far the most efficient way to transport goods. The airline has an exclusive contract with the largest courier service in Canada, Purolator Courier, and a contract with Canada Post. Much of the cargo is shipped through Winnipeg, Manitoba, before heading to its final destination. Kelowna flies mainly at night to avoid any air traffic issues and to allow for overnight shipments.

In September 2008, the airline will add two DC-10 freighters to its fleet, which will add to the amount of cargo Kelowna can carry each night. For 4 days a week, the new DC-10s will transport mail and packages for the Canada Post. The airline will fly charters the remaining 3 days a week.

Contract Status: Kelowna joined the Canadian Air Line Pilots Association in 1995, which then merged into ALPA a year later. The first ALPA contract Kelowna pilots signed covered 5 years. In 2002, the pilots signed a 7-year contract that provided substantial wage increases, bringing the pilots to parity with other Canadian cargo pilot groups. With their contract expiring in November 2009, the pilots have begun negotiations with management for their next contract.

Fact: In addition to cargo, Kelowna pilots also fly a limited number of charter flights from Canada into Florida, the Caribbean, and Cuba. Although Americans have officially not been permitted to travel to Cuba since 1961, Canadians flock to the island—it is the fifth-most-popular travel destination after the United States, Mexico, the United Kingdom, and France.

NORTHWEST

Number of Pilots: A total of 5,465. Approximately 255 are based in Anchorage. The airline has a base in MSP to fly military charters.

Fleet: Northwest Cargo operates 2 B-747-200s and 10 -200Fs. Pilots can fly both models (cargo and passenger) on any given day.

Cargo Services: Northwest Cargo flies scheduled cargo under military contract. The airline flies domestically to ORD, ILN, LAX, and internationally to NRT, KIX, ICN, TPE, and PVG.

Contract Status: The company is currently in merger negotiations with Delta Air Lines.

Fact: Since freighter pilots in Anchorage could fly both passenger flights as well as cargo flights on any given trip, the pilots have a name for the passenger flights—"Freighter Appreciation Flights."

POLAR AIR CARGO WORLDWIDE, INC.

Number of pilots: 279

Fleet: Polar has six B-747–400s and one B-747-200.

Cargo Services: Polar specializes in international time-definite, airport-to-airport scheduled freight service focusing on major cargo markets in the Americas, Asia, Europe, and the Far East via frequent Boeing 747 freighter service. Polar works with international airfreight forwarders and agents to meet the needs of its customers, whether they are shipping helicopters or horses across the Atlantic or critically needed medical supplies to tsunami victims. Polar offers a strong express network through its partnership with DHL Express, which owns a 49 percent stake in Polar. Atlas Air Worldwide Holdings, Inc. (AAWW) owns 51 percent of Polar and is based in Purchase, N.Y.

Contract Status: The Polar crewmembers' current contract became amendable March 31, 2007. This contract resulted from a brief strike that ended in late 2005. As the result of an announced merger between Polar and Atlas Air, Inc., in November 2004, when both the Polar and Atlas Air subsidiaries were owned 100 percent by AAWH, the Polar and Atlas Master Executive Councils have been involved in merger-related issues with AAWH. Negotiations for a single merged collective bargaining agreement have superseded normal Section 6 negotiations for the pilots' collective bargaining agreements.

Fact: Polar Air Cargo in 2005 shipped rock band Green Day's musical equipment from Glasgow to Los Angeles for the band's performance at the 47th Annual Grammy Awards.

WASAYA AIRWAYS

Number of Pilots: 72

Fleet: Wasaya operates 24 airplanes, including four Beech 1900Ds, four C-208B Cessna Caravans, four HS-748 Hawkers, and 12 Pilatus PC-12/46. The Beech 1900Ds fly combi operations.

Cargo Services: Based in Thunder Bay, Ontario, the airline transports every kind of cargo including food, medicine, fuel, and even snowmobiles to 25 communities in northwestern Ontario and Manitoba. These communities of 500-4,000 people each depend on air cargo—many have no road access—for all their supplies. Pilots flying into these sites navigate in extreme weather conditions, sometimes well below freezing, and land on short gravel runways.

Contract Status: The pilots became members of ALPA in January 2007 and have just begun preliminary negotiations with management.

Fact: The logo of Wasaya Airways is a sunburst, and "Wasaya" is an Oji-cree dialect word meaning "rising sun." Wasaya Airways is wholly owned by 10 First Nation communities.

CARGO OPS
Five Times the Risk

ALPA Continues to Demand One Level Of Safety

By S/O Ken Young (ASTAR), ALPA Cargo Safety Project Team Leader and Member at Large of ALPA's President's Committee for Cargo

Since 1984, the U.S. National Transportation Safety Board has investigated at least 38 major accidents involving cargo airlines. Those accidents caused more than 170 deaths and more than 60 serious injuries. These NTSB major investigations have resulted in numerous recommendations to the FAA and cargo airlines. ALPA continues to support those safety recommendations all the while insisting on one level of safety for cargo operations.

However, success in uncovering and mitigating the safety deficiencies of the cargo airline industry has been limited. In a broad-based study of worldwide fatal accidents involving Western-built jet airliners between 1980 and 1996, the United Kingdom's Civil Aviation Authority (CAA) concluded that "cargo operations have a fatal accident risk at least four times that for passenger flights (possibly considerably higher)."

A more current study of airline accidents in the United States conducted by the Commercial Aviation Safety Team (CAST)—in which ALPA has been a very active participant—showed that, from 1994 through 2003, while the overall airline accident rate was extremely low, the accident rate for cargo airlines was twice that of passenger airlines. CAST also pointed out that when relatively low-risk events such as ramp accidents, turbulence encounters, and runway incursions are excluded from the study, the accident rate for cargo airlines rises to *five times* the rate for passenger airlines.

An estimated 15 percent of worldwide airline operations are all-cargo. According to the Flight Safety Foundation, however, cargo operations account for 35 percent of the approach-and-landing hull-loss accidents and 14 percent of the controlled-flight-into-terrain (CFIT) accidents. A Boeing report showed that, during the period 1994–2003, 25 percent of the worldwide hull-loss and/or fatal accidents

Current regulations and other factors perpetuate a double standard of safety for all-cargo airlines.

involved cargo airlines. These figures are way out of proportion to the percentage of worldwide airline operations conducted by cargo carriers.

Several factors have contributed to this unacceptable safety record.

Aging aircraft

Many cargo airplanes began service as passenger airliners. Though older airplanes are not inherently more or less safe simply because of their age, the older airplanes typically were certificated to standards in place many years ago. For example, even though some cargo airlines are flying modern airplanes, some freighters such as re-engined DC-8s—first-generation jet airliners now 50 years old—are still flying cargo.

One study of the average fleet age history over the past 18 years revealed that the average age of airplanes used in cargo operations has increased from 14 to 22 years, while the average age of airplanes used by passenger airlines has remained relatively constant at approximately 10 years. As of January 2004, the average age of the U.S. cargo airline fleet was approximately 28 years, whereas the average age of the U.S. passenger fleet was about 7 years.

By virtue of their age and passenger-airliner heritage, many current cargo airplanes have had numerous post-delivery modifications, such as installation of large cargo doors and specialized cargo floors. Many of these changes were designed and made by companies other than the original aircraft manufacturer. Many of these companies are no longer in business. Therefore replacement parts and technical and troubleshooting support for these modifications can be difficult to obtain. The attendant lack of information available to operators of these older, modified airplanes can adversely affect the continued airworthiness of the airplanes and their components.

Cargo (supplemental) rules are more lenient

U.S. all-cargo flights operate under several different sets of federal aviation regulations (FARs) that include Parts 121, 125, and 135. Under Part 121, cargo airlines frequently operate as "supplemental" airlines, while passenger airlines normally operate as "domestic" or "flag" airlines.

The Part 121 "supplemental" regulations are less restrictive than those for "domestic" and "flag" operations in some areas such as flight-time and duty-time limits and requirements for alternate airports.

In the United States, "domestic" and "flag" airlines are required to use flight dispatchers, who play an important role in operational control of a flight, which contributes to improved flight safety. "Supplemental" cargo operators, however, are not required by regulations to have dispatchers.

Requirements for other safety-related elements such as weather reporting and alternate airports are also less stringent under the "supplemental" regulations. Supplemental airlines are allowed to have higher flight-time and duty-time limits.

In addition to these Part 121 "supplemental" differences, cargo airplanes are explicitly excluded from certain other requirements that apply to passenger airplanes. For example, freighters are exempt from requirements for critical safety equipment such as escape slides for entry doors. While passenger airlines can operate only into and out of airports that meet the requirements of FAR 139, cargo airlines are not bound by such a requirement.

More—and more dangerous—hazmat

Another regulation allows freighters to carry larger quantities of hazardous materials than are allowed on passenger airliners. The hazards of carrying some substances are great enough that they may not be carried at all on passenger airliners. However, such substances may be, and routinely are, shipped on cargo airliners.

Noncompliance with regulations and proper procedures therefore represents a more serious safety problem in the air cargo industry, because exposure to the risks is greater than in the passenger airline industry. The current regulatory and operational systems do not provide adequate safeguards to ensure proper identification, packaging, and handling of these materials. Moreover, the FARs have no requirements for any special health monitoring for cargo flightcrews, in spite of their higher potential rates of exposure to hazardous substances.

Undeclared, improperly packaged, and improperly loaded hazardous materials, and even shipments of material never authorized for shipment via air, continue to pose problems. The additional quantities and increased dangerous nature of these hazardous materials on cargo airliners further increase the risk from a leak or release. Public awareness and employee training are essential to eliminating these hazards and providing required adequate safeguards.

Cargo ARC

Passenger airlines experienced some unique problems when they went through a period of growth after economic deregulation of the U.S. air-

Major NTSB investigations have resulted in numerous recommendations to the FAA and cargo airlines. ALPA continues to support those safety recommendations, all the while insisting on one level of safety for cargo operations.

line industry in 1978. After several serious incidents and accidents, ALPA, in the mid-1990s, called on the FAA to adopt a philosophy of "one level of safety" for all airline operations. Subsequently, the agency revised its regulations to mandate that aircraft with 10–29 passenger seats, then permitted to operate under FAR Part 135, be operated so as to meet the more stringent operational requirements of FAR Part 121.

Passenger airlines have posted an impressive record since then; the probability of being killed on a U.S. scheduled passenger airline flight is 0.0040 per 100,000 departures for passenger jets. This means that an accident with fatalities occurs within this fleet about once every 25 million flights. You would have to fly every day for 43,000 years to have an even chance of being killed in a passenger airline accident.

Today, however, *cargo* airlines are trying to move some freighters back under FAR Part 135 as the result of a Part 125/135 Aviation Rulemaking Committee (ARC) regulatory review that is now before the FAA for assessment. This recommendation, which ALPA opposes, would allow airplanes with a useful load as great as 18,000 pounds—Embraer EMB-120ERs, Shorts SD-360s, Saab 340s, de Havilland of Canada DHC-8-100s/200s/300s, and ATR 42s and 72s—to move under a new FAR Part 135 regulation. The proposal originally called for raising the Part 135 payload limit to 30,000 pounds!

Several aspects of this proposal are ill-conceived. One of ALPA's main concerns is, if the concept is approved for 18,000-pound (or 30,000-pound) payloads, how quickly would the payload limit be increased, perhaps to include *all* cargo airplanes under FAR Part 135?

The safety issues of the cargo airline industry, including higher accident rates, greater risk from dangerous goods, older airplanes, and a variety of regulations for cargo operations, are well-documented. Adding another regulatory category would be a step backward for safety. Cargo needs the same consideration that passenger airlines received in the 1990s when the FAA and the DOT adopted ALPA's slogan, "One Level of Safety," as their own. All-cargo operations exceeding the current 7,500-pound payload limit for FAR Part 135 should be conducted only under FAR Part 121.

We must not fall into the trap of assuming that a risk is acceptable simply because it is limited to one segment of the airline industry—i.e., all-cargo operations.

The cargo airline industry benefits individuals, businesses, the worldwide economy, and society at large in significant ways. The airline industry simply cannot afford to dedicate resources to anything that does not maintain or increase the current level of safety while improving our ability to deliver passengers and cargo reliably and efficiently.

Cargo Industry Growth Forecast

By Bill Despins, Financial Analyst, ALPA Economic and Financial Analysis Department

Air cargo has become an integral part of world business activity, currently accounting for more than $45 billion annually in revenue. The air cargo industry is projecting continued growth well into the future. Moreover, annual cargo growth is expected to exceed passenger growth by at least 1 percent per annum over the next two decades. In particular, the international cargo market is expected to flourish, with an average annual growth rate of around 6.1 percent.

While also projected to grow, the domestic cargo market is forecast to grow at a rate of around 3.5 percent.

Today, the Middle East has emerged as the fastest-growing region in terms of freight growth, supplanting Africa. China remains the third-fastest-growing market. While these three regions are growing the fastest, they still account for only a small overall level of traffic. Europe, other parts of Asia, and the United States continue to account for the bulk of air cargo traffic.

Financial health

Not unlike the passenger airline industry, rising fuel costs have had a major effect on the air cargo industry.

Supply concerns, geopolitical risks, market speculation, refinery constraints, a lackluster U.S. economy, and the weak U.S. dollar have all played a role in the volatility of fuel prices. In the air cargo industry alone, annual fuel costs have increased dramatically in the past 3 years, essentially doubling over this time period.

Unlike the passenger airline industry, however, the air cargo industry has been somewhat successful in passing on the bulk of fuel cost increases to customers. As a result, while the passenger airline industry reported significant losses in the first quarter of 2008, the air cargo industry reported healthy profit margins, albeit down from last year. The forecast calls for continued profitability, although the future profitability of the air cargo industry will be predicated, to a degree, on the future price of oil.

