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AIR LINE PILOTS ASSOCIATION, INTERNATIONAL
1625 MASSACHUSETTS AVENUE, N.W. □ WASHINGTON, D.C. 20036 □ 703-689-2270
FAX 202-797-4052

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Docket Management System
U.S. Department of Transportation
Room Plaza 401
400 Seventh Street, SW.
Washington, DC 20590-0001
Docket Number: FAA-2001-11032 – 25

Subject: Security Considerations in the Design of the Flightdeck on Transport Category Airplanes; Final Rule, Request for Comments

Ladies and Gentlemen:

The Air Line Pilots Association (ALPA), representing the safety interests of over 64,000 professional airline pilots flying for 43 airlines, has reviewed the subject document and supports the Final Rule. However, there are several areas in which we feel that either improvements could be made or additional analysis might result in a more thorough design. These areas are highlighted below.

This amendment requires a means to protect the flightdeck from unauthorized intrusion and small arms fire or fragmentation devices. The FAA is also requiring that airplanes operating in FAR Part 121 service comply with this amendment to prevent unauthorized access to the flightdeck. These amendments are being adopted to further enhance air carrier security in response to the heightened threat to U.S. civil aviation.

Both the Secretary of Transportation Rapid Response Team activities and the Aviation and Transportation Security Act have identified many security measures that the industry has been addressing since the events of September 11. These security measures are intended to prevent an individual from gaining unwanted access to the cockpit and ultimately control of an aircraft. It must be understood that the flightcrew is the last line of defense onboard an aircraft, and the cockpit door is the only barrier available to prevent an intruder from entering the cockpit. In the event that all other safeguards fail, the integrity of the cockpit must be maintained to ensure the safety of the aircraft and prevent it from being used as a weapon against the crew and passengers onboard that aircraft, and persons on the ground.

- *Flightdeck Security Intrusion by Persons and Ballistic Penetration*

ALPA concurs with the proposed intrusion standards (300 joules, 250 lb. tensile) and the proposed ballistic penetration standards (Level IIIA) contained in the subject rule (25.795(a)). These standards will provide improved protection against hazards directed at the cockpit door and the surrounding framework. ALPA understands that those standards will be applied to future aircraft type designs.

However, a cockpit protected by a strengthened and ballistic resistant door is not totally protected against such a threat. A cockpit surrounded by unimproved, and unprotected bulkhead and floor areas is at risk of ballistic penetration from adjacent passenger areas.

The ARAC Design for Security Harmonization Working Group proposals, upon which the ballistic penetration standard of this rule was based, correctly pointed out the need to protect the flightcrew and flight critical systems, wherever they may be. ALPA believes that the 300 joule intrusion standard should protect the cockpit from unwanted entry or significantly delay the entry of an unwanted individual. This delay would allow time for the flightcrew to react and take alternative actions. However, similar ballistic penetration standards to that of the doors must immediately be developed to address penetration resistance of cockpit floors, ceilings, and bulkheads. The integrity of flight critical systems and cockpit personnel must be protected, regardless of the origin of the threat onboard the aircraft.

- *Cargo Operations*

ALPA was pleased to see that the provisions of this rule also apply to transport category aircraft used in cargo operations. Such a provision is consistent with the DOT Rapid Response Team's (RRT) recommendation to *"...conduct a retrofit of the entire U.S. fleet of aircraft."* The basis for that recommendation was the recognition by the DOT RRT that aircraft used in cargo operations could also be used as weapons against ground targets. In fact, based on meetings that ALPA has had with safety representatives from many of the cargo airlines, it is potentially easier for an intruder to gain access to a cargo aircraft because of the limited ground security procedures in place for cargo operations versus those in place for passenger carrying operations. In those instances where company employees are carried as "passengers" or "occupants" on cargo aircraft, they do so with far less scrutiny than fare-paying passengers in common carriage. Ramp areas for cargo operations are similarly less controlled than in typical passenger operations.

In addition, cargo operations lack the added benefit of flight attendant or passenger intervention in the event of an unwanted intruder on an aircraft. In all of the discussions to date that have dealt with development of means to defeat attempts to commandeer an airliner, the concept of passenger intervention has been raised as part of the strategy. For cargo carriers, there is generally no possibility of such passenger intervention. All of these factors combine to actually increase the potential for a cargo aircraft to be targeted for hijacking. ALPA is actively working with DOT, FAA, and TSA representatives to resolve these issues through other channels.

