



WORKING PAPER

**DANGEROUS GOODS PANEL (DGP)
WORKING GROUP LB**

FIRST MEETING

Montréal, 6 to 10 February 2012

Agenda Item 1: Carry-over work from DGP/23

TRANSPORT OF LITHIUM BATTERIES

(Presented by Global Express Association (GEA))

SUMMARY

This working paper offers comments on the transport of lithium batteries by air.

Action by the DGP-WG/LB: The DGP-WG/LB is invited to consider the following:

- a) We urge that, should additional regulation be deemed necessary, that it be limited to lithium battery shipments shipped on their own when shipped in bulk. Should this be agreed, it may then require the development of a revised handling label for lithium batteries shipped on their own so that they can be readily identified by operators.
- b) We also request that careful consideration should be given to balancing additional operator requirements (particularly in the express package industry) against possible reductions in allowable excepted Section II package quantities.
- c) We recommend that increased lithium battery enforcement and inspection programmes be carried out by States. Also that suitable penalty actions be very strongly encouraged for non-compliant shippers.

1. INTRODUCTION

1.1 The Global Express Association (GEA) is the global trade association of the express delivery industry. The GEA represents the major international express delivery companies (DHL, FedEx,

TNT, and UPS), and works in close cooperation with national and regional express delivery associations. Express delivery companies provide highly reliable door-to-door transport of shipments and deliver them either the next day or on a time-definite basis (typically between 2 and 3 days). In addition, traditional cargo services are also offered. Additional information on the GEA can be found here: www.global-express.org/.

2. DISCUSSION

2.1 The safety of lithium batteries in transportation is of utmost importance to the GEA, and our members have considerable experience with the air carriage of large quantities of lithium battery shipments under provisions of the Technical Instructions. In our global air networks, GEA members transport significant numbers of shipments that contain both fully regulated and excepted lithium batteries (in compliance with Section I and Section II of the relevant packing instructions). A large subset of these shipments involve critical medical devices and consumer electronics, such as the following:

- a) medical devices (e.g. IV infusion pumps, heart monitors, EKG monitors, heart pacemakers, defibrillators, etc.);
- b) critical aircraft equipment (e.g. underwater locator beacons, digital flight units, smoke detectors, etc.);
- c) cell phones, PDAs and smart phones;
- d) personal entertainment devices (e.g. MP3 players, etc.);
- e) laptop computers; and
- f) digital cameras.

2.2 Manufacturers of these products often use door-to-door express air service offerings because of the time-critical nature of the devices, e.g. life-saving devices that must be distributed quickly to health-care providers or high-tech products, such as laptops, cell phones, and PDAs, that require rapid distribution in order to avoid business disruption or to satisfy consumer demand for state-of-the-art technology. For instance, manufacturers of medical devices powered by lithium batteries have said that they rely almost exclusively on air carriage because express distribution is critical to providing the medically-appropriate device for a given patient as soon as possible. Speed to market is also very important for high tech products because the fast obsolescence of technology drives the need for rapid distribution. Information available suggests that a newly-developed high-tech device can depreciate in value at a rate of five percent (5%) or more per month. In both cases, in other words, there are product characteristics that make air service the appropriate mode for bringing lithium-battery powered products to market or to an end user.

2.3 High demand for devices containing lithium batteries drives extremely high volumes of such shipments. However, because most shipments of lithium batteries or devices shipped with such batteries are currently excepted from full regulation, it is difficult to precisely calculate at this time the total number of excepted lithium battery shipments currently carried in our networks. In addition, because of the same exceptions, we cannot readily identify the number of lithium battery shipments made on their own. Nevertheless, in 2010, in an attempt to provide some context, one GEA member has reviewed the shipping activity of just seven of its 1.8 million customers, some of which use both small package and air

cargo services. Even this cursory review revealed annual volumes in the small package express system easily exceeding 40 million shipments containing excepted lithium batteries with equipment. Daily air shipments of lithium batteries just from these seven shippers would therefore be over 156,000 packages. Specifics for these shippers include:

- a) One medical device shipper that sent over 750,000 annual shipments of lithium batteries incorporated in critical life-sustaining devices. This annual volume for a single customer equates to approximately 3,000 daily shipments.
- b) A shipper of camera equipment powered by (and shipped with) lithium batteries used air services to deliver 7.9 million shipments in a year, averaging over 33,000 shipments per day.
- c) Shippers of cell phones use express air services for millions of packages each year. For example, three well-known cell phone companies used one of our members for a combined total of at least 16 million express small package air shipments each year, or 63,700 daily shipments.
- d) A major laptop supplier used express air services to transport 14.6 million laptops each year in the express small package system. This annual volume equates to approximately 58,000 laptops each day, in a combination of small package and air freight services.