Fleet forecast

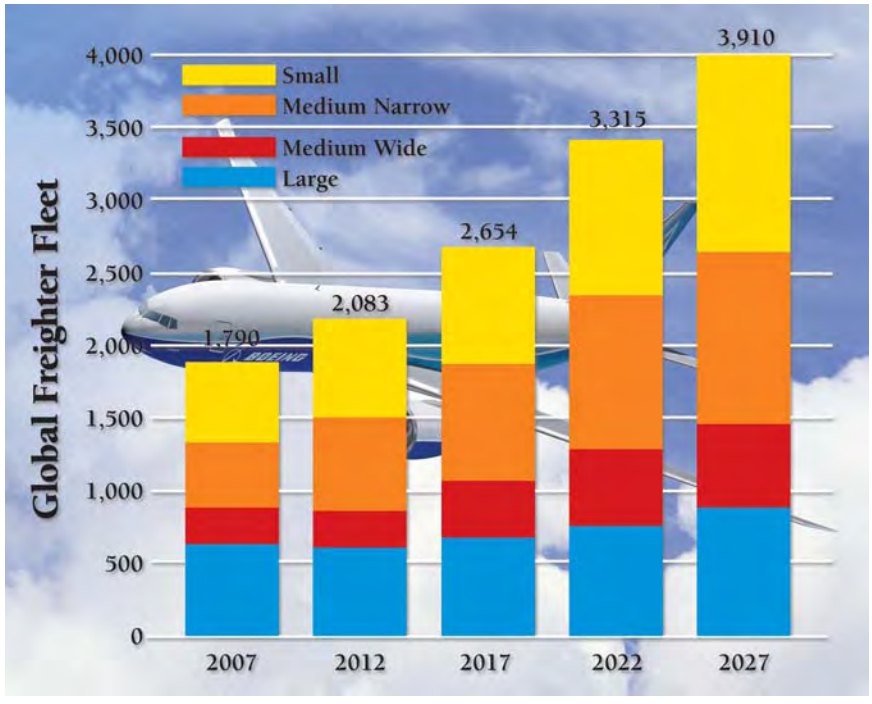
The current cargo fleet worldwide consists of approximately 1,797 airplanes, half of which are widebodies.

The Operating Airline Guide Analytical Services forecasts that the cargo fleet will grow, on average, about 3 percent per year over the next decade to meet the projected growth in freight demand.

This growth rate translates into a need for an additional 857 airplanes, or a 48 percent increase over today's cargo fleet size (current order backlog is for 285 widebody freighters, including B-777s, B-747-8Fs, and A330-200Fs).

Taking into account retirements, which are projected at 580-600 airplanes, the additions to the fleet will result in a fleet mix of approximately one-third new freighters and two-thirds conversions from passenger airliners. Likely candidates for conversion airplanes would be passenger B-777s, -757s, and -767s.

The industry landscape is quite volatile—the direct result of the ever-increasing cost of fuel. Maintaining profitability under these economic forces will be challenging and will require new and innovative thinking on the part of management.



Air Cargo Management Group's freighter fleet forecast for the next 20 years shows substantial growth.

So You Think You Want to Be a Freight Dog?

By F/O Avery Bates (Atlas Air)

WILLIAM A. FORD

In the FedEx crewroom, Capt. Bruce Walker, left, checks the computer for flight information as F/O Philip Lindsey, center, and Capt. Felton Louviere look on.

With recent furlough announcements and airline shutdowns, chances are that some of you may be considering your next career move. If you're thinking of making the jump from passenger to air cargo operations, be sure you know what you're signing up for. Air freight differs from passenger transport in a number of ways, and flying as a cargo pilot can be both challenging and rewarding.

Let's start with the basics. All-cargo business models vary significantly, but the three primary classifications are express, ACMI (aircraft, crew, maintenance and insurance), and ad-hoc charter. Express carriers haul time-sensitive air cargo on a strict schedule. Their route structure is most like that of a passenger airline, and the largest express carriers primarily operate their own fleet, covering all costs associated with marketing and operations.

An ACMI operator typically maintains long-term contracts, carrying customer cargo in dedicated aircraft. The ACMI airline provides airplanes, pilots, maintenance, and insurance for a negotiated price, while its customer covers everything else, including fuel, landing fees, deicing, etc. ACMI flying is based on customer schedules and is similar to long-term, dry-lease charter contracts. Resourcefulness and company image are important in this business, and the captain maintains responsibility for virtually everything. The flight crew is often the only direct contact the airline has with the customer.

Ad-hoc charter operators run as "on demand" operations and scheduling varies greatly. Consequently, ad-hoc charter flying can be some of the most physically and mentally demanding work in aviation. Flexibility and resourcefulness are a must, and pilots often find themselves in remote areas with very little support.

A different set of rules

U.S cargo carriers are certificated to operate under Federal Aviation Regulation (FAR) Part 121. These rules designate that the PIC (pilot in command)

legally initiates the flight with the consensus of the airline's director of operations. The PIC is responsible for every aspect of the trip, including planning, loading, and aircraft airworthiness. The crew flies under a different set of flight- and duty-time regulations, with most of the flying on the back side of the clock, and in multiple time zones.

Unlike passenger carriers, air freighters can carry hazardous cargo. Transporting declared dangerous goods can be accomplished safely; however, the U.S. DOT acknowledges that cargo pilots accept a greater level of risk performing this work.

Cargo aircraft have fewer than 10 supernumerary seats, and most of these airplanes are exempt from the requirement to use FAR Part 139 certificated airports. Many passenger airport, safety, and security standards do not apply to air freight operations. For example, aircraft rescue and firefighting and perimeter fencing requirements vary depending upon the facility.

In addition to safety, air freight has its own set of security issues. Although the Department of Homeland Security recognizes the threat of a hostile takeover in cargo operations, the requirements for hardened cockpit doors on all-cargo aircraft are not all encompassing and leave many cargo aircraft flying today without the protection of a hardened door. Most rules that address air cargo security apply only to freight carried in the belly of passenger aircraft. In addition, cargo ramps are not usually Secure Identification Display Areas (SIDAs), and many air cargo employees and other contractors who have ramp access are not subject to background checks or proper security screening.

The ALPA President's Committee for Cargo has recommended more than three dozen safety improvements and issued a dozen security recommendations specific to all-cargo operations. The Association has made great progress promoting stronger safety and security measures and continues to press for one level of safety and security for all airline operations.

So why would you accept the increased risk associated with being a cargo pilot? I have asked myself the same question during my last 20 years of flying freight. For some pilots, air cargo is in their blood. Others describe cargo flying as calmer, with fewer hassles. Night flying in North America is a typically quieter operation, with better weather. International cargo flying is more challenging and often offers more interesting layover destinations. Air freight provides an opportunity for a quicker upgrade and larger equipment. Some cargo airlines offer large salaries and great benefits. Other pilots like the schedules.

During recent new-hire meetings, the system chief pilot spent a significant amount of time making sure that everyone understood what the job entailed. Regardless of how well briefed you may be, you can be assured of some surprises once out on the line. Welcome to the world of air freight.

COURTESY FEDEX

Cargo Q&A

The following are some questions and answers to consider when targeting an air cargo job.

What does the company's business model look like?
With the dramatic increase in fuel cost, the entire air transportation industry has become unstable. Air cargo flying used to offer the distinct advantage of economic stability. Although the industry still expects significant growth over the next 20 years, the air cargo business models are changing to accommodate consolidation and shifts in domestic and international market demands. For career employment, make sure you choose a carrier that is adapting to these changes.

Express, ACMI, or charter?
Typically, express pilots earn better pay because their companies fly cargo at a higher yield. ACMI carriers usually compete for bottom-line prices, so you can guess how that affects pilot wages. Ad-hoc pilots are subject to short-term and seasonal market demands (i.e., when times are good for the airline, pilot paychecks are good, too). Regardless of the type of operation, determining realistic annual pay by multiplying the monthly guarantee by the hourly rate will only give you a general sense of what to expect. Most cargo carriers offer overrides and incentives that can add up to extra cash for those willing to chase it. Safety records, airline reliability, and equipment types are also important considerations.

What aircraft do they operate and what do they have on order?
Traditionally, all-cargo aircraft have had the reputation of operating older airplanes that have been recycled

from passenger operations. However, industry growth has created the demand for more reliable, fuel-efficient fleets. Aircraft manufactures have responded with factory-made freighters that are more fuel-efficient and fly longer ranges.

Where are the bases? Can pilots commute?

Since many cargo carriers with hub-based business models position their hubs in remote areas, a large percentage of cargo pilots commute. Most cargo airlines arrange their pilot schedules in one-week-plus blocks, keeping some pilots on the road for up to 18 days in a row. Several cargo airlines home base their pilots and will take care of getting them to work, and some offer a travel bank, making commuting easier. Models and rules are different for each carrier, so find an arrangement that works for you.

How about rest?

Be sure to check contractual flight- and duty-time limits and rest requirements. Many master executive councils have negotiated these limits that are comparable to FAR Part 121 domestic and flag regulations. The quality of hotels that individual carriers use varies. Talk to a pilot who works for the airline. Clean, quiet, and comfortable rooms are necessary, especially when sleeping during daylight hours.

What does a typical schedule look like?

A cargo schedule typically has lines of a week to 18 days. Back-bid situations with added days can keep pilots away from home for up to 40 days. Now add training and you could easily forget where you parked your car. Commuters often prefer a week-on, week-off (or a two-week-on, two-week-off) schedule. There are fewer reserve lines and reserve assignments are built into a scheduled line or given to crew schedulers to cover extra flying with pilots who are willing to work on their days off. In the ad-hoc world, pilots essentially bid for days off—almost every day away is like a reserve day.

JOCELYN AUGUSTINO

How about catering?

Forget about flight attendants, crew meals, and terminal restaurants. Finding a hot, nutritious, and affordable meal can be a challenge. If operations transit a hub in the middle of the night, the pilots can typically find some place to eat. Most carriers supply bottled water for all flights. International airlines do a better job of catering their flights.

Is it an ALPA carrier?

ALPA MECs have made great strides in improving working conditions and solving quality-of-life issues. You will receive better support with ALPA representation if you have difficulties overseas.

Is it an IATA carrier?

Air carriers that belong to IATA must pass a strict audit, with safety and security standards well beyond that of most regulatory agencies.

How about weekends and holidays?

Most domestic express and ACMI cargo carriers operate few if any flights on weekends or holidays. With a little seniority (and depending on where you live), it's possible to spend at least two weekends a month and most holidays at home.

Get answers to these and other questions by researching cargo airlines on the Internet, inquiring about the carrier during the interview, and talking to current cargo pilot employees. Good luck in your search.—*AB*

CARGO TOOLBOX

ALPA Offers Tailored Services to Cargo Pilots

By Molly Martin, Media Specialist

ALPA is the (cargo) pilots' union. As such, many ALPA departments have tailored their services to meet the needs of cargo pilots. From building better contracts through developing specially designed collective bargaining strategies to improving safety and security, it's burning the midnight oil with a differently regulated environment in mind that makes the cargo world a bit more challenging.

Building a better contract

Cargo pilots are leading the airline industry with positive gains in newly bargained contracts, as evidenced by the deals signed at ASTAR, FedEx, and Ryan. These contract improvements resulted from pilots' collective efforts to demand a better contract with the support of ALPA's team—made up of professional negotiators, lawyers, benefits specialists, economic analysts, actuaries, and communication specialists. Negotiating a collective bargaining agreement for cargo pilots, who fly in an increasingly influential and lucrative component of air transportation, provides ALPA the opportunity to make significant contract gains.

Often the work takes place on the back side of the clock."Occasionally, the normal schedule that we work just gets reversed," says ALPA Assistant Director of Representation Jim Wilson. "When we're reporting on a tentative agreement that's going out for ratification to the cargo guys, those MEC meetings usually start at 2 or 3 o'clock in the morning. We adapt our normal work schedules to fit their schedules."

While ALPA's team attacks collective bargaining negotiations with the same goal that it has for pilots of passenger airliners—getting a better overall contract, and enforcing those gains throughout its lifetime—the cargo realm does throw some unique challenges into the mix. "Sometimes cargo pilots are called upon to fly into areas of active military conflict, such as Afghanistan," says Wilson. "We've had problems at Evergreen with this and are involved in continuing efforts to get the cooperation of the company and government authorities to secure the

physical safety and welfare of the pilots who fly into those active war zones."

Another challenge: closing the contract gain gap between aircraft, crew, maintenance, and insurance (ACMI) and international express carriers. "There's a great disparity in the types of cargo operations, from the FedExs and ASTARs to the Capital Cargos of the world, and there's a wide spread on pilot pay and benefits, too," says Wilson. "We're trying to maintain and enhance contracts at the high end as we prepare for the next round of Section 6 negotiations at FedEx—while we seek to raise the bar substantially at Capital Cargo and others at the opposite end of the spectrum."

PHOTO COURTESY FEDEX

Staff recently put together a concept paper that outlines measures ALPA's cargo pilot groups could take to close this gap, namely pilot groups working more closely together across pilot lines for mutual benefit, similar to the fee-for-departure pilots' recent efforts in St. Louis, where leaders met to discuss common collective bargaining strategies and to open lines of communication.

These efforts recognize the special needs of cargo pilots. Cargo sometimes presents very different fundamental concerns, in addition to more back-side-of-the-clock operations. "In some cases cargo pilots are flying trips that last more than two weeks overseas away from home and family, in widely dispersed parts of the world that are not developed and downright dangerous," says Marcus Migliore, managing attorney in ALPA's Legal Department. "Cargo pilots often have to take on unusual responsibilities in far-flung locations with no airline support to keep airplanes moving, such as buying fuel. ALPA's resources are there to help cargo pilots try to manage the stresses of these unique and difficult circumstances." ALPA tailors its efforts in collective bargaining to help cargo pilots address their special needs. "For example, as to job security concerns, the goals may be somewhat different from the passenger sector, because you're also trying to capture all of the freight and the packages instead of simply capturing all of the flying," Migliore notes.