ALPA is concerned with the specific language of the rule (121.313(j)) that states *"No person may conduct any operation unless the following equipment is installed in the airplane: (j) After April 9, 2003, for airplanes required by paragraph (f) of this section to have a door between the passenger and pilot or crew rest compartments, and for transport category, all-cargo airplanes that have a door installed between the pilot compartment and any other occupied compartment on January 15, 2002..."* It was identified during at least one FAA telecon that some cargo operators elected to remove their cockpit doors prior to the date of effectivity of the rule. This can clearly be seen as an attempt by an operator(s) to get around the intent of both the language of the Final Rule and the language of the Security Act. The Act clearly directs the Department

of Transportation to *"ensure the adequacy of security measures for the transportation of cargo."* ALPA feels that security improvements are essential for all aircraft in airline service, regardless of size or mission.

A cargo aircraft can be used as a weapon and represents the same risk as a passenger aircraft. ALPA finds it unacceptable to allow modifications to take place by certain operators that would exclude this type of operation from the requirements of the rule. Either the language of this rule should be modified to mandate the installation of strengthened cockpit doors on all cargo aircraft regardless of their current configuration, or future rulemaking must mandate installation of secured cockpit doors on all cargo aircraft.

- *Inflight Access by Cabin Crew*

ALPA concurs with the provisions governing the accessibility of cockpit door keys provided that the more secure door has been installed. However, ALPA cannot endorse the provision of the rule that would allow access by a flight attendant in the event of a flightcrew incapacitation (25.772(c) and 121.313(j)(2)).

The proposed language of the rule (25.772(c) states that: *"...There must be an emergency means to enable a flight attendant to enter the pilot compartment in the event that the flightcrew becomes incapacitated."* In ALPA's opinion, the possibility of a dual flightcrew member incapacitation is extremely remote. Therefore, the need for and the use of a system to initiate access to the flightdeck in the event of a dual flightcrew incapacitation is unnecessary and significantly introduces an added level of risk of inadvertent access to the flightdeck. It is understood that a system such as this would be activated by the flight attendant in the cabin via a keypad entry system. If the cockpit access sequence is not responded to in a timely manner (time to be determined) by the flightcrew, the cockpit door locking mechanism will deactivate and free and unimpeded access to the cockpit will be available. Without ensuring a failsafe system design, any means of free and unauthorized access to the flightdeck must be avoided.

There will be times where the flight attendant will need to interface directly with the cockpit crew (meals, beverage, medical situation in the cabin). Therefore, any flightcrew notification system in place to request flightcrew-authorized access to the cockpit must be more secure than a single pushbutton notification. A keypad entry system with a programmable code is the most secure means. The system must be failsafe against unauthorized persons activating the notification system.

In addition, operational procedures must be in place to ensure that this cockpit access is coordinated with the flightcrew in advance via the cabin interphone system. Ideally, once a request has been made by a flight attendant to enter the cockpit (both via the interphone and the keypad), the flightcrew would positively verify who is at the cockpit door via devices such as a viewport, peephole, or one-way viewing window. Any viewing means must provide sufficient field of view into the cabin to ensure that the area around the cockpit door is free of unwanted individuals. Access to the cockpit should only be granted by the flightcrew after positive verification and identification.

To ensure the integrity of the cockpit, ALPA feels that cockpit notification or cockpit alerting functions should be separate and discrete keypad entries consisting of more than a single digit or single pushbutton actuation. The keypad and locking mechanisms should include a self-test function as part of the final door design to provide positive feedback to the flightcrew that all the locking mechanisms and keypad functions integral to the door are operating properly. With the varying designs being discussed in the industry, flightcrews must be able to determine that the system is operating properly and is capable of securing the cockpit.

There must be procedures in place to ensure that there is never a single flightcrew member on the flightdeck. For two-person cockpits, in the event that a flightcrew member must leave the cockpit during flight, operational procedures must be in place to ensure that a second person (e.g. flight attendant, authorized ACM) occupy the cockpit along with the remaining flightcrew member until the other flightcrew member returns. Since cockpit doors are required to be locked and secured at all times, it is unacceptable for the remaining flightcrew member to have to leave his/her seat to lock or unlock the cockpit door or visually verify who is requesting access. In addition, a second individual must be in place on the flightdeck in the event the remaining crewmember becomes incapacitated during that timeframe.

- *MMEL Relief*

The Final Rule does not address locking system redundancy. Locking system redundancy is necessary to allow dispatch of an aircraft with an inoperative primary locking device. Provisions should be made within the Final Rule to ensure that in the event of a primary locking system malfunction, a separate means is available to ensure the security of the cockpit during scheduled operation or until repairs can be made. The MMEL Subcommittee has been discussing the MMEL relief issue for locking devices since the release of SFAR 92-1.

