



香港特別行政區政府

民航處

Civil Aviation Department

The Government of the Hong Kong Special Administrative Region

Regulatory Update - Major Changes in the 2009-2010 Edition of the ICAO Technical Instructions

Background

The 2009-2010 edition of the International Civil Aviation Organization's Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284), upon which the Dangerous Goods (Consignment by Air) (Safety) Ordinance (CAP. 384) and Air Navigation (Dangerous Goods) Regulations (Schedule 16 to CAP. 448C) are based, will come into effect on 1 January 2009.

Abbreviations

Column 1 TI Ref.

- TI – Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284)
- TI S – Supplement to the TI
- ERG – Emergency Response Guidance for Aircraft Incidents Involving Dangerous Goods (Doc 9481)

Column 5-8 Concerned Parties

- O – Air operators and their handling agents
- F – Freight Forwarders
- S – Shippers
- A – AAHK & AVSECO

Disclaimer

The major changes below have been produced to facilitate the industry in the transition from the 2007-2008 edition TI and make advanced preparation for the new international requirements for the safe air transport of dangerous goods. **THE CHANGES BELOW ARE NOT EXHAUSTIVE.** For compliance with statutory requirements, it is the responsibility of the industries and the parties concerned to refer to the current edition of TI.

Acknowledgement


The authors wish to acknowledge assistance provided for developing this major changes to TI by the Dangerous Goods Office of UKCAA.

Prepared by



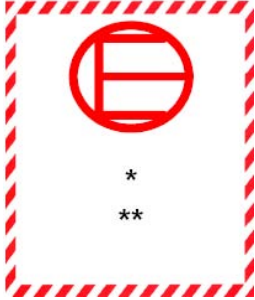

Dangerous Goods Office
Civil Aviation Department Hong Kong

Major changes to Technical Instructions with effect from 1 January 2009

	TI Ref.	Detail	Concerned Party			
			O	F	S	A
A) General						
1	Various	<p><u>Lithium batteries</u></p> <p>Major changes to lithium batteries as follows:-</p> <p>1. Cargo</p> <p>1.1 Lithium ion batteries</p> <p>1.1.1 Three new proper shipping names/UN numbers:-</p> <ul style="list-style-type: none"> • Lithium ion batteries (including Li-ion polymer batteries), UN3480 • Lithium ion batteries contained in equipment, (including Li-ion polymer batteries), UN3481 • Lithium ion batteries packed with equipment, (including Li-ion polymer batteries), UN3481 <p>1.1.2 Lithium ion batteries (<u>fully regulated</u> DG Cargo)</p> <ul style="list-style-type: none"> • No change. <p>1.1.3 Lithium ion batteries (<u>partially regulated</u> DG Cargo "A45")</p> <ul style="list-style-type: none"> • Amend "maximum lithium equivalent" to "watt/hour rating (Wh)" :- <ul style="list-style-type: none"> ➢ Cell upper limit - "1.5g" changed to "20Wh"; ➢ Battery upper limit - "8g" changed to "100Wh". • the maximum quantity per package is reduced from 30 kg gross to 10 kg gross; • all consignments must be accompanied with a document e.g. AWB to show :- <ul style="list-style-type: none"> ➢ Package contains lithium metal cells or batteries ➢ Handle package with care, flammable if damaged ➢ Special procedures ➢ Tel no. • All consignments must be marked/labelled and capable of withstanding a 1.2 m drop test; currently these requirements apply only to consignment of 24 cells or 12 batteries; <p>1.2 Lithium Metal batteries</p>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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	<p>1.2.1 Amend proper shipping names for UN3090 and UN3091 to :-</p> <ul style="list-style-type: none"> • Lithium metal batteries (including lithium alloy batteries), UN3090 • Lithium metal batteries contained in equipment, (including lithium alloy batteries), UN3091 • Lithium metal batteries packed with equipment, (including lithium alloy batteries), UN3091 <p>1.2.2 Lithium metal batteries (<u>fully regulated</u> DG Cargo)</p> <ul style="list-style-type: none"> • the maximum quantity per package on passenger aircraft is reduced from 5 kg to 2.5 kg; • a metal intermediate packaging will be required for packages to be carried on passenger aircraft; <p>1.2.3 Lithium metal batteries (<u>partially regulated</u> DG Cargo "A45")</p> <ul style="list-style-type: none"> • the maximum quantity per package is reduced from 30 kg to 2.5 kg; • Same as para. 1.1.3 3rd and 4th bullets <p>1.3 Lithium batteries packed with equipment</p> <p>The quantity per package for lithium batteries packed with equipment is reduced from 30 kg gross to the minimum number needed for the operation of the equipment plus 2 spares.</p> <p>1.4 New label</p> <p>Lithium batteries of any type, previously addressed under Special Provision A45, will be required to bear the following label:</p> 				