Cargo issues also receive special attention in air service negotiations between the United States and other countries. Often air service agreements provide greater rights to all-cargo than to combination airlines. For example, the U.S.-China agreement provides extensive hubbing rights to cargo airlines but not to passenger airlines. Also, a number of agreements provide seventh freedom rights to cargo airlines but not to their passenger counterparts.

ALPA tailors its efforts in collective bargaining to help cargo pilots address their special needs.

"There's this notion that cargo is a separate type of business where we can be more liberal with the rules, and the U.S. government accordingly talks about using cargo as a testbed for liberalization initiatives," says Russ Bailey, senior attorney in ALPA's Legal Department. "ALPA will continue to carefully evaluate each initiative on its own merits to see whether it is likely to enhance job opportunities for U.S. pilots."

Special protections for special flying

ALPA's Retirement and Insurance (R&I) Department works to ensure that cargo pilots' insurance benefits are tailored to meet the special needs of these pilots who often fly internationally and/or into areas that are more remote and hazardous. For example, it's critically important that medical insurance policies contain provisions so that a pilot will receive quality medical care while overseas, and that where appropriate, the policy contains suitable provisions to medevac the pilot to an appropriate medical facility for treatment (e.g., in the United States) if the pilot so desires.

The R&I Department also works with cargo pilots to make sure that their disability insurance, life insurance, and accidental death and dismemberment (AD&D) policies do not contain limitations or exclusions from coverage when they fly into remote international locations that are sometimes hazardous. If a problem is detected, ALPA pilot representatives, working with R&I staff, address the matter through negotiations and/or advise the pilot group to consider contract provisions that provide addi-

The ALPA Cargo ARFF Symposium held last November highlighted many of the differences between ARFF responses to passenger and cargo airliners.

tional levels of protection that are appropriate to the nature and extent of the circumstances.

Improving safety and security

From airlines and manufacturers to government agency representatives and leaders on Capitol Hill and in Parliament, movers and shakers in the United States and Canada and around the globe recognize ALPA as the conscience of the airline industry. When it comes to cargo operations, the Association has been pushing for the same "One Level of Safety" regulations that passenger airlines operate under.

Cargo pilots have made notable accomplishments over the years with the help of ALPA's Engineering and Air Safety Department, the largest nongovernmental aviation safety organization in the United States and Canada, and ALPA's Government Affairs Department, the professional pilot spokesperson in Washington, D.C. Dedicated ALPA staff members in these Departments work day in and day out to deliver improved safety and security measures for cargo operations.

"We've made some great strides," says Jim Andresakes, supervisor of Aviation Security in ALPA's Engineering and Air Safety Department, "like the historic final rule on air cargo security in May 2006, which set standardized procedures for all-cargo security programs. Before this rule was implemented, only company procedures existed and none of them were standard across the board." ALPA continues to monitor the implementation of this rule and commends the Transportation Security Administration for a number of its cargo security efforts, including the continued effort to develop and deploy the Freight Assessment System (FAS).

ALPA has also fought successfully to include cargo pilots in the Federal Flight Deck Officer program (see page 38) and continues to push for more secure cargo operations (see page 31), particularly the addition of cockpit doors. Recently, pilots and staff met with staff of the House Transportation and Infrastructure Committee to discuss cargo safety and security issues.

Staff-supported safety initiatives include addressing discrepancies within U.S. federal aviation regulations; safely delivering dangerous goods (see page 42); establishing dialogues between pilots and managements—like the Wilmington Users' Group, designed to spur airpark improvements; and building an effective route structure for the oddly-timed arrivals and departures in cargo operations.

With direction from the President's Committee for Cargo, ALPA staff played an integral role in the Cargo Aircraft Rescue and Firefighting (ARFF) Symposium, held in Herndon, Va., in November 2007, which explored cargo-specific ARFF training, specialized equipment and procedures, and new technologies. This meeting pioneered ARFF collaboration in cargo, using several real-world accidents as a platform for learning more about how cargo airliners differ from passenger airliners when it comes to fighting fires.

Last but not least, ALPA continues to advocate for research and development relating to pilot fatigue, an issue that the U.S. government recently placed on the front burner by holding the FAA Fatigue Symposium in June. Cargo pilots' sleeping and work patterns will play a significant role in this ever-evolving debate. Your Association will continue to help shape the debate and influence any regulatory or risk management systems outcomes.

From left, Capt. Bill McReynolds (FedEx), chairman of the ALPA President's Committee for Cargo; Steve Conrad, Special Advisor-Air Cargo Security, Transport Canada; and Warren Miller, Branch Chief-International Air Cargo, TSA, participate in a panel discussion about cargo security during the Canadian Aviation Security Conference in Gatineau, Quebec.

One Step Closer To Adequate Cargo Security

By Capt. Bill McReynolds (FedEx), Chairman, ALPA President's Committee for Cargo

No pilot should work for B-scale pay, so why should he or she be forced to operate under B-scale security regulations? ALPA maintains that that is precisely what cargo pilots contend with today.

In recent years, the Transportation Security Administration has taken positive steps to narrow the security gap between passenger and all-cargo operations, but a gap still exists. Some air freight operators may opt to exceed the modest requirement levels; however, cargo security is an expensive endeavor, which could prompt other air freight companies to minimize important safeguards. ALPA believes that effective air cargo security must be properly regulated and enforced to ensure adequate protection and effective compliance.

The final rule

The TSA in May 2006 announced its final rule on Air Cargo Security Requirements, a set of security measures that signaled a new direction for U.S. air cargo operations. As part of that rule, the TSA issued the Full All-Cargo Aircraft Operator Standard Security Program (FACAOSSP), a tome outlining a broad range of regulations, applying a layered approach. The FACAOSSP was truly a landmark document; no regulatory equivalent existed in the U.S. air cargo domain before it.

U.S. passenger operations, including aircraft carrying "belly freight," have long been required to adhere to the Aircraft Operator Standard Security Program (AOSSP), an all-encompassing set of government-prescribed do's and don'ts. However, U.S. air freighters, prior to 2006, operated under an "alternative means of compliance."

That *alternative* meant that cargo operators negotiated their own security procedures with government regulators. The Domestic Security Integration

ALPA believes that effective air cargo security must be properly regulated and enforced to ensure adequate protection and effective compliance.

CARGO SECURITY
AN ALPA PERSPECTIVE

By Capt. Bill McReynolds (FedEX), Chairman, ALPA President's Committee for Cargo

What do we mean when we say "cargo security" in the airline industry? Some people think that cargo security relates to the screening and inspection of cargo before it is loaded on an airplane. Others think of it as the protection of cargo from loss or theft while it is in the cargo supply chain. A small group of people takes the definition a step further and defines cargo security in terms of the protection of airport ramps, airplanes, and the flight decks of all-cargo airplanes. The reality is that cargo security consists of all of the above, in a multilayered security system with redundancy and backups.

Before the terrorist attacks of Sept. 11, 2001, cargo security efforts were primarily geared toward preventing improvised explosive devices (IEDs) from being placed in checked or hand-carried luggage aboard passenger airliners. Most of us remember that Pan Am Flight 103 was brought down over Lockerbie, Scotland, by an IED that was carried aboard the airplane. As a result of this terrorist act and for years afterward, the FAA and the airlines focused their security efforts on preventing dangerous items from entering an airliner, imposing the checkpoint screening process and the inspection of checked baggage on the traveling public.

Meanwhile, virtually no security improvement efforts were made with regard to protecting all-cargo airliners from these types of threats. Before 9/11, security programs at all-cargo airlines, if any, were voluntary. Several of the all-cargo airlines that operated under a voluntary program did so mainly to obtain discounted GSA pricing for X-ray machines and metal detectors that were used primarily to screen employees for internal theft, not to inhibit the introduction of a harmful object aboard an airplane. This philosophy still seems to be prevalent at many all-cargo airlines.

In the post-9/11 environment, the fact that even the most basic security measures required of passenger airlines weren't mandated for all-cargo operations became readily apparent. All-cargo ramps at major airports weren't required to become Secure Identification Display Areas (SIDAs). Ramp security and access control were minimal, if even required. Background checks of all-cargo employees were just one step above a basic credit check and didn't require fingerprint-based criminal history record checks (CHRCs). Pilots, ramp agents, and ground personnel weren't required to have ground security coordinator (GSC) training or inflight security coordinator (ISC) training. No common strategy training was required or had even been developed for all-cargo operators.

As a result of the renewed focus on aviation security after 9/11, the federal government, ALPA, and other industry stakeholders began to look seriously at cargo security issues, and several all-cargo working groups were constituted to study the issues and recommend solutions. A common strategy was developed and provided to all-cargo airlines, and last, but not least, Congress legislated that all all-cargo airline pilots would be eligible to volunteer for the Federal Flight Deck Officer (FFDO) program.

ALPA developed its own cargo-related recommendations and priorities, which have since became the foundation for Program and the Twelve Five Standard Security Program (for operators of aircraft weighing more than 12,500 pounds) provided general guidelines, but each U.S. air freight operator proposed its own set of operating standards, which the government reviewed and approved. This process created a hodgepodge of protocols throughout the air cargo industry.

The TSA dramatically changed the dynamics of this practice with the introduction of the FACAOSSP, one set of regulations that the Administration issued for all U.S. air-cargo airlines to follow.

Many of the current air freight security regulations are based on 43 recommendations proposed by three All-Cargo Security Working Groups (chartered by the Aviation Security Advisory Committee), made up of industry stakeholders. Two ALPA staff engineers and I were active members of these Groups. The Department of Homeland Security in November 2004 used these recommendations to develop an Air Cargo Strategic Plan, announced in a notice of proposed rulemaking (NPRM) and circulated for feedback. The air freight industry was quick to respond.

All-cargo operators protested many of the terms of the NPRM, citing the cost and feasibility of implementation. Consequently, the FACAOSSP fell short of "One Level of Safety and Security" for all airline operations, a position ALPA continues to promote, to adequately protect cargo airlines, their employees, and the public—as literally tons of dangerous goods are transported in our skies every night.

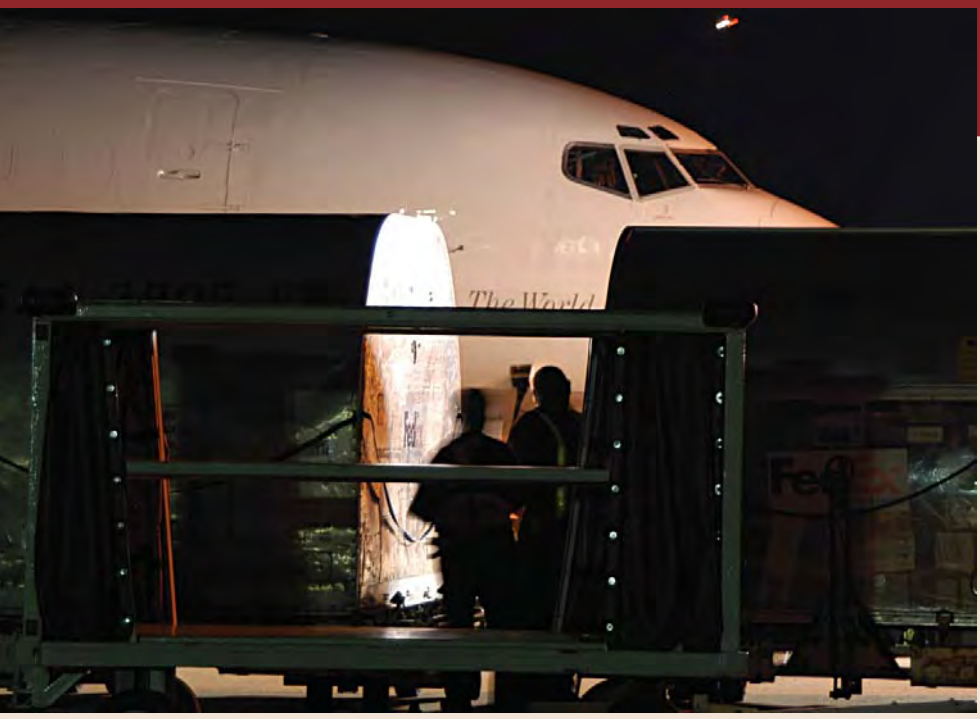


PHOTO COURTESY FEDEX

ALPA's *Recommendations for Improving Air Cargo Security* white paper. This recently updated document reflects ALPA's priorities for improving cargo security and can be found on the ALPA website, www.alpa.org, by clicking on In the Cockpit in the left-hand menu.

So, with respect to security of the all-cargo domain, where are we today, nearly 7 years after the tragedy of 9/11? While many improvements have been made, we have a long way to go, as many of the articles in this month's issue of *Air Line Pilot* will demonstrate.

When you hear about the 100 percent screening mandate for cargo, understand that the rule applies only to cargo carried aboard passenger airliners and represents about 15 percent of the cargo carried by air in the United States. Also, a number of all-cargo airports are privately owned and operated, and consequently, are exempt from many, if not most, of TSA's regulations related to ramp security and access control. Unlike the common strategy for passenger carriers, the all-cargo common strategy is not required training for all-cargo crewmembers but is offered to all-cargo airlines only as training guidance. Hardened cockpit doors are not required for many all-cargo airplanes, even though the TSA publicly acknowledges that hostile takeover of the flight deck by stowaways represents the primary threat to all-cargo airliners.