2.4 Recent discussions of the Dangerous Goods Panel (DGP) have increasingly focused on the provisions for Section II excepted lithium batteries. In particular, there have been proposals to provide an aircraft pilot-in-command with full details of excepted lithium batteries loaded on to an aircraft, in a similar way to current provisions for fully regulated dangerous goods, including information on aircraft loading positions. Providing such information in the express delivery environment would be very difficult given the sheer volume of excepted lithium battery shipments. An alternative proposal which was discussed was to reduce excepted package sizes for lithium ion or metal batteries shipped on their own, in the expectation that “bulk” shipments would not then comply with exceptions and then become fully regulated as dangerous goods, in turn requiring full operator acceptance and the provision of information to the pilot in command. Since it would appear from discussions that excepted lithium ion and metal batteries shipped on their own are the main cause for concern, we would hope that it is only excepted batteries shipped on their own which would be considered for additional regulation, should it be deemed necessary.

2.5 Notwithstanding GEA members’ commercial stake in the outcome of DGP discussions, the GEA’s primary concern is related to the ability to transport lithium battery shipments safely. As further discussed below, the GEA supports regulatory changes that increase safety for their employees, customers, and the general public. However, the GEA believes that regulatory requirements should be closely tied to the root cause of any safety concerns, with an eye toward limiting unnecessary burdens on air operations and commerce. GEA members have experienced some incidents involving packages of lithium batteries that overheated or were involved in fires, and have individually analyzed each event. Importantly, we are aware of no instances in which the batteries responsible for these incidents were offered in compliance with the applicable regulations in effect at the time of shipment. Defects ranged from poorly designed or assembled batteries that allowed internal short circuits or other faults, to unsafe packaging, to flaws in equipment containing lithium batteries. However, when non-compliance with existing regulations is the reason for lithium battery incidents, we submit that increased regulation of such

batteries is not the answer, rather that increased enforcement and penalty action on behalf of the competent authorities would be more effective in increasing safety in transportation.

2.6 Information to the Pilot-In-Command

2.6.1 As mentioned above, at DGP/23 it was suggested that an aircraft pilot-in-command be given information on excepted lithium batteries and their position when loaded on an aircraft. Some aircraft operators in the “main-line” air cargo area have indicated that they are already doing this. It is, however, extremely important to understand that there is a massive difference between shipping a few pallets or unit load device consignments of excepted lithium batteries when compared to shipping thousands of individual consignments on an aircraft. Requiring that all such packages be shown on the information to the pilot-in-command will be extremely difficult and will require significant investments in personnel, training, equipment, system programming and revised procedures — all for a product which the DGP has on several occasions previously confirmed does not require additional special handling or operator action, other than as currently shown in the applicable packing instructions.

2.6.2 It is also important to understand that GEA members do not offer fully regulated dangerous goods services to all parts of the world. Currently, in many cases, excepted lithium battery shipments are accepted to these destinations. Should information to the pilot-in-command be required for excepted lithium battery shipments, it will again require investments in personnel, training, equipment, and revised procedures.

3. CONCLUSION

3.1 We urge that, should additional regulation be deemed necessary, that it be limited to lithium battery shipments shipped on their own when shipped in bulk (the number of batteries that are considered “bulk” would need a carefully considered definition). Should this be agreed, it may then require the development of a revised handling label for lithium batteries shipped on their own so that they can be readily identified.

3.2 We also request that careful consideration should be given to balancing additional operator requirements (particularly in the express package industry) against possible reductions in allowable Section II excepted package quantities. It has been asked, why should compliant shippers be penalised because of the actions of non-compliant shippers? Similarly, why should operators be similarly penalised for the actions of non-compliant shippers?

3.3 We recommend that increased lithium battery enforcement and inspection programmes be carried out by States. Also that suitable penalty actions be very strongly encouraged for non-compliant shippers.

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