



NOTA DE ESTUDIO

GRUPO DE EXPERTOS SOBRE MERCANCÍAS PELIGROSAS (DGP)

VIGESIMOPRIMERA REUNIÓN

Montreal, 5 - 16 de noviembre de 2007

Cuestión 2 del orden del día: **Formulación de recomendaciones sobre las enmiendas de las *Instrucciones Técnicas para el transporte sin riesgos de mercancías peligrosas por vía aérea* (Doc 9284) que haya que incorporar en la edición de 2009-2010**

Cuestión 5 del orden del día: **Resolución, en la medida de lo posible, de las cuestiones que no se presentan periódicamente, previstas por la Comisión de Aeronavegación (ANC) o por el grupo de expertos**

5.4: Examen de las disposiciones sobre mercancías peligrosas aplicables a las baterías de litio

**ANÁLISIS DE LOS INCIDENTES
QUE SE SABE O SE SOSPECHA QUE SE DEBEN A BATERÍAS
Y PRESENTACIÓN ACTUALIZADA DE LAS ACTIVIDADES DE LA INDUSTRIA
PARA AFRONTAR LOS PROBLEMAS DEL TRANSPORTE DE BATERÍAS DE LITIO**

(Nota presentada por la *Portable Rechargeable Battery Association* — PRBA)

RESUMEN

En la presente nota, se analizan los incidentes que se sabe o se sospecha que se deben a baterías y se presentan las actividades que está realizando la industria para afrontar los problemas que plantea el transporte de las baterías de litio.

Debido a las limitaciones presupuestarias, sólo se han traducido el resumen, las medidas propuestas al DGP y las enmiendas del Doc 9284.

4. RECOMENDACIONES Y CONCLUSIONES

4.1 La PRBA solicita a los miembros del DGP de la OACI y del Subcomité de la ONU que le presten asistencia para la distribución del folleto sobre la expedición sin riesgos de baterías.

4.2 La PRBA recomienda establecer, entre las autoridades competentes, un protocolo para el intercambio de información sobre incidentes ocasionados por baterías con el propósito de comprender mejor las causas de esos incidentes.

4.3 Para simplificar la normativa aplicable a las baterías de litio y pequeñas pilas y facilitar su comprensión, debería modificarse el formato de la Disposición especial 188 de la Reglamentación Modelo de las Naciones Unidas y de la Disposición especial A45 de las Instrucciones Técnicas de la OACI. El cambio de formato debería incluir el traslado de los requisitos relativos al embalaje que actualmente forman parte de esas disposiciones especiales a una nueva instrucción de embalaje. En el Apéndice A se presenta una propuesta de enmienda de la Disposición especial A45 y una nueva instrucción de embalaje. La propuesta se basa en las modificaciones introducidas en la Disposición Especial 188 de la Reglamentación Modelo de las Naciones Unidas y adoptadas durante el 30º período de sesiones del Subcomité de expertos de las Naciones Unidas, en diciembre de 2006.

4.4 La PRBA se opone a las modificaciones impulsadas por la Federación Internacional de Asociaciones de Pilotos de Línea Aérea, que consistirían en eliminar de la Disposición especial A45 la excepción relativa a las baterías de litio y pequeñas pilas o en la reclasificación de las pilas y baterías de metal litio, trasladándolas de la Clase 9 a la División 4.3. Esas modificaciones sólo complicarían aún más la normativa aplicable a las mercancías peligrosas y acarrearían un incremento en el número de expediciones en las que no se cumplan las normas.

APÉNDICE A

PROPUESTA DE ENMIENDA DE LAS INSTRUCCIONES TÉCNICAS

Capítulo 3

DISPOSICIONES ESPECIALES

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A45 Las baterías y pilas ~~de litio~~ que se presentan para transporte no están sujetas a otras disposiciones de estas Instrucciones si satisfacen lo siguiente:

