DGP/24-IP/3
28/10/13

DANGEROUS GOODS PANEL (DGP)

TWENTY-FOURTH MEETING

Montréal, 28 October to 8 November 2013

Agenda Item 5: Resolution, where possible, of the non-recurrent work items identified by the Air Navigation Commission or the panel:
5.1: Review of provisions for the transport of lithium batteries

LITHIUM METAL BATTERIES

(Presented by NEMA, PRBA, EPBA, RECHARGE,
AdvaMed, ITI, TechAmerica, TIA[1])

SUMMARY

This paper responds to DGP/24-WP/9 and provides information for the panel from industry associations representing manufacturers of lithium metal cells and batteries and manufacturers of equipment powered by lithium metal cells and batteries.

1. INTRODUCTION

1.1 The Secretary's proposal (DGP/24-WP/9) to ban lithium metal cells and batteries as cargo from passenger and cargo aircraft places an inordinate and unjustified burden on lithium metal battery manufacturers and shippers of these batteries who have taken all of the necessary steps to fully comply with the ever-changing lithium battery provisions in the Technical Instructions. DGP/24-WP/9 also fails to address two key safety issues – counterfeit battery manufacturers and non-compliant shippers – and comes before governments and shippers have fully implemented the panel's 2012 changes to the lithium battery packing instructions.

[1] National Electrical Manufacturers Association (NEMA); PRBA - The Rechargeable Battery Association; European Portable Battery Association (EPBA); RECHARGE, The European Association for Advanced Rechargeable Batteries; Advanced Medical Technology Association (AdvaMed); Information Technology Industry Council (ITI); TechAmerica; Telecommunications Industry Association (TIA).

2. INCREASING THE BURDEN ON COMPLIANT SHIPPERS

2.1 Despite a proven history of safety and the February 2012 agreement of the panel at the Working Group of the Whole on Lithium Batteries to adopt more rigorous lithium battery shipping requirements, proposals to forbid lithium metal batteries as cargo on passenger and cargo aircraft disregard the need identified by the panel for more enforcement to address non-compliant and counterfeit lithium metal battery shipments. Banning shipments that conform to the 2013 Technical Instructions would not solve the problem of non-compliance and would have overwhelmingly disruptive and unjustified implications for multiple industries and constituencies where lithium metal batteries are used in critical applications across key industries and segments of society, including but not limited to consumer and enterprise information and communications technology, public health and safety, and military, among others.

3. LITHIUM METAL BATTERY APPLICATIONS

3.1 Lithium metal batteries are used in a wide range of life-saving medical devices where they serve as the only power source. These include, but are not limited to, pacemakers, implantable cardioverter/defibrillators (ICDs), automatic external defibrillators (AEDs) and blood glucose meters. In others medical devices they serve as backup power sources when main power is unavailable.

3.2 Members of our industry organizations have over 1 million life-saving AEDs operating globally in hospitals, schools, stadia, airports, government buildings and on passenger and cargo aircraft. In order to service these AEDs, our members ship replacement batteries by air to locations all over the world. In many cases, these are shipped overnight for next-day delivery. Our members have shipped over 100,000 replacement batteries for AEDs by air this year. The AED batteries weigh approximately one 0.5 kg, contain between 5 and 8 grams of lithium metal and are shipped in accordance with Packing Instruction 968, Section IA of the Technical Instructions. The sizes of the shipments vary. In some cases, there are only two or three batteries in a shipment but others include as many as 100 units. Because the AED manufacturers rely heavily on air transport to get batteries to customers quickly, DGP/24-WP/9 would not only have a negative impact on AED manufacturers but it also would put lives at risk.

3.3 Life-saving implantable medical devices like “pacemaker and ICD pulse generators” also utilize lithium metal batteries. These devices implanted in the body contain very small lithium metal cells and sophisticated circuitry that transforms energy from the lithium metal cell into small electrical impulses, which are delivered to the heart. The cell used in a pulse generator typically contains well below one gram of lithium metal. Like AED manufacturers, the manufacturers of pulse generators rely heavily on air transport to ship lithium metal cells.

3.4 In addition to the cell and battery testing required by the UN Manual of Tests and Criteria, medical devices and cells and batteries used to power them undergo extensive testing, validation to internationally recognized standards (including IEC 60601-1 and related 60601), and clinical studies that culminate in the review and clearance/approval by national regulators. In the United States, these devices are subject to the Quality System Regulation (QSR) of the Food and Drug Administration (FDA), which includes requirements for how these devices must be designed and tested, component specifications, component qualifications and vendor qualification. AEDs and pulse generators are only two examples of the life-saving medical devices powered by lithium metal cells and batteries.

3.5 Lithium metal batteries manufactured to industry and military standards also are used for almost all of the critical apparatus in military operations: communication radios, rescue radios and devices, Global Positioning Systems (GPS), chemical detection, respirators, night vision, thermal weapon sights, missile launchers, remote detection/communication sensing, submarine detection/tracking, mine seeking and destruction, drones, etc. Essentially all applications for the military are mission-critical to the survivability of the soldier. Therefore, the member companies of our organizations require the ability to ship lithium metal batteries by air to meet the mission-critical needs of military forces.

3.6 In addition to medical and military applications, lithium metal batteries are used in other electronics, information technology, communications, public safety, and industrial applications and are often shipped by air to meet customer needs. For example, just one of our member companies ships 30-40 packages of lithium metal batteries by air internationally to medical, military and industrial customers each day. Across multiple companies, there are hundreds of air shipments of lithium metal batteries per day to various customers around the world. In addition to timeliness and distance, geography becomes a major factor in cases where the final destination of the cargo is in a remote or otherwise inaccessible area that cannot be reached by means other than aircraft.

4. CONCLUSION

4.1 The lithium metal battery industry has an outstanding safety record. Our members have safety manufactured and shipped billions of lithium metal cells and batteries and millions of devices powered by them over the last 30 years. The proposal in DGP/24-WP/9 to ban lithium metal cells and batteries from cargo on passenger and cargo aircraft would penalize our members who safely ship in full compliance with the Technical Instructions but would do nothing to address counterfeit battery manufacturers or non-compliant shippers. In addition, to ban lithium metal cells and batteries from air cargo would have a devastating impact on the medical industry, patients who rely on these batteries for life-saving medical devices and the military.

4.2 It is fewer than two years since the panel, in a special working group session devoted to lithium batteries, agreed to more stringent lithium battery shipping requirements to address perceived risks of bulk shipments of cells and batteries in air transport. In 2012, a clear majority of the panel found that the new provisions would adequately address these perceived risks. It would be counterproductive for the panel to once again change the lithium battery provisions before the 2013 Technical Instructions have been implemented fully in all member states and their effect has been fully felt.

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