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		<p>2. Baggage</p> <p>2.1 Lithium ion batteries (small)</p> <ul style="list-style-type: none"> the 8 g maximum lithium equivalent per cell is replaced by a watt/hour rating of 100 Wh; Spares must be in carry-on bags. <p>2.2 Lithium ion batteries (large)</p> <ul style="list-style-type: none"> the 25 g maximum lithium equivalent per cell is replaced by a watt/hour rating of 160 Wh; carriage may only be with the approval of the operator. Spares must be in carry-on bags. <p>2.3 Lithium batteries in consumer devices</p> <ul style="list-style-type: none"> Equipment containing lithium batteries should be carried in the cabin. Spares must be in carry-on bags. <p>3. Special Provision A45</p> <p>Delete A45 and move all A45 information to the appropriate Packing Instructions.</p> <p>4. Special Provision A154</p> <p>Move A154 on forbidden lithium batteries (e.g. batteries being returned for safety reasons) to relevant Packing Instructions.</p>				
2	Part 4 Packing Instructions	<p>Packing Instructions completely re-formatted to use a more rational numbering system and remove anomalies and inconsistencies.</p> <p>Particular points of note:</p> <ul style="list-style-type: none"> Remove IP codes to align with UN; Retain three digit numbering system but use new numbers to avoid confusion with old system; Requirement for inner liners only mandatory for liquids in PG I. For other liquids a liner would only be required if no secondary means of closure could be applied; The new system is applicable from 1/1/11. 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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3	5;2.4.1	To align with the latest UN decision in 2007, the date from which the limited quantity marking (UN number in a diamond) will be mandatory revised from 1/1/09 to 1/1/11.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Figure 5-24 - Cargo aircraft only label	To give direct reference to "cargo aircraft only", the current CAO label would be replaced by a new label with a transitional period until 31 Dec 2012. (Current label) (New label)  	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	1;2.4 3;5/new	Excepted quantity provisions amended to align with UN. New label/markings and "E code" in Table 3-1 Dangerous Goods List to show the maximum quantity per package.  * * ** ** * Class or, when assigned, the division number(s). ** Name of shipper/consignee, if not shown on package.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6	5;3.5.1	Label changes e.g. labels must have a 5mm line inside edge and may have UN no. and hazard descriptions.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
7	5;2.4.9	New marking for environmentally hazardous substance 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8	5;4	Text amended to provide for the use of electronic documentation. If the dangerous goods information is provided through EDI or EDP, the data must be able to be produced as paper document <u>without delay</u> .	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9	4;1.1.8	Amended to permit those dangerous goods where the quantity limit is a gross mass per package to be packed with other dangerous goods where the quantity limit is a	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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		net quantity.				
10	Table 3-2 Special Provisions	New requirement for consignors to add a statement on AWB to confirm the consignment were exempted from TI by SP A32 (air bags), A67 (non-spillable batteries), A69 (mercury in manufactured articles), A70 (internal combustion engines), A93 (heat producing articles), A98 (aerosols not exceeding 50 ml capacity), A123 (electric storage batteries), A152 (dry shippers containing absorbed liquid nitrogen)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11	Table 3-2 Special Provisions	<ul style="list-style-type: none"> When they are the same, the UN Special Provision number will appear in parentheses beside the Technical Instructions Special Provision number. Special Provision A112 - UN3077 and UN3082 now permitted under ID8000 Consumer Commodities; Special Provision A123 amended such that battery-powered equipment must be protected from inadvertent operation, if this would result in a dangerous evolution of heat; Special Provision A164 - added to all regulated battery and battery-powered equipment entries, requiring protection from short circuit and inadvertent operation; Special Provision A146 - Amended to require fuel cell cartridges installed in, or integral to, a fuel cell system to be capable of passing a 1.2 m drop test. 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12	2;2.1.3	Clarified that inflated balls used for sports are not subject to the provisions of the Technical Instructions.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
13	2;9.2	In order to harmonise with the UN Model Regulations the new classification criteria for Environmentally hazardous substances will be incorporated.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