- a) en el caso de una pila de metal ~~de~~ litio o de aleación de litio, el contenido de litio es como máximo de 1 g, y en el caso de una pila de ~~iones de~~ ión litio, ~~el equivalente del contenido de litio es como máximo de 1,5 g~~ la capacidad nominal no supera los 20 Wh;
- b) en el caso de una batería de metal ~~de~~ litio o de aleación de litio, el contenido total de litio es como máximo de 2 g, y en el caso de una batería de ~~iones de~~ ión litio, ~~el equivalente del contenido total de litio es como máximo de 8 g~~ la capacidad nominal no supera los 100 Wh. Las baterías de ión litio sujetas a esta disposición llevarán impresa la capacidad nominal en el revestimiento exterior;
- c) cada pila o batería es del tipo que probadamente satisface las condiciones de cada una de las pruebas que figuran en el *Manual de Pruebas y Criterios* de las Naciones Unidas, Parte III, subsección 38.3; y
- d) los embalajes cumplen con los requisitos de la Instrucción de embalaje XXX.
- ~~d) las baterías y las pilas tienen que estar separadas para evitar cortocircuitos y embaladas en embalajes resistentes, a menos que estén instaladas en equipo; y~~
- e) ~~salvo si las pilas o baterías de litio van instaladas en equipo, los bultos que contengan más de 24 pilas de litio o 12 baterías de litio deben cumplir además con las condiciones siguientes:~~
 - ~~i) cada bulto debe llevar marcas indicando que contiene baterías de litio y que deben aplicarse procedimientos especiales en caso de que sufra deterioro;~~
 - ~~ii) todo envío debe ir con un documento que indique que los bultos contienen baterías de litio y que deben aplicarse procedimientos especiales en caso de deterioro;~~
 - ~~iii) cada bulto tiene que soportar un ensayo de caída desde 1,2 m en cualquier orientación sin que se dañen las pilas o baterías que contiene, sin que se desplace el contenido de modo tal que las baterías (o las pilas) entren en contacto y sin que se libere el contenido; y~~
 - ~~iv) excepto en el caso de las baterías de litio embaladas con el equipo, los bultos deben tener una masa bruta máxima de 30 kg.~~

Tal como se ha utilizado más arriba y en otras partes de las Instrucciones, “contenido de litio” significa la masa de litio en el ánodo de una pila de metal de litio o de aleación de litio, ~~salvo en el caso de una pila de iones de litio, en el cual el equivalente del contenido de litio en gramos se calcula que es 0,3 veces la capacidad nominal en amperios hora.~~

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INSTRUCCIÓN DE EMBALAJE xxx

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La presente instrucción de embalaje se aplica a las baterías y pilas de metal litio y a las baterías y pilas de ión litio sujetas a la Disposición especial A45.

- a) Los embalajes deben cumplir con las disposiciones de 4.1.1.1, 4.1.1.3 y 4.1.1.9.
- b) Las baterías y pilas, salvo cuando estén instaladas en un equipo, se embalarán en embalajes interiores que las contengan por completo. Las baterías y pilas se protegerán para evitar cortocircuitos. Eso incluye la protección frente al contacto con materiales conductores presentes en el mismo bulto que pudieran provocar un cortocircuito.
- c) **Baterías y pilas instaladas en un equipo** — Las pilas y baterías instaladas en equipos irán protegidas frente a los daños y cortocircuitos, y los equipos estarán dotados de un medio eficaz para prevenir su activación accidental. Cuando en un equipo se instalen baterías, éste se colocará en un embalaje exterior resistente construido con materiales apropiados y con la resistencia y el diseño adecuados en relación con la capacidad y el uso a que esté destinado.
- d) Excepto en el caso de los bultos que no contengan más de cuatro pilas instaladas en equipos o de dos baterías instaladas en equipos, cada bulto llevará las siguientes marcas:
 - 1) una indicación de que el bulto contiene pilas o baterías de “metal litio” o de “ión litio”, según corresponda;
 - 2) una indicación de que el bulto habrá de manipularse con cuidado y de que existe riesgo de inflamación si el bulto sufre algún daño;
 - 3) una indicación de que, en el caso de que el bulto sufra algún daño, deberán seguirse procedimientos especiales, incluidas la inspección y la introducción en un nuevo embalaje si fuera necesario; y
 - 4) un número de teléfono donde obtener información adicional.

**Ejemplo de
marca de la
Norma CEI
62281**

	¡PELIGRO!
	Contiene baterías de litio
	Manipúlese con precaución
	Inflamable si sufre daños
	Si el embalaje sufre daños, las baterías deben ponerse en cuarentena, para ser luego inspeccionadas y colocadas en un nuevo embalaje.
	
