



Reformatting of the Packing Instructions – Effective 1 January 2011

The packing instructions in the International Civil Aviation Organization (ICAO)'s *Technical Instructions for the Safe Transport of Dangerous Goods by Air* (Technical Instructions) (and consequently the IATA Dangerous Goods Regulations) have been the subject of an extensive review by the ICAO Dangerous Goods Panel (DGP) over the last four years. This will result in significant revisions to their design and content. The purpose of this article is to provide:

- an explanation of the reason behind the reformatting;
- an overview of the changes to the packing instructions;
- an understanding of the implementation timelines.

Background

Many of the packing instructions in the current edition of the ICAO Technical Instructions (and IATA Dangerous Goods Regulations) date back to the IATA Restricted Articles Regulations that were in existence prior to the development of the ICAO Technical Instructions, which took place in the early 1980s.

The content and requirements in many of these packing instructions reflect the regulatory process in place at that time, which was to be very prescriptive with respect to the types of packagings permitted.

In the mid 1990s the UN Committee of Experts on the Transport of Dangerous Goods (UNCOE) decided to establish packing instructions for all modes of transport in an effort to standardize their appearance, enhance their 'user friendliness' and address technical inconsistencies. As a result of that exercise, new packing instructions were published in the UN Recommendations on the Transport of Dangerous Goods (Model Regulations) in 1998 and subsequently incorporated into the International Maritime Dangerous Goods Code and the European Instruments on the transport of dangerous goods by rail and road (RID and ADR).

It was recognized early on by the UNCOE that these new packing instructions would not be suitable for air transport given the unique environmental characteristics of air transport, e.g. pressure, extreme fluctuations in temperature, etc., and the separate per package quantity limits that apply for passenger aircraft and cargo aircraft only. However, both the UNCOE and the ICAO DGP recognized the benefit of comparing the revised UN Packing Instructions with those in the ICAO Technical Instructions to adopt common provisions wherever possible.

The reformatting process provided the DGP with an opportunity to take advantage of the lessons learned by the UNCOE in their exercise, as well as to:

- improve the presentation of packaging requirements to enhance user friendliness;
- separate the passenger aircraft instructions from the cargo aircraft instructions;
- rationalize the determination of quantities and types of packagings;
- remove unnecessary or unjustifiable packaging restrictions;
- improve the grouping of substances assigned to specific packing instructions;
- minimize the number of particular packing requirements (PPR); and
- improve harmonization with UN packing instructions.



Review Process

Under the direction of DGP, a Packing Instruction Working Group (PIWG) was established in October 2004 to undertake the reformatting exercise based on objectives set out by the DGP.

The group had an initial 3-day meeting in Brussels in March 2005 followed by a 2-day meeting in Washington D.C. in late May 2005 and a final review session during the July 2005 meeting of the UN Subcommittee.

The group looked at the current packing instructions to identify and remove any existing anomalies, to standardise the requirements by incorporating, where possible, the PPR into the body of the packing instruction and to divide, where appropriate, passenger and Cargo Aircraft Only (CAO) into separate packing instructions. The result of this work was a set of revised packing instructions for Classes 3, 4, 5, 8, 9 and Division 6.1.

These reformatted packing instructions:

- removed the inconsistencies apparent in the existing packing instructions;
- introduced a systemic allocation of substances and articles to packing instructions within each class or division. This included for the majority of substances a clear separation of substances by packing group, passenger aircraft or CAO, liquid or solid. Some substances had characteristics that set them apart from these standard groupings, e.g. mercaptans, chloroform, wetted explosives. These substances were assigned a "special" packing instruction;
- removed the PPR and instead introduced, when required, clear "Additional Packing Requirements" that apply to all substances or articles in that packing instruction.

The reformatted packing instructions were presented to the DGP at the 20th Meeting of the Dangerous Goods Panel (DGP/20) in November 2005 with a recommendation that the reformatted packing instructions be made available to regulators and industry for review and comment for a 12-month period commencing in early 2006.

