

**STATEMENT OF THE**  
**AIR LINE PILOTS ASSOCIATION, INTERNATIONAL (ALPA)**  
**BEFORE THE**  
**SUBCOMMITTEE ON RAILROADS, PIPELINES, AND HAZARDOUS MATERIALS**  
**COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE**  
**U.S. HOUSE OF REPRESENTATIVES**

**“Reducing Regulatory Burdens and Ensuring  
Safe Transportation of Hazardous Materials”**

**April 12, 2011**

The Air Line Pilots Association, International (ALPA) represents more than 53,000 passenger and all-cargo airline pilots and has long advocated for improved transport requirements for lithium-ion and lithium-metal batteries. On two separate occasions in 2009, we appeared before this Subcommittee and cited numerous incidents wherein lithium batteries, carried either in the cabin of passenger aircraft or shipped as air-cargo, were involved in fires aboard aircraft. Unfortunately, the situation has not improved since that time. In fact, fires involving lithium batteries on airplanes continue to occur, destroying property and tragically, may have contributed to the death of two pilots flying for a U.S. all-cargo company.

The U.S. House of Representative’s recently passed FAA reauthorization bill, H.R. 658, contains a provision added on the House floor, Section 814 titled “Air Transportation of Lithium Cells and Batteries.” This section prohibits the Federal Aviation Administration from issuing or enforcing “any regulation or other requirement regarding the transportation by aircraft of lithium [batteries], if the requirement is more stringent than the requirements of the International Civil Aviation Organization.” ALPA strongly disagrees with this provision for the simple reason that these batteries are known to be capable of self-initiating intensely hot fires which airline pilots and/or onboard fire suppression systems may be incapable of extinguishing, and which could lead to the loss of an aircraft and everyone onboard.

Withholding a needed safety improvement on the basis that ICAO has not adopted it ignores several essential facts. The U.S. has historically led the world – including ICAO – in the creation and adoption of safety enhancements. For the U.S. government to defer to an international body on whether it is appropriate to take necessary precautions against a proven hazard which is demonstrably capable of causing loss of life and property represents a setback to our country’s standing in the aviation world. There are numerous examples of Federal Aviation Regulations (FARs) which exceed ICAO standards. If the U.S. government were to extend the philosophy expressed in Section 814 and revise our FARs in a manner to not exceed the stringency of ICAO standards, our aviation regulations would be weakened in a number of areas.

ALPA is aware of the arguments concerning the costs associated with safeguarding lithium batteries during air transport. Pilots want and need for their airline employers to be successful, and carrying cargo is a significant factor in airline profitability, but our members are opposed to betting their lives on making it home safely in exchange for haphazardly carrying lithium batteries that have a history of self-igniting and are capable of creating intensely hot fires onboard airplanes. We would reiterate that there are a myriad of industries – including, for example, those that manufacture household paint or dry ice – that both safely and profitably ship hazardous cargo under the full scope of dangerous goods regulations.

### Background

In early 2010, responding to a perceived need for bolstered regulations governing the shipment of lithium batteries, the U.S. Department of Transportation (DOT) issued a Notice of Proposed Rulemaking (NPRM) intended to amend pertinent requirements in the Hazardous Materials Regulations. ALPA has publicly supported the majority of the proposed rule and would respectfully reiterate for the members of this Subcommittee the facts which substantiate our position on this issue.

While ALPA is not advocating for enhanced restrictions on the types of items individuals may personally carry on board aircraft, our concern remains focused on lithium batteries contained within equipment and/or transported as air cargo. If these shipments either initiate or become involved in a fire, they pose a significant risk to the safety and well-being of an aircraft and its occupants. While it is true that a fire involving a limited number of lithium-ion batteries may be controlled by the active fire-suppression system on an aircraft, Federal Aviation Administration (FAA) testing has shown that lithium metal batteries are unresponsive to Halon, the traditional extinguishing agent used aboard aircraft.

Unfortunately, lithium-ion and lithium-metal batteries remain excepted or exempt from many of the provisions of the Federal hazardous material regulations and the International Civil Aviation Organization (ICAO) Technical Instructions (TI) which regulate the transportation of dangerous goods (DG), including lithium batteries, by air.

The full regulation of lithium batteries as DG would have a significant positive impact on the safety of the air cargo supply chain. Improved packaging standards would help prevent damage to shipped batteries. Dangerous goods labels would ensure worldwide recognition that shipments have the potential to cause an incident if mishandled. An acceptance check would provide an opportunity to detect package damage or non-compliance with the regulations. Pilot notification through the notice to the captain (NOTOC) would increase the awareness of flight crewmembers to the presence of DG and allow them to communicate hazard information to emergency responders in the event of an incident and better position them to make critical decisions related to handling an in-flight emergency.

While we recognize that the risk associated with a single battery in a shipped package is low, we caution against permitting exceptions to the DG regulations for shipping small batteries based on this logic, as there is currently no regulation which prohibits hundreds or thousands of these

items from being consolidated in a single shipment. It is only through full regulation of the shipment of small batteries as DG that the quantity of batteries stored at a single location in an aircraft or in a single cargo compartment can be addressed. In the absence of such regulations, lithium batteries are handled as general freight and airline employees, including pilots, are often unaware of the total quantity of batteries offered for shipment or the risk that they pose to the aircraft.

