



AIR CANADA
CARGO

Lithium Battery Presentation

IGHC - Vancouver – May 2013

Air Canada Cargo | Going further.

Trevor Howard
Manager, Cargo Safety &
Dangerous Goods Standards
Air Canada Cargo

- Current Board Member : IATA Dangerous Goods Board
- Advisor to Canadian Delegation: ICAO Dangerous Goods Panel
- Current Board of Directors with COSTHA

Definitions

→ Lithium Metal Battery / Cell

- Lithium Ion Batteries



- Contained in Equipment



- Packed with Equipment

Definitions Cont'd

→ Lithium Ion Battery / Cell - Rechargeable

- Lithium Ion Batteries



- Contained in Equipment



- Packed with Equipment

Production Number – Lithium Ion Cells / Batteries



	2002	2011
Lithium ion cells	800 M	4.10 B
Notebooks	40 M	211 M
Cell phones	420 M	1.50 B
Tablets	0	80 M

International Regulatory Structure



- ➔ United Nations (UN) Subcommittee of Experts on the Transport of Dangerous Goods
 - UN Modal Regulations

- ➔ International Civil Aviation Organization (ICAO) Dangerous Goods Panel:
 - Technical Instructions for the Safe Transport of Dangerous Goods by Air

- ➔ IATA Dangerous Goods Board:
 - Dangerous Goods Regulations

Lithium Battery Classification

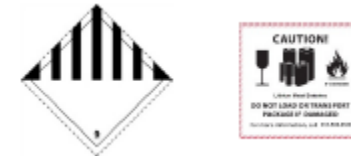
→ Section IA **Section 1 EH!**

- Training
- UN Specification packaging
- Hazard Label
- Transport Document



→ Section IB

- Training
- Hazard Label
- Lithium Battery Handling Label
- Information on Airwaybill



Airport of Destination			Requested Flight/Date		Amount of Insurance		INSURANCE: If carrier offers insurance, and such insurance is requested in accordance with the conditions thereof, indicate amount to be insured in figures in box marked "Amount of Insurance".	
Handling Information								
Lithium metal batteries, not restricted, PI969								
SCI								
No. of Pallets RCP	Gross Weight	No.	Rate Class Commodity Class No.	Chargeable Weight	Rate / Charge	Total	Nature and Quantity of Goods (incl. Dimensions of Volume)	

→ Section II

- Instructions
- Lithium Battery Handling Label
- Information on Airwaybill



Airport of Destination		Requested Flight/Date		Amount of Insurance		INSURANCE: If carrier offers insurance, and such insurance is requested in accordance with the conditions thereof, indicate amount to be insured in figures in box marked "Amount of Insurance"	
Handling Information							
Lithium metal batteries, not restricted, PI969							
SC1							
No. of Pallets RCP	Gross Weight	No.	Rate Class Commodity Class No.	Chargeable Weight	Rate / Charge	Total	Nature and Quantity of Goods (incl. Dimensions of Volume)

Air Transport Requirements

✈ For Shippers:

- Packing
- Marking & Labeling; and
- Documentation

✈ For Freight Forwarders

- Check regulatory conformance

✈ For GHA / Operators:

- Acceptance check; and
- Notification to Pilot in Command (NOTOC)

Accidents / Incidents

✈ FAA Incident List

- 132 Incidents since 1991
 - 42 lithium ion
 - 17 lithium metal
 - 5 lithium unknown type
 - 64 other types of batteries
 - 2 unknown type of batteries
 - 2 non-incidents