SI SE DAÑA	Para información, llamar a: xyz

- e) Cada expedición de uno o más bultos marcados según lo dispuesto en el apartado d) irá acompañada de un documento que incluirá lo siguiente: :
- 1) una indicación de que el bulto contiene pilas o baterías de “metal litio” o de “ión litio”, según corresponda;
 - 2) una indicación de que el bulto habrá de manipularse con cuidado y de que existe riesgo de inflamación si el bulto sufre algún daño;
 - 3) una indicación de que, en el caso de que el bulto sufra algún daño, deberán seguirse procedimientos especiales, incluidas la inspección y la introducción en un nuevo embalaje/envase si fuera necesario; y
 - 4) un número de teléfono donde obtener información adicional.
- f) Salvo cuando las baterías estén instaladas o embaladas con equipos, la masa bruta total de los bultos no excederá de 30 kg.
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APPENDIX B

EXCERPT FROM INFORMATION PAPER UN/SCETDG/31/INF.41

“Known or Suspected Lithium Battery Incidents”

DATE	TYPE OF BATTERY	DEVICE (if applicable)	INCIDENT SUMMARY	OBSERVATIONS/COMMENTS
14-June-2007	Lithium CR123A	Ecoquest “Fresh Air Buddy” personal air purifier	While walking in the Long Beach, CA, airport terminal prior to flight, a passenger’s personal air filter worn around her neck exploded in a streak of fire. The battery was ejected at high speed across the terminal and melted the carpet where it came to rest. Passenger was uninjured but suffered scorching/burns on her clothing. <i>Incident is still under investigation.</i>	Product was subject to recall. Product was equipped with rechargeable lithium ion battery and non-rechargeable lithium metal battery of the same size. When non-rechargeable batteries are inadvertently charged by consumers, they have the potential to create a hazard.
11 June 2007	Lithium ion	Notebook computer	On June 11, 2007, a Piper Cherokee (PA 32) plane departed Kake Island Airport, AK (AFE) with two passengers, baggage and mail en route to Juneau, AK (JNU). Shortly after taking off, white colored smoke began pouring into the cockpit and cabin area from the forward baggage compartment. The smoke forced the pilot to return and make an emergency landing at AFE. The pilot and both passengers exited the aircraft safely, but the aircraft eventually caught fire and was destroyed. The forward compartment contained U.S. Mail and baggage including a laptop computer. The incident is still under investigation by the U.S National Transportation Board and a definitive cause has not yet been determined; however preliminary indications are that the laptop’s lithium battery pack is a potential candidate for the start of this fire.	U.S. National Transportation Safety Board (NTSB) has acknowledged that the laptop computer was not the source of fire. Incident should be removed from list.

DATE	TYPE OF BATTERY	DEVICE (if applicable)	INCIDENT SUMMARY	OBSERVATIONS/COMMENTS
5-June-2007	Lithium ion	Notebook computer	While waiting in the airport gate area, a passenger plugged his laptop computer into an electrical outlet on a column in the seating area. At some point the computer began smoking. Airline agent suggested the passenger unplug or shutoff the computer but passenger did not. The computer eventually burst into flames. Fire extinguishers were used to suppress—but not quickly extinguish—the fire.	<p>No failure analysis was performed on the battery. Battery may have been subject to recall, damaged or a counterfeit.</p> <p>Several industry standard organizations (i.e., IEEE, IEC, and UL) have taken steps to amend standards that apply to lithium ion cells, batteries, and notebook computers.</p>
15-May -2007	Lithium-ion battery pack for Sony PSP	No indication that battery was in or attached to Sony PSP device	Ramp worker removed checked bag that was on fire when loading passenger aircraft. Fire department determined that the fire was caused by a battery-pack for a Sony PSP handheld video game.	<p>Passenger did not comply with lithium battery carry-on provisions in Part 8.1.1.2(q) of the ICAO Technical Instructions and failed to properly protect batteries from short circuits.</p> <p>PRBA is working with government agencies and industry organizations to develop and distribute information to passengers on the proper care and handling of batteries carried aboard aircraft.</p>
10-May-2007	Lithium batteries		A driver smelled smoke in the cargo area of a delivery vehicle. The driver immediately removed the smoking package. The package did not burn or cause other damage. Investigation of the contents showed that the 30 lithium batteries were contained within the package and that some of them had short circuited. The carrier reported that the shipper used a plastic tray to hold the batteries, but that it did not provide sufficient protection against short circuit.	<p>Shipper did not comply with dangerous goods regulations and failed to pack batteries in such a way to prevent short circuits.</p> <p>PRBA, with the assistance of numerous battery and electronic trade associations, has developed materials for distribution internationally that explains the procedures for complying with the regulations including packaging batteries to prevent short circuits.</p>

