



NOTE DE TRAVAIL

GROUPE D'EXPERTS SUR LES MARCHANDISES DANGEREUSES (DGP)

VINGT-SEPTIÈME RÉUNION

Montréal, 16 – 20 septembre 2019

- Point 2 : Gestion des risques de sécurité propres au transport aérien et détection des anomalies**
2.2 : Élaboration, s'il y a lieu, de propositions d'amendement des *Instructions techniques pour la sécurité du transport aérien des marchandises dangereuses* (Doc 9284) à introduire dans l'édition de 2021-2022

TRANSPORT DE BATTERIES AU LITHIUM À BORD D'AÉRONEFS DE PASSAGERS

(Note présentée par T. Muller)

RÉSUMÉ

La présente note de travail propose d'autoriser, en l'absence d'un vol tout cargo, le transport d'une expédition contenant au maximum deux colis de batteries au lithium pour les équipements médicaux à bord d'un aéronef de passagers, avec l'approbation de l'exploitant.

Le Groupe DGP est invité à examiner et à adopter la nouvelle disposition particulière proposée affectée aux n^{os} ONU 3090 et 3480, tel qu'indiqué dans l'Appendice A à la présente note de travail.

1. INTRODUCTION

1.1 Since the introduction of the embargo on lithium batteries on passenger aircraft we have several times been approached by medical companies or intervention teams such as Médecins Sans Frontières (Doctors without Borders), seeking advice on how to transport spare lithium batteries, urgently needed, to destinations where cargo aircraft are unavailable. To overcome the restrictions, occasionally staff members travelled with the spare batteries in hand luggage to the final destination or the spare batteries were sent together with the piece of equipment, although the equipment was not needed, to make transport as cargo possible on board a passenger aircraft. Although this may have solved some problems, in most of the cases this is a very impractical and unaffordable solution to ensure required health care for a patient. This is explained in the following example:

* Seuls le résumé et l'appendice sont traduits.

Recently a big medical company needed to urgently ship four spare lithium ion batteries used to power the HeartMate Left Ventricular Assist Device (LVAD). The device is intended for certain advanced heart failure patients and will improve long-term survival, functional status and quality of life. In Appendix B you will find some pictures of the device. The device is powered by four lithium-ion batteries which are worn by the patient externally on their back. In case of failure of one of the batteries, they need urgently to be replaced. Shipping the whole device again is impossible as the device costs several thousands of Euros. These batteries are fully tested not only in accordance with the UN *Manual of Tests and Criteria*, Part III, subsection 38.3 but also in accordance with all medical standards, and the lithium ion batteries will be shipped at 30% SOC in a package that is fully certified in accordance with transport and medical regulations and standards. Therefore, it is very hard to explain to a patient that the batteries cannot be delivered on time because they are not allowed to be transported on a passenger aircraft without going through the time-consuming procedures of obtaining approvals or exemptions.

1.2 We strongly believe that this is an undesirable situation. Therefore, we would like to invite the panel to discuss the possibility of allowing on a passenger flight, under well-established conditions and in case of medical urgency, a maximum of one shipment containing one (or two) package(s) lithium batteries **with the prior approval of the operator**. Currently, under the passenger provisions, the operator is already allowed to approve the carriage of lithium ion batteries up to 160 Wh and for lithium batteries for medical devices up to 8 g lithium. Some may argue that these batteries are transported in cabin which is true but, on the other hand, besides the fact that the batteries must be protected to prevent short circuits, no other mitigating measures are required. Moreover, an operator must also approve the transport of battery-powered mobility aids which can be transported in the hold with the battery installed, in which case no watt hour limitation applies.

1.3 Recognizing that the goal of the Technical Instructions is to provide adequate instructions for the safe transport of dangerous goods but also to facilitate the transport of dangerous in instances of urgency provided an overall level of safety can be achieved, this working paper proposes a new special provision to allow a well-defined number of packages and batteries on a passenger flight with the prior approval of the operator under the following well-established conditions:

- a) maximum of one [two] packages per flight containing maximum four Lithium batteries;
- b) for Lithium ion batteries, the watt hour rating may not exceed 160 Wh;
- c) for Lithium metal batteries the lithium content may not exceed 8 g;
- d) lithium ion batteries must be at maximum 30 % state of charge;
- e) compliance with the UN *Manual of Tests and Criteria*, Part III, subsection 38.3 must be proven by means of the lithium battery summary test report;
- f) lithium ion batteries must be packed in accordance with Section IA of Packing Instruction 965 and lithium metal batteries must be packed in accordance with Section IA of Packing Instruction 968.

1.4 In addition, Part 7;1.7 requires the operator to conduct a safety risk assessment which should include appropriate additional information (e.g. origin of the shipment, reliability of the company,

additional safety considerations during loading etc.) to ensure the safe transport of lithium batteries as cargo.

1.5 Before submitting this proposal to the panel, we have taken the opportunity during the last Dangerous Goods European Liaison Group in June, a forum where European CAA's and operators have the possibility to discuss topics of common interest, to discuss the feasibility of the submission of an official working group concerning this topic to the panel and to seek the advice from the participants. The positive outcome from regulators as well as from operators has contributed to this working paper.

2. **ACTION BY THE DGP**

2.1 The DGP is invited to discuss and adopt the proposal for a new special provision against UN 3090 and UN 3480 as shown in Appendix A to this working paper.

APPENDICE A

PROPOSITION D'AMENDEMENT DES INSTRUCTIONS TECHNIQUES, PARTIE 3

Partie 3

LISTE DES MARCHANDISES DANGEREUSES,
DISPOSITIONS PARTICULIÈRES ET
QUANTITÉS LIMITÉES ET EXEMPTÉES

(...)

Chapitre 3

DISPOSITIONS PARTICULIÈRES

(...)

Tableau 3-2. Dispositions particulières

<i>IT</i>	<i>ONU</i>
AXXX	<p>Au cas où aucun vol tout cargo n'est disponible, une expédition contenant au plus un [deux] colis de batteries au lithium pour dispositifs médicaux peut être transportée à bord d'un aéronef de passagers, à condition d'obtenir préalablement l'approbation de l'exploitant ou respecter les conditions ci-après :</p> <ul style="list-style-type: none">a) l'expéditeur fournit à l'exploitant un exemplaire de la synthèse du compte rendu d'épreuve prévu à la Partie 2; § 9.3, alinéa g) ;b) le[s] colis[s] ne contient[nent] pas plus de quatre piles au lithium ;c) pour les piles au lithium ionique :<ul style="list-style-type: none">— l'énergie nominale en wattheures de chaque pile ne dépasse 160 wattheures ;— les piles sont emballées conformément la Section IA de l'Instruction d'emballage 965 ;d) pour les piles au lithium métal :<ul style="list-style-type: none">— le contenu de lithium de chaque pile ne dépasse pas 8 g ;— les piles sont emballées conformément à la Section IA de l'instruction d'emballage 968 ;e) le renvoi à la disposition particulière xx :<ul style="list-style-type: none">i) fait partie du document de transport de marchandises dangereuses ;ii) est marqué sur le colis à côté de la désignation officielle ;f) Une copie du document d'approbation de l'exploitant est jointe au colis.]

(...)

APPENDICE B

DISPOSITIF D'ASSISTANCE VENTRICULAIRE GAUCHE [DAVG] HeartMate