14	Packing Instructions various	Packing instructions for fuel cells containing fuels in classes or divisions 2.1, 4.3 and 8 have been developed and the packing instruction for fuels in class 3 has been revised.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B) Dangerous Goods Training						
15	1;4.2.3	If recurrent training is completed within the final 3 months of validity of previous training, the period of validity extends from the date on which the recurrent training was completed until 24 months from the expiry date of that previous training.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
16	1;4.2.5	New requirement for dangerous goods training record to be retained for at least 36 months.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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17	Table 1-4	Require Operators and Forwarders to add a new training topic "Limitations" for their category 5 and 8 staff such that when they are aware of DG restrictions in air mail.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18	Table 1-4	Amend "Security screeners" to "security staff" & add "classification" in training	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
19	Table 1-5/new	Add Training Table 1-5 to clarify training for operators not carrying DG	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C) Provisions for Passengers						
20	8;1.1	<p>1) Group "Dangerous goods carried by passengers or crew" under 4 headings: "Medical necessities", "Articles used in dressing or grooming", "Consumer articles" and "Other".</p> <p>2) Other changes include:</p> <ul style="list-style-type: none"> • Clarification that additional restrictions may apply for security reasons; • "small" gaseous oxygen or air cylinders for medical use clarified as "not exceeding 5 kg gross"; • Clarified maximum quantity of aerosols is just 2L or 2 Kg per person; • "Heat producing articles" replaced by "battery-powered equipment capable of generating extreme heat" e.g. diving lamp – batteries must be removed and protected from short circuit; • Dry ice, wherever carried, is subject to approval by the operator; • "Toilet articles" amended to "toiletry articles" to make clear that they meant "articles used in dressing and grooming" rather than toilet cleaning substances. • Fuel cells containing hydrogen in metal hydrides now included in the list of fuel cell types permitted for carriage by passengers under certain provisions (maximum water capacity of 120 ml and compliance with Special Provision A162). • For lithium batteries, see item 1. 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
21	7;5.1.2	New requirement for the Operator and AAHK to include visual examples of forbidden DG in DG notices for passengers.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
D) Operators' Acceptance Procedures and Loadings						
22	7;4.4	New requirement for the Operator to report incidents involving items or DG excepted from TI by SP or exception (e.g. incidents involving dry batteries)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23	7;1	Acceptance requirements completely revised to clarify what an operator is expected to check .	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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24	7;2.4.1	Note added explaining that packages filled at normal atmospheric pressure may not be capable of withstanding the pressure drop in a non-pressurised cargo hold.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25	7;2.10	For ease of reference of Operator, the note in 2;9.2.1 d), warning of the effect ferro-magnetic metals may have on an aircraft compass, reproduced in 7;2.10.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26	7;2.4.2	Clarified so that packages must be secured to prevent any movement, e.g. sudden contact with cargo compartment or other cargo.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27	7;2.4.3	Expanded such that packages of dangerous goods must be protected so they cannot be damaged by the movement of baggage, mail, stores or other cargo.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28	7;4.1	On NOTOC, Operators will now have the option of showing a total quantity of dry ice in each hold, rather than per consignment.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29	7;2.4.1	As an alternative to loading cargo-aircraft-only dangerous goods such that they are accessible to the crew, operators will be able to load such goods in a Class C cargo compartment, or a ULD of the same specification.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30	1;1.1.3.1	Clarified to make clear that the exceptions for dangerous goods to provide medical aid apply both to dedicated air ambulances and to temporarily modified aircraft.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31	ICAO ERG	Guidance provided for dealing with incidents in the passenger cabin involving portable electronic devices containing lithium batteries.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32	Suppleme nt	Text developed to provide for the carriage of symbolic flames (e.g. Olympic flame).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>