These examples provide evidence of some of the many varied and significant challenges that remain to be addressed in improving the state of cargo security. Clearly, we have a long way to go. The ALPA President's Committee for Cargo (PCFC) and ALPA's National Security Committee (NSC) continue to work for needed cargo security improvements to protect our members and industry. We hope that, after reading this month's edition of *Air Line Pilot*, you consider the details and read between the lines the next time you read about cargo security improvements and that you better understand what is really happening with cargo security.

By comparison, the AOSSP is based upon a stricter and more detailed approach, providing numerous protective redundancies and multiple means of detecting risks and threats. When issuing tickets, airlines compare passenger names to terrorist watch lists, the no-fly list, and other resources. Passengers and their luggage are carefully screened at airports in preparation for departures. In addition, Secure Identification Display Areas (SIDAs) set strict protocols for access to restricted regions of airports.

For passenger operations, transportation security officers undergo standardized training in screening protocols, using detection equipment and profiling passenger behavior. Passenger flight crews receive required common strategy training to prepare them for the possibility of an inflight security incident. Voluntary crewmember self-defense courses are available, the Federal Air Marshal program is more prevalent, and 100 percent cargo screening is required for freight that is transported on passenger airliners.

The all-cargo airline industry needs this same level of safety and security to adequately protect itself.

The FACAOSSP, despite the conclusive tone of the rule that set it in motion, is a stepping stone and not a *final* product. It's a positive move to bring cargo security in line with that of passenger operations, but we still have work to do. ALPA representatives will ensure that cargo security deficiencies are brought to the attention of legislators and regulators, and resolved. We've come this far; it's time to complete the trip.

ALPA's Cargo Security Improvements Checklist

ALPA has developed a checklist of 12 specific security measures that would bring air freight in line with current passenger security standards and provide for a more secure and efficient air freight industry. The Association continues to promote improved cargo security with legislators and regulators in both Canada and the United States.

1 **Install hardened cockpit doors and secondary barriers on all-cargo airliners**—These are not currently required, leaving cockpits virtually defenseless against anyone who might be in the aircraft.

2 **Scrutinize persons transported on all-cargo airliners**—All-cargo aircraft often transport couriers, animal handlers, company employees (who are sometimes foreign nationals), and others. Although non-crewmembers are subject to screening, the screening process is often relaxed.

3 **Expand Transportation Security Administration compliance enforcement**—The TSA should expand its field inspection staff; create non-punitive, voluntary, self-disclosure programs; develop and distribute security training materials; and educate cargo industry employees and agents.

4 **Improve the cargo security rule**—Although TSA's May 2006 final rule outlined regulatory measures covering the entire air-cargo supply chain, implementing aspects of the rule—particularly with regard to security-threat assessment and Secure Identification Display Area (SIDA) requirements—has been challenging. Current deficiencies could be resolved with clarification and stricter language.

5 **Require a SIDA for all-cargo operations and vet persons who have unescorted access**—SIDA protocols are required for some areas of all-cargo operations at airports that also provide passenger service. SIDA spells out perimeter security protocols, defines entry and exit procedures, describes identification display and ramp security procedures, and requires a 10-year, fingerprint-based criminal history record check for all employees who are to have unescorted access. Everyone who receives, inspects, transports, or loads air cargo must be vetted thoroughly.

6 **Improve use of technology**—Cargo screening needs to include the latest screening and inspection technologies to detect a wide range of weapons and contaminants to help the air transportation industry better shield air freight from terrorism and other forms of exploitation.

7 **Use the *known shipper* concept for all-cargo operations**—A company that is recognized as a known shipper has been vetted by the TSA, appears in the automated Known Shipper Management System, and is recognized by the cargo airline. This system applies to passenger operations but is not required for all-cargo flights.

8 **Implement risk-based assessment of cargo**—To supplement the known shipper program, TSA is developing the Freight Assessment Sys-

tem (FAS) to determine the risk of shipping certain cargo on passenger airliners. Any suspicious cargo flagged by the FAS risk-management engine will be subject to additional inspection.

9 **Provide security training for all-cargo flightcrew members and staff—**Government-approved security training, equivalent to that required for passenger operations, should be mandated for flight crews and ground personnel supporting freighter airlines. Training should include all-cargo common strategy, TSA-issued security directives, appropriate information circulars, and instruction to detect and deal with explosive devices and other weapons, contaminants, and dangerous goods.

10 **Address security deficiencies at private airports serving all-cargo operations—**The TSA should institute appropriate regulations and enforcement actions for private airparks, which are not subject to the same government-mandated security standards that apply to public airports.

11 **Conduct vulnerability assessments and threat mitigation—**Assess security weaknesses in air cargo supply-chain operations. Routinely enlist subject-matter experts to offer current intelligence related to any potential threats.

12 **Profile 100 percent of cargo—**ALPA recommends using the Freight Assessment System or known shipper methodologies. Techniques currently employed for physically inspecting freight are good but only identify high-risk, targeted cargo.

For more details about ALPA's cargo security checklist, read *White Paper: Recommendations for Improving Air Cargo Security* (July 2007), which can be found on the Association's website at www.alpa.org by selecting In the Cockpit in the left-hand menu.

PHOTO COURTESY FEDEX

Flying on the Back Side of the Clock

Capt. Jeff Kilmer (FedEx)

(Eastern time zone) **0830**—*Try to sleep.*
1547—*Give up trying after hours of fitful tossing and turning. Go next door for a Whopper and a Coke. Check e-mail. Review schedule as well as Eastern U.S. and Atlantic weather visuals.*
1730—*Make the crew wakeup call.*
1830—*Take the hotel van to the remote cargo area.*
2102—*Push the throttles up. Review the after-takeoff checklist at 10,000.* Yawn.
2311—*Get the oceanic clearance from Gander.* Yawn.
0122—*Pass 30 west (the sun's on the horizon). Get up, stretch, get a cup of coffee.*
0333—*Make radar contact with Shannon, get clearance direct to Frankfurt.*
0517—*Flare over the touchdown zone onto 25R. Say a silent prayer that you're back on the ground.*
0642—*Struggle with the curtains in the hotel room so you can sleep through the day and be ready to do it all over again tonight.* Yawn.

Ask any air freight pilot to describe his or her job and you're likely to hear about the odd hours. Cargo flightcrew members often fly "backside-of-the-clock" schedules, while others alternate between daytime and nighttime flying. This irregular shift work poses physiological challenges for the pilot as his or her family maintains a traditional sleep cycle. Add the snowballing effects of back-to-back trips and frequent exposure to multiple time zones, and you likely have one tired pilot.

We all know these conditions are part of the job. And air cargo operators should be mindful when building flightcrew member schedules of providing adequate rest and avoiding cumulative fatigue. Alert and attentive pilots ought to be a top priority for air freight operators, if only for the sake of safely delivering the goods, right? Unfortunately, this is not always the case.

Understaffing and other operational demands have led air cargo flightcrew schedulers to assign trips to pilots that result in undue fatigue while on duty. This fatigue can detrimentally affect the pilots' performance, sometimes resulting in accidents or serious incidents.

ALPA takes a stand

ALPA's motto is Schedule with Safety, so it should come as no surprise that correcting this problem is an Association priority. ALPA continues to fight for a single standard of safety for all airline pilots, carrying this message to regulators, legislators, and anyone in the airline industry who will listen.

The Association asserts that new regulations need to include a science-based preflight rest requirement, non-exploitable reserve duty-time limits, a single weekly-flying-time limit, and special consideration for late-night and transmeridian flying. To this end, ALPA last year formed a Blue Ribbon Panel on Fatigue, of which I am a member, to review the science and current scheduling practices surrounding pilot fatigue as well as the flight- and duty-time regulations and rest requirements in Canada and the United States.

The Panel is reviewing different rules and practices for domestic, international, and cargo operations, studying the latest science on fatigue—including the ongoing effects on pilot health, comparing U.S. and Canadian regulations to those of other nations, and developing a science-based rest and duty scheme to minimize and mitigate the effects of pilot fatigue.

Can we get some help here?

Aviation regulators have not helped matters. Despite mind-boggling technological developments in air travel, current flight- and duty-time regulations and rules defining adequate crew rest have not significantly changed since the 1950s.

The bottom line is that sleep is a necessity and nothing can replace it. Fatigue can be alleviated with careful planning. Science-based approaches provide us with the best means to develop safe and logical scheduling practices.

Title 49, U.S. Code 44701 requires the FAA Administrator to set standards for both air cargo and passenger airlines that are in accordance with "the duty of an air carrier to provide service with the *highest* possible degree of safety in the public interest."

Current FAA domestic regulations specify that a pilot can fly as much as 8 hours during a 24-hour period, provided that the pilot has had at least 8 continuous hours of rest during that period. If the pilot's actual rest is less than 9 hours in the 24-hour period, the next rest period must be lengthened to provide for the appropriate compensatory rest. However, there's a fork in the scheduling

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road when addressing domestic, international, and cargo operations.

Domestic passenger pilots can fly a maximum of 30 hours a week while international passenger pilots can fly up to 32 hours a week. Under supplemental regulations, cargo pilots fly as many as 48 hours during this period—that's a 60 percent increase. Why the difference? Who knows—these pilots fly the same equipment in the same airspace and their assignments are equally, if not more, stressful.

The ever-growing duty period

These hourly limitations are based on a pilot's time at the controls. However, pilots have additional non-flying responsibilities that add to their workload as well as their weariness. Regulators allow pilots to be on duty up to 16 hours in a single day, but hold on to your hats. Even this ceiling is not set in stone.

In 2006, the FAA issued an exemption, in the form of Operations Specification A332, which allows Delta Air Lines to use a Boeing 777 crew to fly for a scheduled 16 hours (with a relief crew) between New York and Mumbai, India. Given the likelihood of delays, weather systems and winds, enroute traffic, and other conditions, routine flight times could well exceed this figure. With Boeing's introduction of the 777 freighter this year, air cargo operators will likely seek similar exemptions as ultra-long-range (ULR) routes are expanded.

The bottom line is that current flight- and duty-time regulations are not based on science or human physiology and are, therefore, impractical. They do not take into consideration the stress of overnight flying, the effects of sleep loss, or the quality of sleep attained during daytime hours or after a long and active duty period. In addition, these rules do not consider how fatigue affects a pilot's ability to maintain alertness and attention to detail, which are paramount to performing the duties of the job.

Fatigue manifested

On the morning of July 26, 2002, FedEx Flight 1478 was on final approach to Runway 9 at Tallahassee Regional Airport when the B-727 struck a tree line short of the runway. Three flightcrew members were seriously injured, and the aircraft was destroyed by a combination of the impact and the resulting fire.

The captain noted that he had had 3½ hours of sleep prior to the accident and had not slept well the previous evening because of circumstances at home. The first officer's recent reserve duty had required him to alternate between daytime and nighttime sleeping. In addition, he had flown several previous legs and was expecting to finish his last trip about 11:00 p.m. the night before, prior to being reassigned to the accident trip.

The NTSB, following its investigation, cited fatigue as a significant factor in the accident.

The NTSB weighs in

NTSB Chairman Mark Rosenker recently told the press, "The Safety Board is extremely concerned about the risk and the unnecessary danger that is caused by fatigue in aviation. We have seen too many accidents and incidents where human fatigue [was] a cause or contributing factor."

Reducing accidents and incidents caused by human fatigue has been on the NTSB's list of most-wanted safety recommendations since the list's creation in 1990. More recently, the NTSB has suggested that the FAA develop guidance, based on empirical evidence, for operators to create Fatigue Risk Management Systems along with a methodology to continually assess their effectiveness. These Systems should promote ways to improve sleep and alertness, mitigate performance errors, and prevent incidents and accidents. ALPA's Blue Ribbon Panel on Fatigue recently published a white paper on this subject, which is available on ALPA's website, www.alpa.org, by selecting In the Cockpit in the left-hand menu.

Going old school

Shakespeare describes the importance of sleep in numerous passages of his Scottish tragedy, *Macbeth*. The title character proclaims, "[s]leep that knits up the ravelled sleave of care, the death of each day's life, sore labour's bath, balm of hurt minds, great Nature's second course, chief nourisher in life's feast."

The bottom line is that sleep is a necessity and nothing can replace it. Fatigue can be alleviated with careful planning. Science-based approaches provide us with the best means to develop safe and logical scheduling practices.

CARGO FFDOS

FFDO Operations On the Dark Side

Without ALPA, Probably *No* Airline Pilots Would Be Armed

By F/O Greg Bergner (ASTAR), Assistant to the Director of Operations, ALPA National Security Committee, and Security Chairman, ASTAR MEC

There wouldn't *be* a Federal Flight Deck Officer (FFDO) program, which recruits, trains, and deputizes airline pilots as federal law enforcement officers and authorizes them to carry firearms in defense of their cockpit on U.S. airliners, if it hadn't been for ALPA, which was the first organization to call for its creation in September 2001. The Association worked closely with congressional leaders and staff to develop and support the legislation that mandated the program—the Arming Pilots Against Terrorism Act (APATA), which was enacted as part of the Homeland Security Act of 2002.

Cargo pilots were included in the original bill that created the FFDO program in 2002, but the word "passenger" was later inserted in front of the words "airline pilot" during a House-Senate conference committee, effectively excluding cargo pilots from the program. The eleventh-hour change appeared to be a result of pressure from several cargo airline managements, some of whom had expressed the belief that weapons in the cockpit would pose a serious threat to the safety and security of flightcrew members and their airplanes.

But flight crews operating all-cargo flights often face greater security risks on the flight deck than pilots flying passenger airliners. Cargo airlines are not required to cancel a flight for an inoperable cockpit door and, in some cases, do not have a reinforced cockpit door, or any door at all.

The differences in security protection do not stop at the cockpit door. Cargo pilots generally do not have the added layer of protection provided by flight attendants, able-bodied passengers, federal air marshals, or other law enforcement officers, and often carry company employees or non-employees who are escorting livestock or precious cargo.