42 Lithium Ion Battery Incidents

→ 23 shipped as Cargo

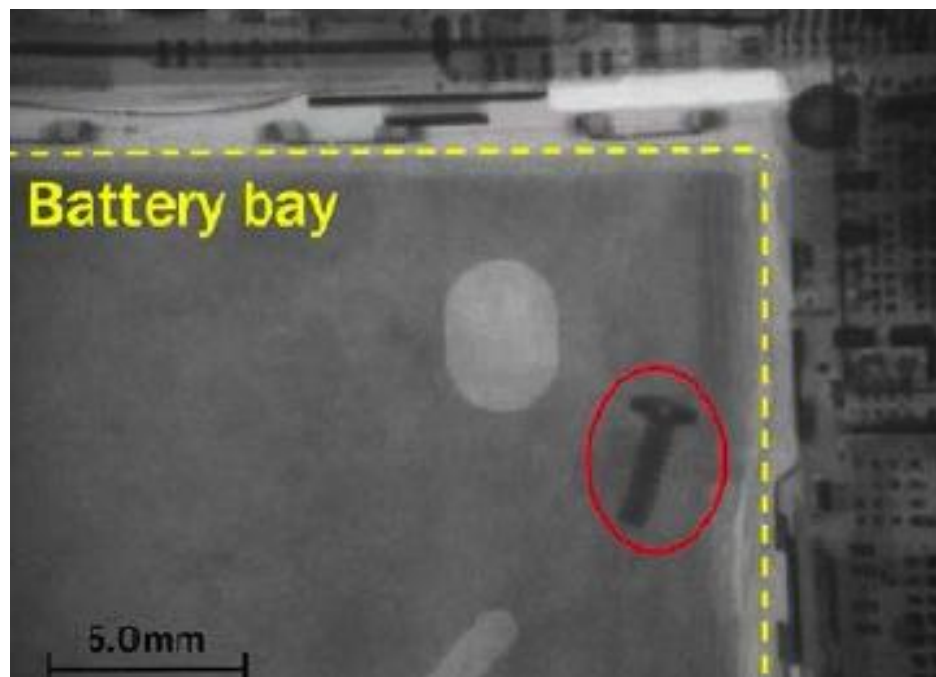
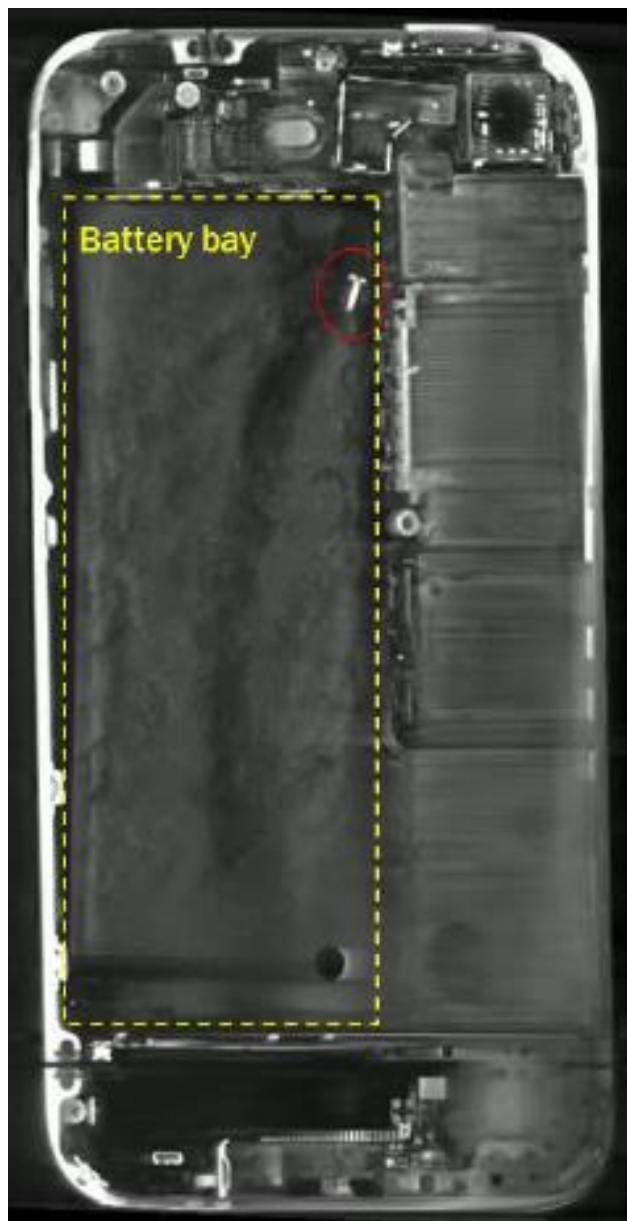
- 3 were not protected against short circuit
- 1 not in accordance with approval
- 1 mis-handling
- 18 cause unknown

→ 19 in passenger or crew baggage

- 1 damaged
- 1 inadvertent activation
- 1 counterfeit
- 16 cause unknown







B787 – Lithium Ion Battery



The Challenges we Face

- Counterfeit Batteries
- E-Commerce
- Increased production of lower quality batteries
- Consumers want the cheapest product
- Entities are prepared to falsify documents and packaging
- Aircraft fire suppression systems will not extinguish a lithium metal battery fire
- Lack of Oversight and Limited enforcement