DATE	TYPE OF BATTERY	DEVICE (if applicable)	INCIDENT SUMMARY	OBSERVATIONS/COMMENTS
19-Mar-2007	<p>“CR123” lithium metal</p> <p><i>Reportedly; battery fragments were disposed of by crew</i></p>	Possibly a camera	<p>1 ½ hours into a passenger flight from Buenos Aires to Miami a small explosion occurred in the Business Class section of the aircraft. There were sparks then a flash and smoke. Flight attendants, then the Captain, responded. Battery fragments were the only evidence found. It is suspected that the battery dropped into a seat and arced against a metal seat frame causing it to explode. The ruptured battery splattered debris on overhead bins. A fragment hit a passenger in the head burning her hair near her earlobe. Seven flight attendants were affected by smoke/fume inhalation. All refused medical treatment in Miami. One aircraft seat bottom and four seat covers were damaged and replaced.</p>	<p>There have been a number of recent reports regarding counterfeit CR123 lithium metal batteries. This incident appears to be the result of a counterfeit battery. PRBA and its members are working with various U.S. government agencies to raise awareness with consumers, government agencies, and battery and electronics trade associations regarding counterfeit batteries.</p>
9-Mar-2007	Lithium ion	Laptop computer and power converter.	Passenger flight from Toronto to Dallas/Ft. Worth diverted to St. Louis after strong electrical burning smell in the cabin. Source was laptop being used by a passenger while plugged in to aircraft power port via power converter. Power converter reportedly heated up. Aircraft power port and laptop reportedly in normal working condition afterwards.	This incident is not related to the battery and should be removed from the list.
1-Mar-2007	Twenty-four Surefire SF123A Lithium metal (non-rechargeable) batteries		US mail package from EBay internet vendor containing the batteries was transported on a passenger flight from LAX to Sydney and caught fire at the Sydney Mail Gateway Facility.	<p>Shipper did not comply with dangerous goods regulations and failed to pack batteries in such a way to prevent short circuits.</p> <p>PRBA, with the assistance of numerous battery and electronic trade associations, has developed materials for distribution internationally that explains the procedures for complying with the regulations including packaging batteries to prevent short circuits.</p>

DATE	TYPE OF BATTERY	DEVICE (if applicable)	INCIDENT SUMMARY	OBSERVATIONS/COMMENTS
10-Feb-2007	<p>Energizer lithium metal 9-volt, Energizer lithium metal AA, and IDX NP-L50S lithium ion batteries were all present.</p> <p>One Energizer lithium metal 9-volt was destroyed in the fire and seems most likely to be source of the fire.</p>	Packed with professional audio/video equipment	<p>While still climbing after takeoff from JFK, smoke began pouring from an overhead bin in the passenger cabin. Passengers alerted the flight attendants who responded. A flight attendant opened the bin and saw thick black smoke and flames in the rear of the bin. As the plane returned to the airport for an emergency landing flight attendants were able to put out the fire, discharging two Halon fire extinguishers. Water was applied to some cloth embers that continued to burn after the Halon was used.</p> <p>Cockpit crew smelled some light smoke in the cockpit and donned O2 masks for approx. 20 seconds until the smoke dissipated.</p> <p>Source of fire, bag with audio-video equip was secured in a lavatory. Aircraft landed and taxied to the gate. One passenger complained of chest pains and needed assistance in exiting the aircraft.</p> <p>The fire apparently was caused by loose batteries that were packed in a bag with other audio-video equipment.</p>	<p>Passenger failed to comply with lithium battery carry-on provisions in Part 8.1.1.2(q) of the ICAO Technical Instructions and did not properly protect batteries from short circuits.</p> <p>PRBA is working with government agencies and industry organizations to develop and distribute information to passengers on the proper care and handling of batteries carried aboard aircraft.</p> <p>PRBA also has met with industry trade organizations representing audio/video rental industry to educate their members on issues associated with batteries in transport.</p>
15-Dec-2006	One Lithium metal CR123A (probable)	“Fresh Air Buddy” personal air filter	<p>On a Houston-Portland passenger flight, a personal air filter, being worn on a strap around a passenger’s neck, started a fire in the cabin. The device started making hissing sounds and then emitted bright sparks/flash and a clap/bang sound. The passenger removed the device and it fell between two seat cushions where it continued to burn and smoke. Passengers dumped water on the device and then flight attendants put out the fire with a Halon fire extinguisher. The aircraft diverted to Colorado Springs. The passenger wearing the device suffered a superficial burn to his chest. Dozens of passengers were examined by EMT personnel, mainly for complaints related to inhalation of smoke and/or Halon fumes. Five or six passengers were taken to the hospital. The two fire-resistant aircraft seat cushions were replaced due to having holes burned in them.</p>	<p>Product was subject to recall. Product was equipped with rechargeable lithium ion battery and non-rechargeable lithium metal battery of the same size. When non-rechargeable batteries are inadvertently charged by consumers, they have the potential to create a hazard.</p>