So ALPA went back to Congress to right this wrong. The result?

In December 2003, President Bush signed into law an FAA reauthorization bill that included language amending APATA to authorize cargo pilots to participate in the FFDO program. This change was a significant step in the right direction to correct deficiencies within the U.S. cargo airline industry.

Threat in the Dark, Packed Tube

A well-trained, properly equipped FFDO in the cockpit is the last line of defense against a hostile attempt to take over an airliner. FFDOs assume a great responsibility when they volunteer to join the program and become trained, sworn federal law enforcement officers.

In a few fundamental ways, however, the threat environment that an FFDO may face on an all-cargo flight differs from, and may be even more challenging than, the situation presented on a passenger airliner or "combi" cargo-passenger airliner.

For a variety of reasons, a higher percentage of all-cargo flights operate at night. In a dark environment, the ability to discover and deal with a security threat decreases.

If you serve as an FFDO on an all-cargo flight, consider a few points:

- Have you ever done any shooting in low-light conditions? Do you routinely practice in such conditions with your FFDO weapon?
- Can you draw, fire, and reload in the dark by touch alone, without looking at your magazines and pistol?

On freighters lacking a cockpit door, the concept of defending the "flight deck" must include the entire main cargo deck. That raises some interesting concerns about maneuvering—perhaps in the dark—around bulkheads, nets, doors, pallets, and cargo containers while maintaining discipline regarding weapons retention, clearing, and other tactical issues.

The FFDO training provided by the Federal Air Marshal Service (FAMS) is excellent, but limited. Although FFDO training includes realistic drills in a passenger airliner cabin, it doesn't include any cargo-specific training, such as training within a mockup of a loaded freighter fuselage.

Similarly, the FAMS' Crew Member Self-Defense Training Course includes a one-day realistic one-on-one training program designed for a passenger airliner cabin mockup; however, no main-deck cargo simulation is available for cargo pilots interested in preparing to defend their airplanes.

ALPA continues to seek the needed improvements required to ensure that all-cargo security is equal to the protection offered passenger airlines. In the meantime, what can you do to help? Stay vigilant: never lower your guard in the face of a patient, persistent threat.

Just a few things to think about while you're 7 miles up on a moonless night, carrying a hundred thousand pounds of kerosene, 40 tons of freight, and who knows what, or whom, else.—*GB*

A Burning Need for Cargo ARFF

ALPA pushes for rescue and fire-fighting services for all-cargo flights equal to those required for passenger airlines

By Capt. Bruce Brielmaier (ASTAR)

The origins of commercial aviation in the United States and elsewhere were rooted in cargo operations—specifically, government mail contracts. Many times an airline's entry into passenger service began by simply putting someone on top of the mail sacks.

As mail routes expanded, the early airmail pilots expanded their knowledge. Manufacturers improved engine, airframe, and navigation reliability, improving the confidence of anxious passengers as well.

But, as has been said often, "You can't outrun the numbers." As the number of passenger operations increased during this low-technology, loosely regulated era, so did loss of life. This increasing death toll pressed legislators into action.

In the United States, the lessons learned during the airlines' formative years were codified in 1938. From then until now, federal regulations governing aviation have generally evolved to improve safety. Some of these changes have been the result of technological improvements; unfortunately, many had their origins in accident investigations.

Since 1938 the justification for technological and regulatory compliance has predominantly been driven by passenger count. Aircraft rescue and firefighting (ARFF) is only one of the safety issues predicated on this simplistic and outdated criterion.

ALPA maintains that ARFF for cargo operations suffers from, among other things, lack of proper ARFF equipment, including nozzle tips designed for cargo airliners.

Suburban sprawl has created a collateral dimension to the risk to life from airline accidents. Approximately 90 percent of all airline accidents occur on or within one mile of the airport. Land development has placed dense populations right at the perimeters of airports. Both passenger and cargo airliners pose a potential threat to these areas. The additional threat of a cargo aircraft comes from the toxic footprint created when large quantities of hazardous materials carried on the airplane become involved in an accident. The way to mitigate death and injury in these cases is by rapid response of properly trained and equipped rescue and firefighting personnel.

ALPA has taken every opportunity to expose the folly of Part 121 cargo operations being exempted from Part 139 ARFF requirements. In the mid-1980s, ALPA established the goal of "One Level of Safety" for *all* airline operators. Recognizing the growth in cargo airlines, ALPA's initiative pushed for Part 121 cargo operations to comply with the same regulatory requirements as the passenger airlines.

Addressing the high accident rate in Part 135 commuter airlines, the FAA in 1995 upgraded most of these airlines into Part 121 compliance. Continuing to strive for "One Level of Safety," ALPA pressed for cargo operations to be included in this safety upgrade by eliminating the regulatory exemptions and to truly establish uniform safety standards for all Part 121 airlines.

New FAA regulations in 2004 expanded mandatory ARFF to commuter airlines—from 30-seaters and larger to all regional airliners seating 10 or more passengers. But once again, the new regs didn't include all-cargo airliners—though freighters may have as many as 27 persons (flight crew, plus such "supernumeraries" as couriers and animal handlers) aboard!

NTSB, ALPA host cargo safety meetings

More recently, ALPA, along with other labor and industry representatives, made several presentations at the

Cargo ARFF: Great to Non-Existent

The cargo airline industry is thriving, profitable, and growing, expected to double or even triple in the 20-year period from 2003 to 2023. The cargo fleet includes some of the largest airplanes ever built.

But the cargo airline industry suffers an accident rate *three times* that of the passenger airline industry—and the accident rate of "ad hoc" cargo airlines is *seven* times that of the passenger airlines. These higher accident rates might reflect, in part, the fact that half of cargo flights, versus fewer than 20 percent of passenger airline flights, occur at night.

Twenty percent is also the proportion of cargo airline accidents that involve fire. Unique aspects of cargo operations put flight crews—and ARFF personnel—at a disadvantage: All-cargo airplanes have fewer exits and no requirement for main-deck active fire suppression. All-cargo flights may not have emergency exit slides, or persons aboard aft of the cockpit bulkhead available and trained to fight a main-deck fire. Freighters often fly fully loaded, with no easy access to an onboard fire, and they usually carry much more flammable material than passenger flights—not to mention dangerous goods (including lithium batteries), some of which are not permitted on passenger flights.

At a major hub, you might have excellent round-the-clock ARFF facilities staffed by professionals who have received specific, hands-on training on cargo aircraft and issues. But other possibilities might exist as well. The major hub may have 24/7 ARFF, but the ARFF personnel are not trained on cargo and lack information about your airplane type, the cargo you carry, and the best ways to fight cargo fires. Airports may have ARFF, but it's woefully inadequate for your airplane. At some airports, the ARFF folks are wearing a different hat at 2 a.m., driving the perimeter road on security patrol and thus tremendously compromising their ability to provide ARFF services. Or perhaps the airport has the equipment, but the ARFF folks are released after the last passenger flight launches or lands. And as already noted, the airport might have no ARFF at all.

—Jan W. Steenblik, Technical Editor

NTSB's Cargo Safety Forum in March 2004. Cargo airlines' exemption from ARFF requirements was highlighted repeatedly.

Answering then-NTSB Chairman Ellen Engleman-Connors' challenge to continue improving safety within the areas covered at the NTSB Forum by making changes to pertinent regulations and adopting best practices, the ALPA President's Committee for Cargo (PCFC) hosted the Cargo ARFF Symposium in November 2007 (see "Boxhaulers Burn, Too," January). The goal of this Symposium was to open dialogue between pilots, ARFF personnel, managers, and government representatives to develop and share "best practices" in ARFF response to an event involving cargo aircraft. Attendees included representatives from the NTSB, the FAA, aircraft manufacturers, airline management, firefighting professionals from across the country, and ALPA and non-ALPA labor groups.

The ALPA Cargo ARFF Symposium highlighted many of the differences between ARFF responses to passenger and cargo airliners.

In particular, ALPA maintains that ARFF for cargo operations suffers from

- lack of ARFF training for dealing with fires on cargo airliners—measures need to be developed and implemented that will properly prepare firefighters for dealing with a cargo aircraft fire;
- lack of proper ARFF equipment, including nozzle tips designed for penetrating cargo airliners; and
- lack of funding, because the exemption of cargo from FAR Part 139 requirements interferes with fire departments' ability to get the money they need for staffing, equipment, training, and developing strategy for cargo-specific events.

Firefighters made it very clear that there was no way they would not respond to a call for help. They take their guardianship seriously and view their airport as their turf. Regardless of regulatory insufficiency, which requires them only to provide egress for passengers and crewmembers, their response will be to first, save lives; second, to save property.

But what about the fundamental disconnect—that *no* ARFF is mandatory for all-cargo operations, even those with freighters as large as B-747s at U.S. airports? Surburban sprawl has surrounded

What Cargo Needs

By Capt. Dave Wells (FedEx), ALPA Cargo Safety Project Team

- ARFF capability at all airports during cargo operations
- Fire services training required to include cargo airliners for on- and off-airport fire departments
- Onboard active fire-suppression systems in all cargo compartments
- Single, dedicated emergency radio (DER) frequency for all participants (e.g., ARFF personnel, flight crews, ATC)
- Lithium metal battery shipments removed from all airliners
- Super Lexan for containers
- Standardized aircraft and rescue information from cargo airlines to ARFF commands
- Fireproof rollup doors

But what about the fundamental disconnect—that *no* ARFF is mandatory for all-cargo operations, even those with freighters as large as B-747s at U.S. airports? This situation will not change until Congress changes U.S. Code 44706.

FedEx DC-10 at BOS

UPS DC-8 at PHL

these airports, and many are now in the center of densely populated areas. The U.S. federal aviation regulations resulted from a history of accidents that posed a hazard to public safety, and continued unregulated growth would significantly increase the risk. So again, "You can't outrun the numbers." All-cargo airlines have sustained vibrant growth for decades and are forecast to continue to grow. They have an accident rate that is alarmingly high. All of these factors, combined with airports' proximity to densely populated areas, means it's no longer just about the passengers on board.

This situation will not change until Congress changes U.S. Code 44706, which supercedes FAA regulations. So until U.S. Code 44706 changes, airport certification, Part 139 applicability, and the ARFF index apply only to passenger airliners. This is leaving a growing threat to public safety unguarded, and ALPA will continue to push Congress to change the Code.

Cargo ARFF Info at Crewroom.alpa.org

To view the presentations made at the ALPA Cargo ARFF Symposium and to learn more about the ALPA President's Committee for Cargo, go to Crewroom.alpa.org, click on the drop-down menu of committees, and select President's Committee for Cargo.

Douse those Batteries!

ALPA's been working to develop new guidelines and improve training and procedures for pilots in dealing with lithium battery fires—and to tighten restrictions on shipping both kinds of lithium batteries.

By First Officer Mark Rogers (United), Director, ALPA Dangerous Goods Program

If your laptop computer suddenly started smoking, would you pour a bottle of water on it? If a fire extinguisher was available, most pilots probably wouldn't use water—but, it turns out, a good dousing may be the best way to put out the fire.

The greatest danger from a laptop fire comes from each one of about a half dozen cells in the battery igniting in sequence, usually with increasing intensity as the heat from the fire spreads. A Halon fire extinguisher will put out the fire caused by the original cell venting, but it will do nothing to cool the laptop and prevent the next lithium ion cell from erupting in flame.

This knowledge may come in handy on your flight someday. In just the past year, at least 11 incidents involving smoke or fire from lithium batteries or portable electronic equipment have occurred in worldwide air transport. Not all of these incidents have involved rechargeable lithium ion batteries (used in laptop computers, cell phones, and music players); some incidents have involved non-rechargeable lithium metal batteries (used in cameras, flashlights, and watches).

New guidance for pilots

In conjunction with the International Federation of Air Line Pilots Associations (IFALPA), ALPA has worked to incorporate the new knowledge about the effectiveness of water into procedures that flight crews can use when responding to a fire involving a portable electronic device.

While using water is critically important in fighting a fire involving a multiple-cell, rechargeable lithium ion battery, water will also help in a situation involving a non-rechargeable lithium metal battery. Lithium metal batteries are restricted to 2 grams of lithium metal per cell—an amount of lithium that would quickly burn out in any fire. Any further fire could therefore be extinguished with a normal fire extinguisher. Water will cool the device and prevent any other lithium ion or lithium metal batteries from igniting. Water can also be safely used on undamaged lithium metal batteries, as the metallic lithium is sufficiently protected from water, even if thoroughly soaked.

This guidance is contained in an ALPA Safety Alert (2008-01), issued May 13 (see "Recommended Crew Actions" below), as well as in a working paper that IFALPA proposed and that the International Civil Aviation Organization (ICAO) adopted at the November 2007 meeting of its Dangerous Goods Panel. The same guidance issued in the ALPA Safety Alert will be incorporated into the 2009 edition of the *ICAO Emergency Response Guidance for Aircraft Incidents Involving Dangerous Goods*—the "red book" that many

Recommended Crew Actions

Adapted from ALPA Safety Alert Bulletin 2008-01, Revised Guidance for In-Flight Passenger Portable Electronic Equipment Fires, issued May 13, 2008

Portable electronic devices such as laptop computers, cell phones, and music players contain batteries that may ignite during use, while being charged, or when stowed as baggage. Battery fires may emit smoke and flames several feet high, and reignite after they appear to have been extinguished.