The Challenges we Face



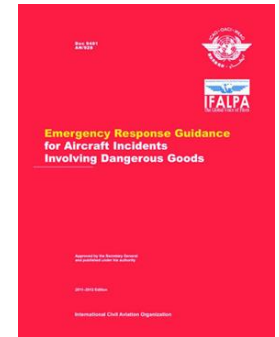
Reduce the Risk

- International Harmonization
- Eliminate Exceptions
- Awareness
- Training / Guidance
- Battery Testing
- Package Design
- Fire Suppression Testing
 - ULD / Pallet Covers
- Product design and handling strategies

Regulatory Updates



- ➔ New drill code for lithium batteries in the ICAO Emergency Response Guide.
- ➔ Mandatory dangerous goods training for flight dispatcher.
- ➔ IATA Dangerous Goods Board agreed to be more restrictive than ICAO effective Jan 2014 by requiring a Dangerous goods shippers declaration for all Section IB lithium batteries.



Upcoming Events

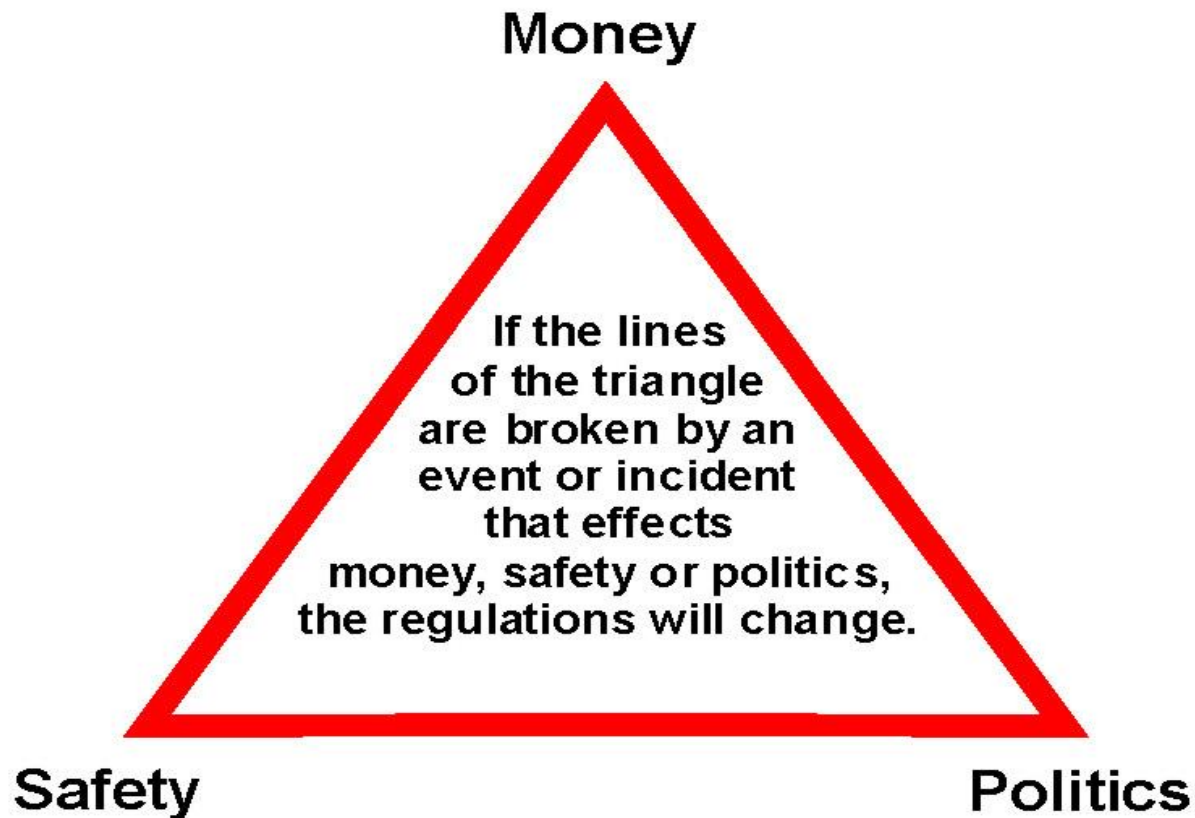
✈ IATA Lithium Battery Seminar

- November 19-20, 2013
- Limerick, Ireland





Triangle of Regulatory Change for Dangerous Goods



“Safe transportation of dangerous goods including lithium batteries is guaranteed only when everyone in the supply-chain understands the features and appreciates the requirements. Educating the stakeholders and the general public is the need of the hour.”

B. Govindarajan

Aviation Cargo Express – Feb 2013

Thank you

Trevor Howard
Manager, Cargo Safety &
Dangerous Goods Standards

trevor.howard@aircanada.ca