The Panel agreed with this proposal and the reformatted packing instructions, along with a number of other supporting documents, were posted on the ICAO website in February 2006 for a period of 12 months inviting industry comment. The website address was also published on the IATA dangerous goods website and widely distributed to all segments of industry.

At the conclusion of the comment period the comments received by ICAO were analysed by the members of the PIWG to determine if the reformatting should proceed and what changes may need to be made to the packing instructions to correct any oversights or omissions. This work was undertaken and a report provided to the DGP Working Group meeting (DGP-WG/07) that took place in Memphis in May 2007.

The results of the comments received from industry identified that:

- there was general support for the reformatted packing instructions;
- there was no support for the proposed alpha-numeric numbering, and that the current three numeric format with the "Y" prefix for limited quantity packing instructions should be retained;
- there was concern about the proposed amendment to the provisions for absorbent materials and the requirement for inner liners for liquid dangerous goods;
- it was identified that some currently permitted outer / single packaging types had been omitted; and
- there was some confusion regarding the removal of the inner packaging (IP) codes.

Based on these comments the PIWG revised the numbering scheme to retain the three numeric format. However, to remove any confusion between the existing and the new packing instructions all of the reformatted packing instructions were assigned completely new packing instruction numbers. The proposed amendments to absorbent materials were revised to remove the additional requirements. However there will be a requirement that inner packagings containing liquids must have a positive means of ensuring that closures remain effective. Inner liners for liquids in combination packagings will only be required for Packing Group I substances.



The removal of the IP codes is consistent with the approach taken in the UN Model Regulations and the modal regulations. Henceforth the packing instructions will simply indicate the type of material, e.g. metal, glass, etc. Determination of the suitability of steel or aluminium inner packagings for a particular substance will be the responsibility of the shipper and must be based on the characteristics of the substance and its compatibility with the packaging material.

Implementation Timetable

Following the discussions at DGP-WG/07 the PIWG undertook a final review of the proposed packing instructions to clarify the identified oversights and omissions for the packaging materials and to adopt improvements identified through the industry consultation process.

The final reformatted packing instructions were then presented to the 21st meeting of the ICAO Dangerous Goods Panel (DGP/21) in Montreal in November 2007. At DGP/21 the PIWG proposed that the final packing instructions be adopted for implementation into the ICAO Technical Instructions. The PIWG sought the DGP's recommendations regarding the applicability date for the new packing instructions to take effect and consideration on any transitional arrangements.

The DGP agreed that the new packing instructions should become applicable in the 2011-2012 edition of the Technical Instructions. To assist industry to become familiar with the new packing instructions the new packing instructions will be posted on the ICAO website. IATA will also post the new packing instructions on the IATA dangerous goods website at: http://www.iata.org/whatwedo/cargo/dangerous_goods/icao-packing.htm

The packing instructions will be posted in PDF format and in addition an Excel spreadsheet indicating by UN number / packing group, the existing packing instruction number and the new packing instruction number for limited quantity, passenger aircraft and Cargo Aircraft Only. This information will also be provided in the 2009-2010 edition of the ICAO Technical Instructions and in Appendix I in the 50th edition of the DGR.

The DGP agreed to a 3-month transition period to allow shippers to take care of any "in-stock" dangerous goods shipments. The transition period will allow for shipments prepared on or before 31 December 2010 to be presented for transport until 31 March 2011.

Next Steps

Shippers should carefully review the provisions of the reformatted packing instructions to determine the changes to requirements for substances that they transport by air. For most common substances there will be little or no change other than the packing instruction number and the format of the information.

Organisations that utilise computer systems that have the packing instruction numbers, packing instruction data to produce the Shipper's Declaration and/or work instruction for employees packing dangerous goods will need to develop a transition plan to incorporate all of the new packing instruction numbers and packing instruction information into the computer system to ensure that the system is updated and tested to meet the 1 January 2011 implementation date.

Training providers should, from 1 January 2009, introduce information on the reformatted packing instructions into initial and recurrent dangerous goods training courses for shippers, packers, freight forwarder, ground handling agent and airline dangerous goods acceptance personnel.



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The Packing Instructions and the Spreadsheet will be available soon.