DATE	TYPE OF BATTERY	DEVICE (if applicable)	INCIDENT SUMMARY	OBSERVATIONS/COMMENTS
14-Dec-2006	Counterfeit CR123A, lithium metal	Flashlight "Superfire WF-501B"	During a UPS cargo flight from Sydney, Australia to Guangzhou, China, at 38,000 ft., the crew heard a loud bang. A crewmember found that his flashlight in a bag next to his seat was warm and had a strong odor coming from it. The flashlight was opened and there was soot/residue from burning. One of the two batteries (now determined to be counterfeit) was damaged. Earlier the crewmember had dropped the flashlight about 6 inches into his bag and heard a thump.	As previously noted, there have been a number of recent reports pertaining to counterfeit CR123 lithium metal batteries. This incident appears to be the result of a counterfeit battery. PRBA and its members are working with various U.S. government agencies to raise awareness with consumers, government agencies, and battery and electronics trade associations regarding counterfeit batteries.
11-Nov-2006	Lithium ion cell phone batteries		After being shipped by air from China to the US, some batteries were selected for inspection by US Customs. While on the desk of an import specialist, the battery started emitting sparking flames and smoke.	This "incident" did not occur during transport and it is unclear what occurred prior to the battery being placed on the desk of the import specialist. Therefore, PRBA believes this "incident" should be removed from the list until additional information can be provided.
15-Sep-2006	Lithium-ion laptop battery	IBM Laptop computer	Approximately 15 minutes prior to departure of a LAX-LHR transatlantic flight, the laptop computer of a passenger began to smoke. The relief pilot and purser assisted the passenger in removing the laptop from the airplane. The laptop was placed on the floor of the gate area where it continued to smoke from the battery pack area and a small flame appeared. A customer service representative discharged a fire extinguisher on the fire. The battery pack continued to smoke for an additional couple minutes with white smoke and a strong odor. The Fire Department responded and discarded the burnt battery pack. The passenger stated the laptop was an IBM that belonged to his company and had been in his possession the entire time, having original parts and never having been serviced. The passenger was reportedly not using aircraft power to operate the computer. The airplane remained in service and departed on time without the incident passenger.	No failure analysis was performed on the battery. Battery may have been subject to recall, damaged or a counterfeit. Several industry standard organizations (i.e., IEEE, IEC, and UL) have taken steps to amend standards that apply to lithium ion cells, batteries, and notebook computers that include improved design and testing procedures.

DATE	TYPE OF BATTERY	DEVICE (if applicable)	INCIDENT SUMMARY	OBSERVATIONS/COMMENTS
17-Jul-2006	EaglePicher -Kokam Lithium ion/polymer (used for remote control models), 122 batteries of various sizes		The unlabeled/marked package was discovered to have caught fire while being held in bond for customs clearance in Korea. Package had traveled to Korea in FedEx system from Vienna via Paris and Subic Bay.	<p>Shipper did not comply with dangerous goods regulations and failed to pack batteries in such a way to prevent short circuits, mark outer package, or provide shipping document pursuant to special provision A45.</p> <p>PRBA, with the assistance of numerous battery and electronic trade associations, has developed materials for distribution internationally that explains the procedures for complying with the regulations including packaging batteries to prevent short circuits.</p>
02-June-2006	Lithium ion / polymer, 7.4-volt; 10000 mAh		An Air China passenger flight from Guangzhou to Chengdu diverted takeoff due to a lithium battery fire in the cargo hold. While taxiing for departure the fire alarm for the lower deck cargo compartment activated. The Captain immediately released the fire extinguisher and the aircraft stopped taxiing. Passengers were evacuated. A burnt package containing lithium polymer batteries was discovered in the cargo hold up against the ceiling of the compartment on top of the other packages. Burn marks were visible on the ceiling. Shipment was declared as electric parts; there was no indication of lithium batteries or Dangerous Goods. No UN test report was available for the batteries. Eleven other boxes were in the shipment.	<p>Shipper did not comply with dangerous goods regulations and failed to pack batteries in such a way to prevent short circuits.</p> <p>PRBA, with the assistance of numerous battery and electronic trade associations, has developed materials for distribution internationally that explains the procedures for complying with the regulations including packaging batteries to prevent short circuits.</p>