If an electronic device begins to overheat or emit smoke or flames, do the following:

- Fight the fire by using standard procedures and the nearest fire extinguisher.
- Maintain communication with the cabin crew.
- Remove external power from the device, if applicable.
- Douse the device with enough water or other nonflammable liquid to thoroughly cool the device and prevent heat from spreading and igniting adjacent cells.
- Consider moving therapeutic oxygen installations away from the area.
- Move passengers away from the area, if possible.
- Do not touch or move the device because doing so may cause the battery to reignite.
- If the device was previously plugged in, remove electrical power to the remaining passenger outlets until you can determine that the airplane's electrical system is free of faults.
- Ask the owner of the device if he or she is willing to relinquish it for investigative purposes.
- File the appropriate safety reports.

www.pcpitstop.com/news/video/pcsafety.asp

These grainy still photos from a web video show what happens to a laptop computer when it is overloaded (in a controlled environment) to show what occurs when a lithium ion battery explodes.

airlines use to provide crews with information about how to respond to a dangerous goods emergency.

This guidance presents clear and simple steps for crewmembers to follow in the event of an incident involving a portable electronic device, regardless of whether that device contains a lithium ion battery with multiple cells or a single-cell lithium metal battery. ALPA's focus is now on communicating this information to airline safety departments and encouraging them to adopt the procedures and training for their employees.

Lithium batteries as cargo

In addition to working to improve training and procedures for cockpit and cabin fires involving lithium batteries, ALPA has been pushing to improve the safety of lithium batteries transported as cargo on both passenger and all-cargo airplanes. These efforts came to a head in November 2007, when the ICAO Dangerous Goods Panel met for 2 weeks in Montreal, Canada. On the agenda were four IFALPA working papers addressing lithium ion and lithium metal batteries, which the Panel dealt with in nearly daily special working group sessions.

The IFALPA working papers proposed starkly different regulatory schemes, depending on whether the batteries were rechargeable lithium ion or non-rechargeable lithium metal batteries.

Most lithium ion batteries are currently shipped under a special provision exempting them from the stringent packaging, labeling, testing, and pilot notification provisions required of other dangerous goods. Because extensive testing has shown that Halon fire extinguishing systems will successfully suppress a fire involv-

Recent Onboard Fires

In February, a small flashlight in a passenger's bag caught fire during boarding in Narita, Japan. Flight attendants used two fire extinguishers to put out the fire in the overhead bin, preventing an exciting event from becoming tragic.

A month later, an inflight fire erupted on a B-777 bound for Japan. Fortunately, the captain, while on a rest break, successfully extinguished the fire that began in a passenger's synthetic vision device, which the passenger had purchased a few years earlier through the airline's inflight shopping magazine.

Just a few weeks later, the first officer on a B-757 departing Denver burned his fingers on the flashlight he had just been using for the preflight inspection, after the lithium batteries in the flashlight exploded in the cockpit.

Fortunately, all three of these incidents resulted in a safe outcome and only minor injuries. Without proper awareness and training of both flight attendants and pilots, however, the outcome may not always be so positive.

ing lithium ion batteries, ALPA and IFALPA have proposed that cargo shipments of lithium ion batteries be treated as fully regulated dangerous goods.

ALPA finds objectionable that a 50-pound shipment of dry ice will be afforded the full protection of the dangerous goods regulatory scheme, while an adjacent pallet of lithium ion batteries may be legally shipped without the knowledge of the flight crew under the terms of a current special provision. While IFALPA did not succeed in achieving full regulation of lithium ion batteries at the ICAO Panel meeting, considerable lobbying efforts led to a reduction in the package size allowed by the special provision—from 30 kg to 10 kg—and an increase in packaging, marking, and training requirements.

While lithium ion batteries may ultimately be shipped safely as long as sufficient packaging, labeling, testing, and notification standards are applied, ALPA and IFALPA have proposed much more restrictive provisions for nonrechargeable lithium metal batteries. Halon has no effect on fires involving lithium metal batteries, leading to a situation in which damage to a single battery in a shipment of hundreds of thousands could lead to an uncontrollable fire.

UPS Flight 1307, an all-cargo DC-8, landed in Philadelphia on Feb. 7, 2006, after a fire broke out on the main cargo deck. Among the NTSB's recommendations were several specifically addressing lithium batteries, including recommendations to fully regulate them and to require that lithium metal batteries be transported in fire-resistant packaging.

In 2005, the United States took the unusual step of completely banning cargo shipments of lithium metal batteries on U.S. passenger airliners, while leaving the provisions applicable to all-cargo airplanes unchanged. ALPA has long held the position that this ban should be extended to all-cargo airplanes, while IFALPA has worked to extend the ban to airplanes worldwide.

In November, this fight also came to the ICAO Dangerous Goods Panel. After much spirited debate, the international body elected to keep the special provision for lithium metal batteries in place, albeit severely restricting the maximum size of battery shipments. Instead of permitting packages as heavy as 30 kg to travel under special provision on both passenger and cargo airliners, after Jan. 1, 2009, individual packages will be limited to 2.5 kg per package. This still allows pallets of lithium metal batteries to be shipped on cargo airplanes in the United States and on all foreign airplanes outside the United States, a situation that both ALPA and IFALPA find unacceptable.

Fortunately, the battle is not yet over. Just weeks after the November ICAO meeting, the NTSB issued its final report on UPS Flight 1307, an all-cargo DC-8 that landed in Philadelphia on Feb. 7, 2006, after a fire broke out on the main cargo deck. Among the NTSB's recommendations were several specifically addressing lithium batteries, including recommendations to fully regulate them and to require that lithium metal batteries be transported in fire-resistant packaging.

These recommendations have spurred new activity by the U.S. Department of Transportation and the FAA, including a fresh new investigation into the hazards of battery transport and the appropriate level of regulation. ALPA is actively involved in these discussions and will continue to push for improved regulations. With literally billions of batteries transported by air every year, we have no time to lose.

If It Fits, It Ships

Air Cargo Proves Its Flexibility Every Day

By Jan W. Steenblik
Technical Editor

Who will sing the praises of the freighters of the great ocean of air—from Caravans to "whales"—that wing our modern cargoes across forest and wave?

Let's start with F/O Frank Condefer, a self-proclaimed "freight dog" recently retired from Northwest and still active with the ALPA President's Committee for Cargo. Northwest's all-cargo fleet consists of 11 B-747-200s, based in Anchorage.

"We carried all kinds of stuff," Condefer recalls. "Helicopters. Limousines. Huge computer mainframes with courier escort. Specially designed cars by Detroit automakers wrapped in plastic.

"We'd get unique charters—for example, a certain kind of wine has to be flown out of France within two weeks after it's corked. Every once in a while we'd get the 'cherry charters,' carrying tons and tons of fresh fruits and vegetables to the Far East."

And all kinds of animals—pigs, goats, race horses, giraffes, ferrets, dogs, cats, peeper chicks, tropical fish, exotic birds—have hopped oceans aboard Northwest's "whales."

"One time I baby-sat a pygmy hippo on his way to a zoo in the Far East," Condefer continues. "We had to keep his skin wet, and he was thirsty. I went through a lot of bottled water keeping him hydrated.

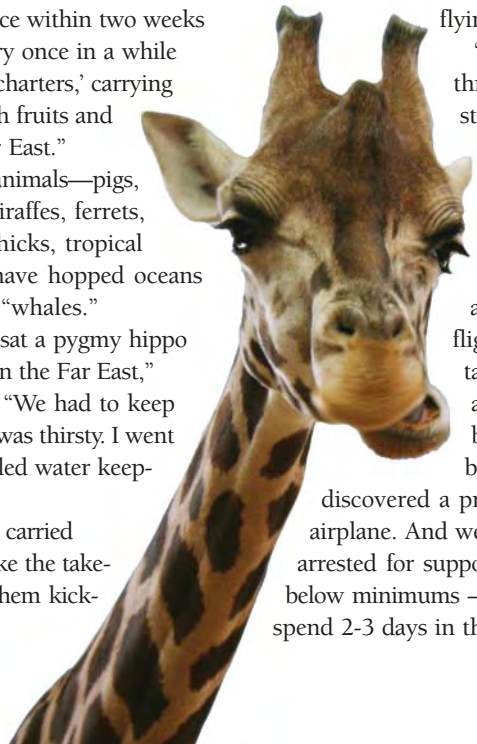
"Another time we carried zebras. They didn't like the takeoff—we could hear them kicking in their stalls.

"On some of the animal flights, we would wrap our suitcases in plastic bags to keep them from absorbing the smell of animals. When we got to our hotel at the end of the flight, the clothes we were wearing stunk. We had to send them straight to the cleaners."

Capt. Mike Bender, Central Air Safety Chairman for the FedEx pilot group, knows a thing or two about flying horses.

"We have several MD-11s modified for increased airflow for horses and other animals," Bender points out. "We can carry as many as 24 seats for horse handlers to accompany high-value racehorses. We've also carried more than 50 draft horses at a time from Calgary to Edmonton with a fuel stop in Anchorage."

For Bender, one aspect of flying freight that sets it apart from flying passengers is the higher percentage of all-cargo flights that take ALPA members to some of the less desirable parts of the world and thereby keeps the flying fresh.



"We fly freight through Kazahkstan, which is still very much a strong leader style government," Bender asserts. "We've actually had flight crews detained for making a ground turn back to the blocks after they discovered a problem with the airplane. And we've had pilots arrested for supposedly landing below minimums —they got to spend 2-3 days in the hotel. FedEx came to their rescue and got 'em out."

PFE William Fink, Jr., the Evergreen MEC chairman, notes, "Like Atlas, Polar, and other B-747 freighter operators, we carry everything from bombs to toothpicks. We're currently flying a lot into Iraq and Afghanistan—Bagram, Kandahar, Kabul, Al-Asad. These are just military contracts, not CRAF [Civil Reserve Air Fleet]."

But despite flying into Southwest Asia, Fink says, of his pilot group, "Our biggest enemy is crew fatigue—our average duty day is 14-15 hours. For example, tomorrow, we have a flight scheduled to fly from JFK to March AFB [Calif.], then from Los Angeles to Bangor [Maine], refuel, then to Frankfurt-Hahn [Germany]—that's an 18-hour duty day."

Evergreen also flies Boeing's three LCF (Large Cargo Freighter) airplanes, highly modified B-747-400Fs used to haul B-787 subassemblies. The LCFs have the same maximum takeoff weight as other -400Fs, but their tails swing open for loading their outsized cargo. The only pressurized space on the LCFs is from just behind the L1 door forward, plus the upper deck.

Another unusual freight job: "A few years ago, we'd fly into Moscow, pick up a Russian navigator, and fly stuff to the Russian space launch facility," Fink recalls. "You get used to doing that weird stuff."

The "weird stuff" can become commonplace in the all-cargo world.

Capt. Bill Atchison, the Gemini MEC chairman, explains that his airline is an ACMI (aircraft, crew, maintenance, and insurance) provider; Gemini's fleet of DC-10-30Fs and MD-11s provide heavy lift variously for DHL Europe (Deutsche Post), Saudia Airlines (to Shanghai and Bangkok), and Lan

Chile (several South American cities).

"We also fly into some of the garden spots of Africa," Atchison says with a bemused smile, "including some not so prominent on the map. For example, one time we flew mining exploration equipment into the Republic of Guinea-Bissau for a South African company. Guinea-Bissau, a small country on the west coast of Africa, is very poor, and doesn't have full-time or reliable electricity, so the airport is day VFR only."

During his layover there, Atchison recalls, the accommodations were Spartan, including shower facilities consisting of a hose attached to an electric water pump that was available only a few hours each day.

Atchison has flown his share of interesting cargoes—polo ponies from Rio de Janeiro to the United States; millions of dollars in U.S. currency to Deutsche Bundesbank; many planeloads of electronic equipment out of China,

Supplying the North Country

Some all-cargo flights arc from one major center of international commerce to another, and understandably so. Others operate off the beaten path, linking small—sometimes tiny—communities with each other and the outside world.

Perhaps nowhere ALPA members fly is that more true than in the northernmost reaches of North America, where the walkaround begs a parka much of the year and the wheels kiss gravel or ice more often than pavement.

ALASKA

Alaska Airlines retired its storied "mud hens," B-737-200 combis with gravel kits, in April 2007 and replaced them with five -400 combis and one straight -400 freighter. The latter flies a scheduled daily mail and cargo run up and down southeast Alaska, plus ad-hoc charters. The combis fly primarily within the state of Alaska, and are used extensively for freight only; they can carry 72 passengers and 25,000 pounds of freight, depending on runway length. One Seattle-Anchorage flight every night is a combi.

The -400s do not have gravel kits, as the -200s did, because the last of the Alaskan gravel runways used by the airline was paved before the airline retired the -200s.

Says Capt. Craig Huffman, Council 64 (Anchorage) captain rep, "Some of our pilots definitely enjoy the combi flying more than the passenger-only flying; that probably has more to do with the fact that the combis stay in the state.

"We fly a couple of flights a week to Red Dog Mine, the largest zinc mine in the world, which is about 90 miles east of Kotzebue. We have an RNP approach there now.

"We have two flights per week to Adak [a remote island in the Aleutian chain]. We bring our own mechanic and a TSA employee with us to screen passengers.

"We have a special cargo container designed to carry animals," Huffman explains. "We've carried lots of different kinds of animals, including live caribou and moose, plus all the sled dogs for the Iditarod race."

In late May and early June, the combis were busy in Cordova, flying the first run of sockeye salmon from the Copper River to markets in the Lower 48.

"The cargo ops make the biggest profit margin for the company. The lion's share of our airline's profit comes from freight—it makes flying in the state of Alaska worth doing. That's why we can offer three daily flights to Kotzebue, three to Barrow, and two to Kodiak. This time of year, when we can fly 50-60 people and 15,000-20,000 pounds of fish out of King Salmon, Bristol Bay, or Dillingham, we're making money."

WASAYA

Wasaya Airlines serves First Nation communities in northwestern Ontario.

Capt. Jeff Braun, MEC chairman, reports, "We have three Hawker-Siddely HS-748s [large turboprop twins] dedicated for freight, plus one Hawker 'Super Tanker' dedicated for fuel. The Super Tanker has 10 internal tanks; it can carry 14,500 pounds of payload fuel—diesel fuel for generators, and unleaded gas for vehicles. We can also offload fuel carried in the wingtips."