Given that FAA continues to receive reports of fires directly related to lithium battery shipments and lithium batteries contained within equipment, we cannot afford to wait to fully regulate lithium batteries as DG. Every day we delay, people and property are being exposed to the potential danger of an in-flight fire that neither the aircraft's fire suppression system nor the flight crew may be able to extinguish. Immediate action is necessary to ensure the safety of lives and property involved in air cargo operations conducted on passenger and cargo aircraft.

### ICAO Standards are Inadequate

ALPA strongly disagrees with the argument that the ICAO Dangerous Goods Technical Instructions are adequate for transporting lithium batteries by air. Current ICAO regulations exempt consumer-sized lithium batteries from many provisions of the regulations normally applied to other dangerous goods, resulting in a lower regulatory standard for these shipments. Specifically, the ICAO regulations for lithium batteries are inadequate in the following areas:

1. *No Required Notification to the Pilot in Command (NOTOC) That Lithium Batteries Are Being Transported On Their Aircraft.*

The knowledge that lithium batteries may be involved in an on-board incident or fire could influence a pilot's decision-making process, potentially impacting the selection of a diversion airport or other emergency actions needed to be taken. While the cause of the September 2010 fire aboard a UPS 747 that crashed near Dubai and fatally injured its two pilots has not yet been conclusively determined, it is known that large quantities of lithium batteries were carried as cargo on-board the aircraft. This information was not provided to the crew operating the flight. Had it been, that knowledge may have influenced their decision to return to their departure airport, as opposed to selecting a closer alternate airport at which to land. Providing information about the presence and quantity of lithium battery shipments to the flight crew also enables them to transmit valuable information to first responders in the event of an incident, aiding in the proper emergency response. The full hazardous materials regulations require notifying the flight crew of the presence of dangerous shipments, a system that has worked well over many decades. It is indefensible that a flight crew would be informed of a shipment of five pounds of flammable paint, but would have no knowledge of thousands of lithium batteries on a pallet in the cargo compartment, as current regulations now provide.

2. *No restriction on the quantity of lithium batteries on an aircraft.*

Under ICAO provisions for consumer-sized lithium batteries, there is no limit as to the number of lithium batteries that may be transported on an aircraft. It is permissible under current regulations to fill the entire cargo compartment of a passenger aircraft with lithium-ion batteries. The National Transportation Safety Board (NTSB) has recommended that the number of lithium batteries at a single location be restricted in order to improve the effectiveness of firefighting efforts should an incident occur.

3. *No Restriction on the Loading Location of Lithium Batteries.*

ICAO provisions allow lithium batteries to be loaded wherever cargo is permitted on an aircraft. Testing by the FAA Technical Center has determined that a fire involving lithium-ion batteries responds favorably to the Halon system in a Class C cargo compartment. ALPA and the NTSB have recommended that lithium-ion battery shipments be loaded in Class C cargo compartments. In order to adopt this recommendation, lithium-ion battery shipments must be fully regulated as hazardous materials, not excepted as in the ICAO provisions.

4. *Lithium-Metal Batteries Are Permitted On Passenger And Cargo Aircraft By ICAO.*

While the United States has prohibited carriage of lithium-metal batteries not installed in equipment on passenger aircraft, no such limitation exists in the ICAO provisions. The FAA Technical Center has found that lithium-metal battery fires do not respond to Halon, and in November 2010 stated, "No safe method for shipping lithium-metal cells is currently available." Yet, ICAO provisions allow unlimited quantities of these batteries on both passenger and cargo aircraft, without notifying the flight crew of their presence.

5. *No Dangerous Goods Labels Are Required.*

ICAO provisions for carriage of shipments of lithium batteries provide an exception for placing a dangerous goods label on the packaging. This label is designed to increase awareness of their presence by the ground handling staff while loading and unloading the aircraft, reducing the likelihood of a shipment being damaged or a damaged shipment being placed on an aircraft. Although not readily apparent, this is a highly significant issue since testing has shown that damage to a lithium battery shipment may, in many cases, result in a fire hours after the damage occurred. Requiring a label would increase awareness of and allow for safer handling of the shipment.

6. *No training is required for shippers/handlers of lithium batteries.*

While many of the incidents involving lithium battery shipments result from non-compliance with current regulations, in most cases, this non-compliance has resulted from a lack of knowledge or incorrect application of the regulations, as opposed to the willful evasion of requirements. Fully including lithium batteries under hazardous

materials regulations would reduce the complexity of the current regulations by eliminating a large number of exceptions relating to their shipment. Requiring shippers and handlers to be trained in mandatory compliance measures would result in a reduced number of incidents. Additionally, it would provide for improved oversight of shippers and handlers by enforcement agencies, and facilitate their ability to inspect shipping facilities and ensure that training and practices are in compliance with all regulations.

### Recommendations

ALPA believes the U.S. must now take positive action beyond that required by ICAO to ensure the promulgation of measures which will protect the public, flight crewmembers, non-crewmembers traveling on cargo aircraft, and others involved in the air-cargo transportation system from the hazards currently associated with the shipment of lithium batteries by air.

Striking the language proposed in Section 814, Air Transportation of Lithium Cells and Batteries, is necessary for improving the overall safety of air cargo operations and the protection of lives and property whenever lithium batteries are moved through the air transportation system. Urgent action is needed now to bring these dangerous materials into the same regulatory framework that safeguards the shipment of hundreds of other hazardous materials in the United States and around the globe. While there may well be reasons to reduce regulations without a clear safety benefit, the air transport of lithium batteries clearly does not fall in that category and these regulatory protections must be promulgated immediately.

ALPA appreciates the opportunity to testify on this important safety matter.

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