DATE	TYPE OF BATTERY	DEVICE (if applicable)	INCIDENT SUMMARY	OBSERVATIONS/COMMENTS
15-May-2006	Lithium-ion (VGP-BPL2/VGP-BPS2 or equivalent)	Laptop with spare battery	<p>Shortly before flight departure, a burning smell was detected in the first-class cabin of a Lufthansa ORD-MUC flight.</p> <p>Maintenance personnel were called to check and found it was coming from hand luggage inside an overhead luggage bin above seat 2A. The flight attendants evacuated the passengers in first class and first 2 rows of coach class. Crew used extinguishers to prevent setting off what was seen as the beginning of a slow fire. Maintenance immediately brought the bag outside the aircraft onto the ramp where it started to catch fire. Fire dept was called to assist. Fire was eventually put out after reigniting once. Fire apparently started from the extra battery pack for a laptop which was purchased on eBay. Flight departed 1 hour 18 minutes late.</p>	<p>Passenger failed to comply with lithium battery carry-on provisions in Part 8.1.1.2(q) of the ICAO Technical Instructions and did not properly protect batteries from short circuits.</p> <p>PRBA is working with government agencies and industry organizations to develop and distribute information to passengers on the proper care and handling of batteries carried aboard aircraft.</p>
03-Mar-2006	Lithium ion button cells, mfr. by Lixing		US-bound package was noticed to be smoking at outbound FedEx station in Shenzhen, China. Upon inspection, the package of lithium ion batteries was discovered to be on fire.	<p>Shipper did not comply with dangerous goods regulations and failed to pack batteries in such a way to prevent short circuits.</p> <p>PRBA, with the assistance of numerous battery and electronic trade associations, has developed materials for distribution internationally that explains the procedures for complying with the regulations including packaging batteries to prevent short circuits.</p>

DATE	TYPE OF BATTERY	DEVICE (if applicable)	INCIDENT SUMMARY	OBSERVATIONS/COMMENTS
29-Jun-2005	Lithium Ion	Battery-pack	At UPS in Ontario, Calif., during unloading of a ULD from Shanghai, it was discovered that a fire had taken place inside the ULD. A package containing a lithium-ion battery pack was identified as the source of the fire. Upon discovery, the burnt package and its contents were cool to the touch and there was no smoldering evident.	<p>Shipper did not comply with dangerous goods regulations and failed to pack batteries in such a way to prevent short circuits and did not declare it as a dangerous good. (Battery exceeded limitation of Special Provision A45 exception.)</p> <p>PRBA, with the assistance of numerous battery and electronic trade associations, has developed materials for distribution internationally that explains the procedures for complying with the regulations including packaging batteries to prevent short circuits.</p>
11-Feb-2005	Lithium battery, solid cathode, manufactured by Eagle Picher of Surrey, BC, Canada.	None	An undeclared package containing 18 lithium batteries caught fire while being unloaded from a conveyor belt at the FedEx facility in White Bear Lake, MN. FedEx cargo handlers report hearing a “pop” sound and then seeing the box “lifted” off the conveyor belt by the force. The shipment had flown from Los Angeles to Minneapolis and was to be trucked to Clear Lake, WI. Only one battery caught fire.	<p>Shipper did not comply with dangerous goods regulations and failed to pack batteries in such a way to prevent short circuits.</p> <p>PRBA, with the assistance of numerous battery and electronic trade associations, has developed materials for distribution internationally that explains the procedures for complying with the regulations including packaging batteries to prevent short circuits.</p>
29-Oct-2004	Ultralife 9-volt lithium (traditional 9-volt form: rectangular with two terminals on top)	Camera equipment	Shortly after departure, the battery exploded in the hand of a cameraman traveling on the VP campaign plane of Sen. Edwards (the cameraman reportedly was in the process of changing batteries). It spewed shrapnel and ignited a fire in the seat which was extinguished by flight attendants and others. The flight crew declared an emergency and returned to Raleigh-Durham airport without further incident.	<p>Batteries do not “spew shrapnel.” This incident apparently was caused by an external short circuit when battery came in contact with another metal object. Incident highlights the need to better educate consumers and passengers on the safe handling of batteries, especially while aboard aircraft.</p> <p>PRBA is working with government agencies and industry organizations to develop and distribute information to passengers on the proper care and handling of batteries carried aboard aircraft.</p>

