

ORAL TESTIMONY OF FIRST OFFICER MARK ROGERS
DIRECTOR, ALPA DANGEROUS GOODS PROGRAMS
AIR LINE PILOTS ASSOCIATION, INTERNATIONAL

BEFORE THE SUBCOMMITTEE ON RAILROADS, PIPELINES, AND
HAZARDOUS MATERIALS
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE
U.S. HOUSE OF REPRESENTATIVES

RE: THE SAFE AIR TRANSPORT OF LITHIUM BATTERIES
MAY 14, 2009

Good afternoon, Chairwoman Brown, Ranking
Member Shuster, and members of the Subcommittee. I am
Mark Rogers, a commercial airline pilot and director of the
Dangerous Goods Programs of the Air Line Pilots
Association, International (ALPA). I also have a chemical
engineering degree from the University of Illinois.

ALPA represents nearly 54,000 pilots who fly for 36
passenger and all-cargo airlines in the U.S. and Canada. On
behalf of our members, I want to thank you for the

opportunity to provide our safety perspective on the carriage of lithium batteries as cargo on aircraft.

Lithium batteries are a part of everyday life for millions of Americans, powering applications as varied as laptop computers, cell phones, flashlights, and cameras. While the vast majority of the lithium batteries shipped as cargo or carried aboard aircraft by passengers and crewmembers arrive at their destinations safely, there have been numerous incidents involving overheating and fire aboard aircraft.

These incidents have occurred both from batteries being carried in the cabin of passenger aircraft and from batteries being shipped as cargo. With the chairwoman's permission, I would like to ask for the showing of a brief video that demonstrates the potentially volatile nature of a lithium battery.

This video shows the fire that erupted when a laptop's lithium battery, which was being charged in an airport terminal, spontaneously ignited. You'll notice that once the first cell in that battery ignites, the generated heat causes the other cells to ignite as well.

[\[SHOW VIDEO WITH SOUND "OFF"\]](#)

Thank you.

When an incident involving a personal electronic device in the aircraft cabin occurs, the incident is likely limited to a single battery and is quickly discovered by airline cabin personnel.

Testing conducted by the FAA has also led to the development of cabin procedures that will result in the successful extinguishment of a battery fire. We, therefore, believe the correct approach to address the hazards of batteries in the passenger cabin is improved training and procedures for cabin personnel.

I want to emphasize that we are NOT advocating for new restrictions on what passengers and crewmembers may bring aboard.

ALPA does, however, have significant concern about the provisions governing the transport of lithium batteries as cargo on aircraft. Both of the major types of lithium batteries have properties that pose a risk to aircraft if the batteries are not properly manufactured, packaged, and labeled, or if the batteries are damaged.

Lithium ion batteries, which are typically rechargeable, and power devices such as laptop computers and cell phones, contain a flammable electrolyte, resulting in a more significant fire following an incident than one involving non-lithium battery chemistries.

Lithium metal batteries, which are typically non-rechargeable, and power devices such as cameras and flashlights, have been shown by the FAA to be unresponsive to Halon, the extinguishing agent used aboard aircraft.

When substances or articles pose this kind of risk to aircraft, their transport is normally strictly controlled under federal regulations. Both lithium ion and lithium metal batteries, however, are exempt from many of the hazardous-material provisions.

In fact, the flight crew would not be aware of a pallet containing thousands of lithium batteries, whereas an adjacent five-pound package of flammable paint or dry ice would be subject to the full scope of the regulations.

We believe these exceptions are inappropriate for a commodity posing a risk and having a history of fire incidents aboard aircraft, and we are asking that lithium batteries be fully regulated as hazardous material.

Furthermore, because of the inability of aircraft fire suppression systems to extinguish a fire involving lithium metal batteries, we are asking that the current ban on bulk shipments of lithium metal batteries on passenger aircraft be extended to all-cargo aircraft until adequate packaging can be developed.

Testing has shown that even the heat from a suppressed cargo fire is sufficient to ignite a shipment of lithium metal batteries and that, once ignited, the fire will quickly spread to all the batteries in a shipment.

Until packaging is developed that will protect these batteries both from damage and from external heat, we believe they should be prohibited in bulk quantities on all aircraft. ALPA has long been an advocate of one level of safety for cargo and passenger aircraft, and we find it particularly troubling that a commodity completely prohibited on passenger aircraft may be transported nearly unregulated on all-cargo aircraft.

The full regulation of lithium batteries would have a significant positive impact on safety. Improved packaging standards would help prevent damage to batteries.

Dangerous-goods labels would ensure that the shipments were recognized worldwide as having the potential to cause an incident if mishandled. An acceptance check would provide an opportunity to detect package damage or noncompliance with the regulations. Pilot notification would allow flight crewmembers to communicate hazard information in the event of an incident.

We do recognize that the danger from a single battery in a package in transportation is low. We caution, however, against providing exceptions to the regulations for small batteries based on this logic, as there is nothing to prevent hundreds or even thousands of small batteries from being consolidated in a single shipment.

In fact, a fire in 1999 on the ramp at Los Angeles International Airport involved two pallets, each containing over 120,000 batteries excepted from hazmat regulations. It is only through full regulation of small batteries that the quantity of batteries at a single location or in a single cargo compartment can be addressed. Otherwise, the batteries are treated as general freight, and an airline is often not even aware of the total quantity of batteries or the risk they pose to the aircraft.

In conclusion, I want to express ALPA's appreciation for this Committee's interest in the safe transport of lithium batteries as cargo on passenger and all-cargo aircraft. Our recommended actions for incorporation into the PHMSA reauthorization bill will greatly enhance the overall safety of moving these batteries through the transportation system.

Thank you for the opportunity to testify today. I would be pleased to address any questions that you may have.