



危险物品专家组 (DGP)

第二十七次会议

2019年9月16日至20日，蒙特利尔

议程项目 2: 管理航空特有的安全风险和查明异常情况

2.2: 如有必要，拟定对《危险物品安全航空运输技术细则》(Doc 9284号文件)的修订提案，以便纳入2021年—2022年版

在客机上运输锂电池

(由 T. Muller提交)

摘要

本文件提议在没有全货机航班的情况下，经运营人批准，允许在客机上运载一个托运件，其中含有最多不超过两个用于医疗设备的锂电池包装件。

危险物品专家组的行动：请危险物品专家组讨论并通过针对 UN 3090 和 UN 3480 的一项新特殊规定的提案，如本工作文件的附录 A 所示。

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:

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

* 仅提供了摘要和附录的翻译。

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.

附录A

对《技术细则》第3部分的拟议修订

第3部分

危险物品表，特殊规定和限制数量与例外数量

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第3章

特殊规定

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表 3-2 特殊规定

本细则 UN

AXXX	<p>在没有货机的情况下，经运营人事先批准，在下列条件下，可以在客机上运载一个托运件，其中含有最多一[两]个用于医疗设备的锂电池包装件：</p> <ul style="list-style-type: none">a) 托运人必须向运营人提供第 2 部分 9.3 g) 规定的测试报告摘要的副本；b) 包装件中所含的电池不得超过四节；c) 对于锂离子电池：<ul style="list-style-type: none">— 每个电池的瓦时额定值不得超过 160 Wh；和— 电池必须按照包装说明 965 的 IA 节包装；d) 用于锂金属电池：<ul style="list-style-type: none">— 每个电池的锂含量不得超过 8 克；和— 电池必须按照包装说明 968 的 IA 节包装；e) 对特殊规定 xx 的参照必须：<ul style="list-style-type: none">i 包含在危险品运输单据中；和ii 标示在包装件上运输专用名称旁边；和[f) 运营人批准的副本必须随附托运物品。]
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APPENDIX B

HEARTMATE LEFT VENTRICULAR ASSIST DEVICE (LVAD)