Wasaya's pilots also fly four Cessna Caravans, fixed-gear, single-engine turboprops with a payload of about 3,000 pounds, configured as combis. The airline's Beech 1900 combis carry 11–13 passengers plus about 1,500 pounds of freight.

"On average, our communities are about 75 miles apart," says Braun. "But our Beech 1900 run from Thunder Bay to Baker Lake, with a fuel stop in

PHOTO COURTESY WASAYA

Wasaya HS-748

Evergreen flies Boeing's three LCF airplanes used to haul B-787 subassemblies. Their tails swing open for loading their outsized cargo.

and textiles from India; 200,000 pounds of pineapples out of Lagos, Nigeria; and "the flower run out of South America—from Valentine's Day to Mother's Day, 150,000 to 190,000 pounds of flowers per flight."

But the most unusual—and perhaps most rewarding—cargo flight he's flown was tsunami relief for the Mormon Church. Atchison and his crew moved a planeload of clothing, medicine, toothpaste, and other relief items from Salt Lake City to Banda Acch, near Kuala Lumpur. Then they were wheels in the wells again, off to Hong Kong, Anchorage, Seattle. All in a day's work.

Churchill, fills a 14-hour duty day.

"In the winter, ice roads across frozen lakes and through the forests reduce passenger loads. In the other seasons, we're pretty much the only way in and out."

All of the runways in the outlying communities Wasaya serves are 3,500-foot gravel strips, but "about 95 of the smaller communities have GPS approaches," Braun reports, "and most have PAPIs and VASIs.

"We've also done a little flying on ice runways, which are day VFR only. Meadowbank, for example, is an ice strip 4,000 feet long, 100 feet wide, on a frozen lake, marked by orange highway cones.

"We carry everything from ATVs and snowmobiles to couches, beds, and diesel generators," Braun continues. "We once carried a 6,500-pound generator from Repulse Bay to Thompson in the Hawker. We provide Northern Stores—a branch of the Hudson Bay Company—with food flown in on the Hawkers and Caravans. During the annual Fort Severn goose hunt, we've carried 3,000 pounds of geese."

FIRST AIR

Capt. Jamie Biggs, the First Air interim MEC chairman, says his airline, which serves Inuit communities in the Canadian north (Nunavut and the Yukon) is similar to Wasaya in several ways.

"We pretty much carry anything anybody wants, as long as it meets the hazmat restrictions—bulk fuel, arctic char to restaurants in Ottawa, native goods like whale blubber between the smaller communities in the north. We carry dog teams—but nobody likes doing that because they're so dirty. Working dogs are not so clean to start with, and they crap and puke all over the airplane."

"We pretty much carry anything anybody wants... bulk fuel, arctic char to restaurants..., native goods like whale blubber."

First Air's fleet includes the world's only quick-change B-727-200 combi, 5 B-737s (all but two are combis), 7 ATR 42s, the only 2 Lockheed L-382s (the civilian version of the famed C-130 Hercules four-engine military turboprop) flying in Canada, and a B-727-200 dedicated freighter.

"The Hercs are the heavy-lift bush planes of the North," Biggs explains. "They haul everything from groceries to front-loaders. The Hercs do a lot of support work for mining companies—we serve three active diamond mines north of Yellowknife. We carried a live narwhal from North Baffin Island in the Herc; the B-727 then flew it from Iqaluit to Miami.

"We also fly bulk fuel in the Hercs; they have a 25,000-liter capacity. We offload the fuel using a pneumatic starter engine from a B-52 and can offload the fuel in about 15 minutes."

The northern communities all have 3,500-foot gravel strips with NDB or GPS approaches, and "*sometimes* the Hercs operate on them, such as when we've flown in fire trucks that some of these communities need," Biggs explains. "But with the Herc, takeoff is more restrictive than landing, because the engines are so far apart—the Herc's V_{mcg} makes 3,500 feet pretty short.

"With the jets, we haul a lot of what in Canada we call 'food mail,'" he continues. "Throughout the North, the Postal Service has the responsibility of distributing food, and all the staple foods like meat and vegetables are mailed. Some of these communities also are served by sealift, but only for a short time during the summer. At Kuujjuaq, the runway is only 6,000 feet long, but we land B-727s at max landing weight, 164,000 pounds."

From around March until May 1, First Air operates on ice runways. "We like to have 5-6 feet of ice," Biggs says. "Orange bags filled with snow are better than barrels for marking the runway—if you go off the runway, you don't damage the airplane."—*JWS*

CARGO'S PRIVATE AIRPORTS
A Different Playing Field

By First Officer Greg Bergner (ASTAR)

A homeless man sidesteps airport security and camps out in a B-757 freighter for several days before he is detected. Another individual is discovered crouching in the back of a DC-9 cargo cockpit before the airplane is to be loaded. These are just two examples of security breaches at all-cargo operations. Private airports that cater to all-cargo operations are a growing trend in the cargo industry because they're not regulated like passenger airports and are exempt from many layers of security and compliance. Private facilities offer air freight companies opportunities to expand their sorting and distribution process, and present a new set of security challenges.

The large size of these facilities, their often-remote locations, and the continuous nature of their high-volume cargo operations make them difficult to properly safeguard. But the biggest challenge in adequately protecting these airports may be regulatory in nature. Providing reasonable security is an expensive endeavor, and privately owned airports are not required to meet the same government-mandated security standards applicable to public airports.

In May 2006, the U.S. Transportation Security Administration (TSA) published a report, *Recommended Security Guidelines for Airport Planning, Design, and Construction*. The TSA also announced a "final rule" that significantly bolstered air cargo security measures. ALPA, while vigorously applauding this effort, also pointed out its shortcomings—this new set of regulations applies only to airports with existing Secure Identification Display Areas (SIDAs) and does not include private airfields.

ALPA has long advocated "One Level of Safety and Security" for passenger and all-cargo operations and continues to lobby the U.S. government to address these weaknesses with appropriate regulations and enforcement actions. ALPA is also working to establish partnerships with airport stakeholders, encouraging them to take responsibility, recognize problems, and reach consensus on solutions.

Public versus private

A laundry list of differences exists between passenger- and private-airport security standards, but several basic concerns warrant special attention. For starters, many private airfields do not issue standardized identification media. At passenger airports, SIDA badges are issued only to trained persons who pass criminal-history and background checks. Similar security measures may exist for some private airports, but with varying degrees of integrity and completeness.

Pilots and other employees have an obligation to challenge individuals in secure areas who do not display proper identification. However, the variety of IDs makes fulfilling this responsibility quite challenging.

Another difference is airport access for aircraft rescue and firefighting (ARFF) responders, who are required only to be on site for passenger operations. If an aircraft fire or major dangerous-goods incident occurs, many private airports rely on local fire departments as their first line of defense. However, these emergency responders may not be located in the airport's immediate vicinity, and the time needed for them to respond to an emergency might make the difference between a contained incident and a full-blown catastrophe.

In addition, local firefighters are not likely to be familiar with cargo-airplane configurations, ingress and egress, and the specific nature of the stowed freight and the proper way to handle it.

Emergency response teams at major passenger airports are also not always prepared to deal with air freight incidents. On Feb. 7, 2006, the pilots of UPS Flight 1307 suspected an onboard fire and made an enroute landing at Philadelphia International Airport. Firefighters worked for more than 4 hours to bring the ensuing blaze under control. The NTSB's investigation into the accident revealed, among other findings, deficiencies in the airport firefighters' level of training and preparation to respond to this kind of event.

A laundry list of differences exists between passenger- and private-airport security standards, but several basic concerns warrant special attention.

That investigation also found that "flight crews on cargo-only aircraft remain at risk from inflight fires involving both primary and secondary lithium batteries." This highlights the challenges of transporting dangerous goods, some of which are prohibited on passenger airliners. With proper training, handling, supervision, and oversight, these materials can be safe to carry, and shipping dangerous goods is a lucrative and growing enterprise. Despite an occasional spill and clean-up, the real problem is that materials are sometimes offered by shippers without informing the airline and are therefore undeclared.

Wilmington, Ohio—the largest private airport in the world. ALPA has come together with airport management to confront concerns and find solutions.

ALPA maintains that dangerous goods must be declared so that they can be handled without incident and properly managed when spilled or exposed to fire or other adverse conditions. In addition, instances of undeclared dangerous goods must be documented and reported to prevent recurring cases. This task is challenging at passenger airports, and more challenging at private cargo airfields.

As a result of cargo ARFF deficiencies, the ALPA President's Committee for Cargo (PCFC) hosted a cargo ARFF symposium in November 2007 to further highlight the need for information-sharing and collaboration between air cargo operators and ARFF personnel.

An alternate universe

Ramp operations at all-cargo private airports often serve as obstacle courses for pilots trying to get to their airplanes. Poorly lit nighttime operations coupled with dolly trains and vehicles with no headlights, bad weather conditions, unit loading devices, and puddles of aircraft fluids create a veritable minefield.

Once aboard the airplane, pilots may contend with poorly maintained surface markings and deficient signage on the airfield, making taxiing a dangerous adventure. In addition, some private airports do not have published arrival and departure procedures, resulting from a lack of standardization.

Securing Wilmington

Formerly the Clinton County Air Force Base, Wilmington (Ohio) Airpark is a Part 139 Class IV facility and is the largest private airport in the world. ASTAR, Atlas, Capitol, and Northwest use this airport, making it of particular interest to ALPA. Wilmington has been noted for security challenges, but recent progress demonstrates the strides that can be made when airport users come together with airport management to confront these concerns.

ALPA's PCFC hosted a meeting in 2007 to discuss security and other operational matters, resulting in formation of the Wilmington Users' Group. This partnership met again in February 2008 to establish priorities and the best methods to respond to existing problems.

Current members of the Group include area firefighting and rescue officials, local law enforcement, management representatives, and ALPA representatives. Future meetings will include FAA, air traffic control, and TSA representatives.

The PCFC has used these opportunities to promote the Full All-Cargo Aircraft Operator Standard Security Program (FACAOSSP), a byproduct of the TSA's 2006 final rule. The FACAOSSP advocates layers of security and provides detailed guidelines for safeguarding air freight operations.

The Wilmington Users' Group has been well received and has generated unprecedented dialogue among participants. As a result, the Group has laid the groundwork for a facility, safety, and security committee with full commitment from its members.

Next-gen private airports

The number of all-cargo private airports is sure to increase with time, and ALPA must be engaged with appropriate stakeholders to ensure that the line pilot perspective is considered when conducting risk assessments, weighing operational alternatives, and instituting adequate safeguards.

What will tomorrow's all-cargo private airports look like? We may have a glimpse with the new facility planned for Hazelton, Pa. Located just 90 miles from New York City, this airport is the brainchild of the Gladstone Partners, which includes a former mayor, a solicitor, and an investment banker. The $1.6 billion project was proposed to alleviate cargo's contribution to air traffic and congestion in the New York, Newark, and Philadelphia markets. Construction is expected to be completed by 2010.

Todd Eachus, a Democratic representative in the Pennsylvania State House, notes, "Hazelton is one stop to virtually anywhere in the world with these jets." His comments emphasize just how important ALPA's philosophy of "One Level of Safety and Security" is and why sufficient, layered security is necessary.

Plotting a course

Air cargo is a booming industry that is, in effect, shrinking the world. Goods from virtually anywhere around the globe can be transported vast distances in a very short time. ALPA will do its part to ensure that all-cargo private airports do not become targets for terrorism or other exploitations.

ALPA will continue to lobby legislators and regulators to apprise them of these concerns and push for much-needed change. Because of the cost, establishing the same security standards for all-cargo private facilities that are applied to their public passenger counterparts may ultimately be a question of available public funding. But not reacting to protect these vulnerabilities is turning a blind eye to a problem waiting to erupt.

Reasserting the Cargo PIC Jumpseat Prerogative

F/O Rich Odbert (FedEx)

The notion of the captain as supreme commander of his vessel may be thousands of years old, but this time-honored tradition continues today. In the United States, Federal Aviation Regulation 91.3 stipulates that the pilot-in-command (PIC) is in charge and is the final authority responsible for the security and safety of his or her flight, passengers, and cargo. Preflight decisions about fuel, maintenance items, freight (possibly including dangerous goods), weight and balance, and the jumpseat can be critical to a safe operation.... Yes, you heard me correctly, the jumpseat.

Access to the jumpseat is an important security consideration. Use of the cockpit jumpseat by offline pilots is at the captain's full discretion. Until line pilots realized and communicated to management and the FAA Administrator the obvious additional benefits of using the jumpseat, many airlines restricted access to cockpit jumpseats. At most airlines, captains didn't have control of the jumpseat until the late 1980s or early 1990s. However, the FAA Administrator recently reaffirmed PIC authority in a publication titled *Access to Air Carrier Flight Decks and Revision to OpSpec A048.* But with the advent of the Transportation Security Administration (TSA) and CASS (Cockpit Access Security System), something in the process has taken an unwelcome turn.

Freighter cockpit jumpseats are subject to vague company definitions that outline who can occupy the flight deck.

CAPT. BRAD MAHONEY (FEDEX)

These definitions include pre-planned riders of charter operations and company employees, who really should be assigned courier seats. At passenger airlines, agents have occasionally used CASS to authorize jumpseat access without ever speaking to the captain. Riders have been moved to cockpits to accommodate more passengers, as if the jumpseat was "just another seat." Sidestepping PIC authority when determining jumpseat access is a violation of U.S. federal aviation regulations.