- *Admission to Flight Deck*

The Final Rule addresses admission to the flightdeck (121.547(3)(i)) and states that no person may admit any person to the flightdeck of an aircraft unless the person being admitted is any person who *"has permission of the pilot in command, an appropriate management official of the part 119 certificate holder, and the Administrator..."* Permission is now required by all three entities identified here. Previous language required only the permission of the pilot in command, with authorization by the certificate holder and the Administrator. This language effectively adds two levels of approval over the previous language of 121.547. ALPA concurs with the language of the Final Rule. However, procedures must be in place to ensure that the pilot in command has all the available information at his/her disposal to verify the required levels of approval for individuals requesting admission to the flightdeck. In addition, the pilot in command must have all of the information necessary to allow positive verification of the credentials of those requesting jumpseat access (i.e. pilots, government officials, company personnel).

- *SFAR 92-3*

ALPA concurs with the provisions of SFAR 92-3. This action temporarily authorized variances from existing design standards for the doors and allows for approval for return to service of modified airplanes without prior approved data if the modification constitutes a major alteration. Previous versions of this SFAR did not make the installation of interim cockpit door locking

devices mandatory. SFAR 92-3, however, mandates these modifications on aircraft which require cockpit doors under 121.313(f). These modifications must be in place within 45 days of the date of effectivity of this SFAR. This action also prohibits the possession of flightdeck compartment door keys by anyone other than the flightcrew during flight, unless the flightdeck door has an internal flightdeck locking device installed, operative, and in use. The internal locking device must be designed so that it can only be unlocked from inside the flightdeck.

- *Rule Applicability to Smaller Aircraft*

Smaller aircraft used in regular airline service are not required, by either current Federal Regulations or the Final Rule, to have a pilot compartment door installed. While ALPA recognizes that unique design circumstances must always be considered, we do not concur with exclusion of any category aircraft, regardless of size or mission. As we have mentioned earlier, the integrity of the cockpit must be maintained to ensure the safety of the passengers and crew onboard the aircraft and individuals on the ground. Acts of terrorism or harmful acts at the hands of unruly passengers must be thwarted at all cost, regardless of the size of the aircraft.

The industry acknowledges that every passenger boarding a small jet or turboprop deserves the same level of safety as they have when they board a larger airliner. It stands to reason then that their expectation of security must also be the same, especially in light of the events of September 11. The Aviation and Transportation Security Act acknowledges this premise with its direction to strengthen doors where a door is installed, not just on aircraft of a particular size or mission. The FAA must consider modifying existing FAR regulations to require all aircraft used in FAR part 121 operations be equipped with a lockable, strengthened cockpit door.

- *Recommended Industry Activities and Future Rulemaking*

For cargo operations, the industry should consider initiating rulemaking for cabin video surveillance systems that would capture the image on the cargo compartment side of the cockpit door and display it to the flightcrew. Because security measures are less stringent for cargo operations and cargo operations lack the added security benefit of passengers and flight attendants, cargo compartment video would allow the flightcrew to monitor the cargo area for any unauthorized individuals onboard the aircraft.

Efforts must be made to ensure that the Airport Rescue and Fire Fighting (ARFF) personnel are aware of the new ballistic and intrusion standards that are being implemented on cockpit doors. ARFF personnel must be aware of any door modifications that are being instituted by the various carriers operating at their respective airports. It is conceivable that these new ballistic and intrusion standards might introduce cockpit doors that exceed ARFF's current equipment capability to gain access to the cockpit in the event of a ground emergency situation where expeditious flightcrew extraction is imperative.

Future industry activities should address the possibility of exceeding intrusion limits through the use of accessible cabin objects (i.e. beverage cart, luggage, etc.). If this additional testing demonstrates that it is possible to exceed the intrusion standards of this Final Rule using existing objects within the cabin of an aircraft, then either the intrusion standard must be revised, or a means to eliminate this additional threat must be developed. The industry must be certain that a

means does not exist to circumvent the existing standards using standard accessible cabin objects.

ALPA supports this Final Rule and is pleased that the FAA has taken steps to respond to the current threat and improve the safety and security of our aviation system. The industry must continue to examine new security technologies, operational enhancements and any additional threats that can be identified. ALPA looks forward to continuing to work with DOT, FAA, and TSA on additional measures the will further improve our aviation system.

Thank you for the opportunity to comment.

Sincerely,

Captain Dennis J. Dolan
First Vice President
Air Line Pilots Association