
Department of Civil Aviation, Malaysia

Flight Operations Directives

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CARRIAGE OF LITHIUM BATTERIES

1. Introduction

- 1.1 In exercise of the powers conferred by Regulation 67 of the Civil Aviation Regulations 1996, the Director General makes this Flight Operations Directives (“FOD”).
- 1.2 This FOD is published by the Director General under section 240 of Civil Aviation Act 1969 [Act 3].

2. Interpretation

In this FOD, unless the context otherwise requires—

“**aeroderome operator**” means a person who is licensed under the Civil Aviation Act 1969 to establishes, maintains or operates an aerodrome, or to provide services of airport security;

“**baggage**” means such articles, effects and other personal property of a passenger as are necessary or appropriate for wear, use, comfort or convenience in connection with the trip;

“**battery**” of “**batteries**” means two or more cells which are electrically connected together and fitted with devices necessary for use, for example, case, terminals, marking and protective devices;

“**cabin baggage**” means baggage to be transported under the custody of the passenger inside the cabin;

“**cells**” means a single encased electrochemical unit, one positive and one negative electrode which exhibits a voltage differential across its two terminals;

“**checked baggage**” means baggage of which operator takes sole custody and for which operator has issued a ticket; and

“**lithium batteries**” means lithium metal batteries and lithium-ion batteries;

“**lithium-ion batteries**” means a type of secondary battery commonly used in consumer electronics which are generally found in mobile telephones and laptop computers;

“**lithium metal batteries**” means batteries that have lithium metal or lithium compounds as an anode which are generally used to power devices such as watches, calculators, cameras and temperature data loggers;

“**portable electronic devices**” means devices which contains lithium batteries such as watches, calculating machines, cameras, cellular phones, laptop computers and camcorders;

“**portable medical electronic devices**” means devices which contains lithium batteries such as automated external defibrillators, nebulizer and continuous positive airway; and

“**operator**” means any person who has the management of the aircraft.

3. **Carriage of portable electronic devices and portable medical electronic devices**

No person shall carry portable electronic devices and portable medical electronic devices in the checked baggage, cabin baggage or carry into the cabin except—

- (a) carry—
 - (i) in relation to the portable electronic devices, for the purpose of personal use; or
 - (ii) in relation to the portable medical electronic devices, for the purpose of medical use;
- (b) lithium batteries of the portable electronic devices and of the portable medical electronic devices shall-
 - (i) in relation to the lithium metal batteries, not exceed a lithium content of 2 grams; or
 - (ii) in relation to the lithium-ion batteries, not exceed a watt-hour rating of 100 Wh; and

- (c) lithium batteries of the portable electronic devices and of the portable medical electronic devices shall be of a type which meets the requirements of each test in UN Manual of Test and Criteria, Part III sub-section 38.3.

4. Carriage of spare lithium batteries

4.1 No person shall carry spare lithium batteries of the portable electronic devices and of the portable medical electronic devices in the cabin baggage or carry into the cabin except—

- (a) carry the spare lithium batteries—
 - (i) in relation to the portable electronic devices, for the purpose of personal use; or
 - (ii) in relation to the portable medical electronic devices, for the purpose of medical use;
- (b) spare lithium batteries shall-
 - (i) in relation to the lithium metal batteries, not exceed a lithium content of 2 grams; or
 - (ii) in relation to the lithium-ion batteries, not exceed a watt-hour rating of 100 Wh;
- (c) spare lithium batteries shall be of a type which meets the requirements of each test in UN Manual of Test and Criteria, Part III sub-section 38.3; and
- (d) spare lithium batteries to be individually protected by placement in their original retail packaging or by insulating its terminals.

4.2 No person shall carry spare lithium batteries of the portable electronic devices and of the medical electronic devices in the checked baggage.

4.3 For the purpose of paragraph 4.1 (d), terminals may be insulated by taping over exposed terminal or placing each spare lithium batteries in separate plastic bag or protective pouch.

5. Carriage of portable electronic devices, portable medical electronic devices or spare lithium batteries beyond the capacity limitations

5.1 Notwithstanding paragraph 3(b) and subject to paragraph 5.4, no person shall carry portable electronic devices and portable medical electronic devices beyond the capacity limitations as specified in paragraph 3(b) in the checked baggage, cabin baggage or carry into the cabin except—

- (a) with the approval of the operator;

- (b) carry—
 - (i) in relation to the portable electronic devices, for the purpose of personal use; or
 - (ii) in relation to the portable medical electronic devices, for the purpose of medical use; and
- (c) lithium batteries of the portable electronic devices and of the portable medical electronic devices shall be of a type which meets the requirements of each test in UN Manual of Test and Criteria, Part III sub-section 38.3.

5.2 Notwithstanding paragraph 4.1(b) and subject to paragraph 5.4, no person shall carry spare lithium batteries beyond the capacity limitations as specified in paragraph 4.1(b) in the cabin baggage or carry into the cabin except—

- (a) with the approval of the operator;
- (b) carry the spare lithium batteries—
 - (i) in relation to the portable electronic devices, for the purpose of personal use; or
 - (ii) in relation to the portable medical electronic devices, for the purpose of medical use;
- (c) carry not more than two spare lithium batteries;
- (d) spare lithium batteries shall be of a type which meets the requirements of each test in UN Manual of Test and Criteria, Part III sub-section 38.3; and
- (e) spare lithium batteries to be individually protected in a manner as specified in paragraph 4.1(d).

5.3 No person shall carry spare lithium batteries beyond the capacity limitations as specified in paragraphs 4.1(b) in the checked baggage.

5.4 For the purpose of paragraphs 5.1(a) and 5.2(a), the operator may approve the carriage of portable electronic devices, portable medical electronic devices and spare lithium batteries—

- (a) in relation to the lithium metal batteries, a lithium content of not more than 8 grams; and
- (b) in relation to the lithium-ion batteries, a watt-hour rating of not more than 160Wh.

6. Obligations of the aerodrome operator and the operator

Aerodrome operator and operator shall ensure that—

- (a) no person shall carry spare lithium batteries in checked baggage;
- (b) no person shall carry portable electronic devices and portable medical electronic devices in the checked baggage, cabin baggage or carry into the cabin except as provided under paragraphs 3(a), (b) and (c);
- (c) no person shall carry spare lithium batteries of the portable electronic devices and of the portable medical electronic devices in the cabin baggage or carry into the cabin except as provided under paragraphs 4.1(a), (b), (c) and (d);
- (d) no person shall carry portable electronic devices and portable medical electronic devices beyond the capacity limitations as specified in paragraph 3(b) in the checked baggage, cabin baggage or carry into the cabin except as provided under paragraphs 5.1(a), (b) and (c); and
- (e) no person shall carry spare lithium batteries beyond the capacity limitations as specified in paragraph 4.1(b) in the cabin baggage or carry into the cabin except as provided under paragraphs 5.2(a), (b), (c), (d) and (e).

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