Over-reliance on technology

CASS is managed by others (i.e., agents, the TSA, ARINC, company programming) and has morphed into a clearinghouse. In some cases, it is used as the sole means of verifying jumpseat requests. Problems, although rare in contrast to the huge numbers of CASS requests processed each day, have been reported. When these problems occurred, PICs either failed to adequately verify their jumpseater's credentials or were cut out of the loop due to the agent processing the jumpseat request.

The captain is responsible for ensuring that only authorized individuals occupy the jumpseat. CASS is simply a form of employment verification and is one of several tools to be used. Captains need to be captains and exert their influence. They should not let time constraints or over-reliance on technology take the place of PIC authority. Captains must be proactive in determining who gets on their airplane, before it's technically "theirs." They should check credentials and, most importantly, take a moment to get to know their jumpseaters.

An air cargo difference?

The attempt to curtail PIC authority is not unique to cargo operations. Since 9/11, both passenger and air freight captains have had to contend with additional security duties, while airline policies and procedures have eroded PIC jurisdiction. The dynamics of any flight deck require a clear delineation of responsibility. However, access to air freighter jumpseats and the unique

It Doesn't Hurt to Ask

A few minutes or even seconds visiting with jumpseaters and agents can easily reveal potential abuses and problems and mitigate threats.

Communicate with your agent and take control of the situation:

"Hello, Mr. or Mrs. Agent. Here is my ID. I am the captain on the flight today. I see we're almost ready to go. Do I have any jumpseat requests? I do? Great, where are they?"

Personally screen your jumpseater:

"Hello, Mr. or Mrs. Jumpseater. Has the agent cleared you through CASS? Great! May I see your credentials and get you to sign this form? What do you fly over there at XYZ? How long have you been flying it? I am sure we can get you a ride. Have you ridden on our jumpseat before?"

Had this line of simple security questioning been used, several recent incidents might not have occurred. Responses from the jumpseater could have revealed that something wasn't quite right. PIC authority would have been used properly and served the purpose for which it exists.—*RO*

world of air cargo provide extra security challenges for the air cargo captain.

A jumpseater on a passenger airline will likely confront a customer service agent and a terminal full of people. Any abnormal behavior or other clues about any illicit intentions will be in full view of a large population. The jumpseater will then be required to pass through a TSA-staffed security checkpoint, which includes an inspection of all carry-on items and screening for obvious or potential weapons.

By contrast, an air cargo jumpseater transitions through a much-less-visible location. The freighter jumpseater is likely to be screened by a private security contractor (or authorized airline employee), in many cases using a different level of screening technology.

In most cargo operations, the captain must be proactive to ensure adequate time to accommodate a jumpseater. As part of the preflight duties, the captain will cross security lines to see if a jumpseater is waiting for cockpit access.

In extreme circumstances, some cargo operations may sequester jumpseaters until they are escorted to the airplane just before pushback. How is this rogue procedure supposed to mesh with the jumpseat process we are all familiar with? How do we handle stand-alone airport Secure Identification Display Area (SIDA) policies, security directives, or standardized procedures that neglect to clearly state the captain's lead role? If we do not maintain some level of standardized operating procedures, we will have chaos.

The cargo flightdeck environment is also different. The passenger cockpit area is small and protected by a hardened door, which is monitored by other flightcrew members. The freighter cockpit can be significantly larger, and some lack doors or even bulkheads, giving anyone and anything on the airplane's main deck full access to the pilots. Air freight pilots do not have flight attendants or the large number of passengers to help protect the airliner. In addition, law enforcement officers are far less likely to be aboard freighters.

One more set of eyes and ears

Despite the jumpseat's changing accessibility in recent years, it has always symbolized a pact between pilots that crosses all operational boundaries. One more set of trained and experienced eyes and ears in the cockpit, regardless of airline or payload type, is well worth the cost of carrying one more passenger. But the actual requirement for the jumpseat to be on an airliner is for the regulator—the FAA or Transport Canada in North America—to conduct enroute inspections/observations. This frequent accommodation, of course, is most commonly used by online and offline pilots. And no matter what other type of jumpseater may be on board, it's the pilot who will be there if an emergency develops. The pilot jumpseater will understand the ATC instruction the other pilots might have missed while conducting approach briefings or discussing descent. The jumpseater will point out an error, preventing a disaster.

Some food for thought—an accident in Lexington, Ky., resulted in the death of 50 people, including a commuting pilot who had no other option but to sit in the back of the airplane. At that time, CASS was in test mode and neither the airline nor the offline jumpseater was active in the CASS system. The TSA, therefore, prohibited the jumpseater from sitting in the cockpit. What if he had been able to sit up front, acting as that extra set of eyes and ears?

Capt. Al Haynes, who piloted United Airlines Flight 232, which crashed in Sioux City, Iowa, in 1989, testified that he used an off-duty jumpseater to help his DC-10 flight crew deal with the loss of all three hydraulic systems and avoid total catastrophe. Even if pilot jumpseaters are not familiar with a particular airliner, they can help by working a throttle, detecting a ground error, throwing a gear handle down, or even simply communicating with ATC.

Hindsight is 20/20, but I use these examples to highlight why PIC authority and access to the jumpseat—particularly the cargo jumpseat—are so important. These relationships are invaluable and affect the dynamic process we go through every leg of our schedules.

Where do we go from here? We keep tabs on who should be granted access to the flight deck. Everyone seems to want it, but few are actually authorized to occupy it (the FAA Administrator has reaffirmed that jumpseat requests "shall be narrowly interpreted"). We need to continue to be proactive—not reactive—leaders in the preflight screening process. We need to act professionally when challenged to display our IDs and use the opportunity to help clarify who is really in charge of flight operations. We need to ensure that the air freight cockpit and, more importantly, PIC authority get the recognition and respect they deserve.

Latest Fashions in Freighter Designs

Manufacturers Roll Out New Cargo Configurations

By John Perkinson, Staff Writer

Check out the latest fashions and models coming to a runway near you—aircraft manufacturers have placed a new focus on tailoring their products to meet air cargo needs. Aircraft builders have announced innovative freighter offerings to an attentive and thriving segment of the air transportation industry. Manufacturers are forecasting rising demand for cargo airplanes during the next 20 years as international trade grows.

The Boeing 777 freighter officially debuted on May 21. With its maximum takeoff weight of 766,000 pounds, this long-range airliner can fly 4,885 nautical miles with a payload of 226,000 pounds, or 103 metric tons.

Flight testing and certification are planned for this summer, and the first B-777 freighter is scheduled to be delivered by the end of the year. Boeing reportedly has 78 orders from 11 customers, including FedEx.

The B-777 freighter does not have cockpit doors, which ALPA views as an unnecessary flight security risk. The Association continues to work with manufacturers and the FAA to press for mandatory hardened cockpit doors as part of the union's "One Level of Safety" campaign.

In recent years, Boeing has responded to air freight market demand with a variety of new airplane options, including the B-747-8 freighter and the 767-300 Boeing Converted Freighter (BCF). The B-747-8F can haul a payload of 308,000 pounds, a 16 percent improvement over Boeing's existing B-747-400F. The B-747-8F can also accommodate as many as four more main-deck pallets and three additional lower-hold pallets, while offering a range of 4,420 nautical miles.

The B-767-330BCF is the latest in the series of BCF airliners that Boeing markets, which includes the MD-11 BCF and B-747-400BCF. The B-767-330BCF was launched in the fourth quarter of 2005 and can carry 412, 000 pounds of freight a distance of 3,100 nautical miles. The B-767-330BCF was designed to replace aging DC-8s and DC-10-10s.

Other older Boeing freighter models in operation today include the B-757-200F, B-727-200F, and the B-737-200 and -300 freighter series.

Airbus CEO Thomas Enders, speaking at the European Congress on Air Transport, recently noted that 1,700 cargo airliners were currently in operation, but he estimated that that figure would increase to 4,200 in the next 20 years.

EADS (the owner of Airbus) and United Aircraft Building Corp. have formed a joint venture to convert A320s and A321s to cargo airliners. The larger A321 P2F freighter will carry a payload of 60,000 pounds and can fly 2,000 nautical miles. Expect to see this converted airliner on the market by 2011.

Airbus is also offering a medium-to-long-range option, the A330-200F, which is expected to enter the market in the latter half of 2009. The A320-200F will be able to tote a payload of 145,000 pounds 4,000 nautical miles. Airbus is planning to assemble the A330-200F at its new assembly facility in Mobile, Ala.

The A320 P2F family and the A330-200F are intended to replace Airbus's aging A300-600F and A310F models.

Airbus also plans to market an A380 freighter for long-range operations, which is expected to haul 330,000 pounds (158 metric tons) a distance of 5,800 nautical miles. However, the manufacturer has indefinitely postponed the A380 freighter option because of current production issues. Airbus is also considering an A350 freighter option, but the final product isn't expected to be available until 2019.

On a smaller scale, Saab Aerotech began offering a freighter conversion of the Saab 340 in 2006. This turboprop twin can carry 8,500 pounds a distance of 300 nautical miles.

All of these new air freight options come at a time when air freight demand in Europe and Asia is strong. Although U.S. air cargo volume for North America appears to be steady this year, air freight airlines are expanding operations in Asia-Pacific, the Middle East, and other solid growth markets.

AIRBUS

Boeing's 777 freighter debuted in May. Airbus's A330-200F (ghosted behind text) is expected in late 2009.

BOEING

AIR LINE PILOT

History Lessons: Cargo Issues

THAT INNOCENT LOOKING PACKAGE COULD BE... DANGEROUS CARGO!

By Capt. Ed Tappe, Chairman, ALPA Cargo Safety Committee

Airline pilots have been concerned for a long time over the hazards associated with the transportation of cargo by air…. [T]here is scarcely a pilot who has flown in airline service for a period of years who does not have some incident to relate wherein the cargo aboard his aircraft could have resulted in a serious accident.

These stories run the gamut from the pilot who kept his revolver trained on a leopard which managed to free himself from his chicken-wire cage to the experience of the author on whose aircraft a two-quart jar of live polio virus in culture spilled in the companionway, containing enough virus of the Mahoney paralytic strain to kill or cripple an army of a million men….

These many incidents resulted in the creation of the…[ALPA]…Cargo Safety Committee to make a comprehensive study of all phases of the transportation of cargo by air as it relates to safety.

The Committee…is making as exhaustive a study in this field as our limited facilities will permit. The situation we have found is a disturbing one, and while many conclusions must await further study, our investigations to date have convinced us that there is much that needs to be done on the part of the airlines, the airline pilots, the CAB, the CAA, and the aircraft manufactures to minimize the very real hazards which do exist….—*From* The Air Line Pilot, *January 1958*

PILOTS CALL IT MURDER

By C.V. Glines

…During the early morning hours of Nov. 3, 1973, a shipment of 12 different kinds of the hazardous chemicals weighing 15,360 pounds, along with hundreds of pounds of mail and other cargo, was loaded aboard Pan Am Flight 160/03, an all-cargo flight scheduled for Frankfurt via Prestwick, Scotland …. A tragedy, long predicted by ALPA's Hazardous Materials Subcommittee, was only minutes away.

[The crew] made preflight preparations for their 707-320, taxied out, and took off at 8:25 a.m. A briefcase with a Restricted Articles notification form wrapped around the handle had been placed aboard in the galley area by a cargo handler. It had not been signed by either the loadmaster or the captain as required. There is no evidence that [the captain] was aware there was any hazardous cargo aboard.

Approximately 40 minutes after takeoff, Pam Am Clipper 160 called Montreal Center and asked for clearance to return to JFK….

A descent was begun and the crew donned oxygen masks. A request was made for clearance to Boston instead of New York…. Clipper 160 was now down to 2,000 feet….

After handoff to Boston Approach Control, clearance was given to land on Runway 33L. However, as the aircraft approached the extended centerline of Runway 27, a turnin was made for an approach on that runway….

Communications with the aircraft now ceased and as it bore down the approach path, it was obvious that control was deteriorating. The wings began to rock in ever-increasing frequency until the rocking became what one pilot described as "a full-fledged dutch roll."… With one final roll, the aircraft made a full wingover and lunged straight in on the nose and left wingtip at the downwind end of Runway 33L. The horrendous crash snuffed out the lives of the three crewmen and left the aircraft and cargo strewn over Boston Harbor just off the airport. —*From* Air Line Pilot, *July 1974*

FLIGHT TIME/DUTY TIME FOR AIR CARGO

By Capt. David J. Wells (FedEx), member, ALPA Flight Time/Duty Time Committee, and Jay Wells, ALPA Attorney

ALPA is encouraging the FAA and the U.S. air cargo industry to move quickly to require all U.S.-certificated cargo airlines to comply with the principles of the FAA's One Level of Safety program, especially with regard to modernization and harmonization of the flight-time/duty-time regulations.

The present flight-time/duty-time rules that apply to cargo flying are a patchwork of domestic, supplemental, and flag regulations that have been developed over the past 50 years. The rules usually applied to cargo operations—the supplemental rules—were developed more than 50 years ago for unscheduled freight operations using piston-powered aircraft, most of which had unpressurized cabins, cruise speeds in the 200-knot range, and flight crews of at least two pilots and often a flight engineer….

The FAA last proposed to modernize the flight-time/duty-time regulations in 1995; but industry, labor, and the regulators were unable to reach a consensus. Nearly a decade later, the need for industrywide reform in flight-time/duty-time rules is still apparent—but the need in the air cargo industry is particularly acute….

ALPA believes the need to provide rational working hour limits for cargo pilots is pressing, as is the need to unify passenger, cargo, and domestic and international flight-time/duty-time regulations to provide for a single standard, or One Level of Safety….

Currently, air cargo operations are subject to safety standards that differ from those of passenger operations in a variety of areas. Under the current system, these aircraft are operating without collision avoidance systems (they will not be required until December 2005), without the benefit of licensed dispatchers, and with more relaxed rules for pilot rest requirements….—*From* Air Line Pilot, *September 2004*