DATE	TYPE OF BATTERY	DEVICE (if applicable)	INCIDENT SUMMARY	OBSERVATIONS/COMMENTS
07-Aug-2004	Lithium-ion	Lithium-ion batteries assembled together in a plastic case	Prototype lithium batteries shipped under a competent authority approval from California to Europe apparently started a fire in a ULD during the loading process at the FedEx Memphis hub. The ULD had just been loaded for a transatlantic flight (Memphis-Paris). The ULD and many other packages in it were damaged/destroyed by fire. Shipment apparently was in violation of the DOT approval allowing the prototype battery to be shipped.	<p>Shipper did not comply with dangerous goods regulations and failed to pack batteries in such a way to prevent short circuits.</p> <p>PRBA, with the assistance of numerous battery and electronic trade associations, has developed materials for distribution internationally that explains the procedures for complying with the regulations including packaging batteries to prevent short circuits.</p>
01-Apr-2004	CR123 lithium batteries	Flashlight	A flight attendant lent a passenger a flashlight which was recently purchased in Beijing. The passenger dropped the flashlight while it was on. Later the passenger put the flashlight in a seatback pocket. A few minutes later, the flashlight began to emit smoke and noxious fumes. The flashlight became so hot it could only be handled with oven mitts.	<p>As previously noted, there have been a number of recent reports pertaining to counterfeit CR123 lithium metal batteries.</p> <p>This incident appears to be the result of a counterfeit battery. PRBA and its members are working with various U.S. government agencies to raise awareness with consumers, government agencies, and battery and electronics trade associations regarding counterfeit batteries.</p>
12-Aug-2002	Lithium battery (excepted)	Samsung mini computer (palm pilot)	Burning odor detected by handlers at the Los Angeles FedEx inbound package sort center. Battery apparently short-circuited causing the bubble wrap in the package to burn and melt onto the unit.	<p>Shipper did not comply with dangerous goods regulations and failed to pack batteries in such a way to prevent short circuits.</p> <p>PRBA, with the assistance of numerous battery and electronic trade associations, has developed materials for distribution internationally that explains the procedures for complying with the regulations including packaging batteries to prevent short circuits.</p>

DATE	TYPE OF BATTERY	DEVICE (if applicable)	INCIDENT SUMMARY	OBSERVATIONS/COMMENTS
12-Apr-2002	Lithium batteries	None	Lithium batteries shipped under exception by Abbott Labs did not have terminals protected from short circuit. Started fire inside package at FedEx Indy sort facility.	<p>Shipper did not comply with dangerous goods regulations and failed to pack batteries in such a way to prevent short circuits.</p> <p>PRBA, with the assistance of numerous battery and electronic trade associations, has developed materials for distribution internationally that explains the procedures for complying with the regulations including packaging batteries to prevent short circuits.</p>
5-Mar-2002	Lithium batteries	None	A package containing lithium batteries transported in a delivery truck was damaged by other freight. The damaged batteries initiated a fire.	Information is insufficient to determine whether shipper fully complied with the dangerous goods regulations or incident was the result of mishandling by carrier.
03-Nov-2000	Hawker lithium sulphur dioxide batteries	None	While in route by road to the FedEx Cargo facility in Portland, OR, a lithium battery shorted and ruptured, burning its packaging. The shorted battery had long flexible protruding positive and negative terminals. Two FedEx drivers were treated at a hospital after inhaling fumes from the incident.	<p>Shipper did not comply with dangerous goods regulations and failed to pack batteries in such a way to prevent short circuits.</p> <p>PRBA, with the assistance of numerous battery and electronic trade associations, has developed materials for distribution internationally that explains the procedures for complying with the regulations including packaging batteries to prevent short circuits.</p>