



## **DANGEROUS GOODS PANEL (DGP)**

### **TWENTY-FIRST MEETING**

**Montréal, 5 to 16 November 2007**

**Agenda Item 5: Resolution, where possible, of the non-recurrent work items identified by the Air Navigation Commission or the panel**

**5.2: Reformatting of the packing instructions**

### **PACKING INSTRUCTION REFORMATTING**

(Presented by DGAC)

#### **SUMMARY**

DGAC provides comments on DGP/21-WP/4. DGAC is concerned about the significant costs of implementing the proposed packing instructions and recommends against their adoption. DGAC recommends instead that the existing packing instructions be revised for DGP/22.

Should the panel pursue adoption at DGP/21, additional recommendations are provided in bold in paragraphs 1.3 a) 2), 1.3 b) 1), 2.1, 3.2, 4.1.1, 4.2, 4.3 and 4.4.

## **1. INTRODUCTION**

1.1 While appreciating the considerable and well intended effort put into the packing instruction reformatting effort evidenced in DGP/21-WP/4, DGAC does not consider the overall benefit of adopting them to be justifiable based on the potentially significant disruption resulting from their implementation and due to concerns that they may be detrimental to overall safety. We therefore reiterate the recommendation made at the DGP Working Group of the Whole Meeting held in Memphis. Namely, that the proposed packing instructions not be adopted at DGP/21 and that instead the panel seek to improve the existing packing instructions with a view to adopting changes at DGP/22.

1.2 DGAC appreciates and supports the extensive comments made by CEFIC in document DGP-WP/59. However, even if all the deficiencies identified by CEFIC were to be corrected, this would not affect our opinion on the adoption of the proposed packing instructions.

1.3 While DGAC notes that the presentation of packing instruction requirements is somewhat improved by the proposal, we do not consider the benefit of their adoption to outweigh the considerable costs associated with their implementation. Putting aside substantive proposals described in paragraph 1.3 d) of DGP/21-WP/4 and the comments in DGP-WP/59, the proposal in DGP/21-WP/4 is in

essence a reorganization of the existing packing instruction requirements. While the substantive changes are quite minimal, implementation will be costly and could be disruptive. In addition, DGAC is concerned that the presentation of the packing instruction requirements is in some respects less user friendly and more prone to user error than the manner in which the existing requirements are presented. Our concerns are based on the following:

- a) Costs. With virtually all substances assigned to new limited quantity, passenger and cargo packing instruction numbers and all packing instructions (except for Class 1, 2 and 7 and select other PI) being reorganized, costs for implementing the changes would include:
  - 1) *Reprogramming of computerized shipping systems.* Most companies use computerized systems to comply with the regulations. One function is to prepare transport documents electronically. As required by Part 5;4.1.5.8 a), the packing instruction number must be provided on the transport document. Implementing the proposed packing instructions would require that electronic data systems be updated to indicate the newly assigned numbers. One DGAC member company estimates that this would require approximately 10,000 data entry changes.
  - 2) *Phased implementation of the packing instructions and potential disruption of dangerous goods transport.* Considering the significance of the changes a transition period will be necessary. **Should the reformatted PI be adopted, DGAC would recommend a minimum two year transition period coinciding with the periodicity of the ICAO Technical Instructions and permitting sufficient time for those involved to update systems and exhaust existing stocks of packaged dangerous goods suitable for air transport.** A transition period where existing and proposed packing instructions would be authorized would require that airline acceptance personnel and others maintain two versions of the dangerous goods lists, two sets of packing instructions and possibly other parts of the requirements (e.g. requirements for inner packagings). In addition to complicating verification of compliance, misunderstandings and unavailability of documents also introduce the potential for disrupting the smooth flow of dangerous goods.
  - 3) *Retraining and updating of training materials.* Dangerous goods transport personnel (shipper, and carrier personnel including acceptance personnel) would need to be retrained on the new packing instructions and on what is acceptable during the transition period. Training material would also need to be updated to describe the new packing instructions.
  - 4) *Company specific dangerous goods transport instruction manuals would require updating.*
- b) *User friendliness and potential for error.* It is claimed that the proposed packing instructions are more user friendly and less prone to error. In certain respects DGAC finds this not to be the case. These include:
  - 1) *Grouping of packing instructions by hazard class.* The approach of grouping packing instructions together (e.g. see page A-3 of DGP/21-WP/4 where requirements for Packing Instruction 350, 351, 352, 353, 354 and 355 are combined and presented) where some provisions provided are only relevant to certain packing instructions within the group increases the likelihood that a user

could misapply a requirement. For example, in the referenced group, only substances (Class 3, PG III) assigned to Packing Instruction 354 and 355 are permitted in single packagings. Is a user more or less prone to inadvertently use a single packaging for a Class 3 PG I liquid? A human factors assessment would likely conclude that the current approach of stand-alone packing instructions where only requirements relevant to a single packing instruction are displayed is less prone to error. **DGAC recommends that packing instructions not be grouped but that each packing instruction be shown as a stand alone instruction.**

- 2) *The new numbering system and separation of packing instructions relevant to a single substance.* Under the current system, packing instructions for passenger, limited quantity and cargo transport for a single substance are typically shown in that order (e.g. for Class 3, PG III, packing instructions 309, Y309 and 310 are applicable) without separation by other inapplicable instructions. Under the proposal, packing instructions relevant to a single substance are dispersed (e.g. for Class 3 PG III, packing instructions Y344, 355 and 366 would be applicable). A human factors assessment would likely suggest the proposal makes it more difficult to compare relevant requirements for individual substances. Further, whereas the limited quantity packing instruction number for a substance is the same number as the passenger instruction under the current system (e.g. Y309 and 309), under the new system limited quantity packing instructions are assigned their own unique number (e.g. PI 344 for limited quantities of Class 3 PG III and PI 355 for passenger). When one moves between the dangerous goods list and the packing instructions, one would need to identify additional numbers, increasing the likelihood for error.

1.4 In conclusion, while there are some incremental improvements (e.g., elimination of many particular packing requirements, and elimination of some inconsistencies), DGAC finds the proposed reformatted packing instructions provide minimal safety benefit and not warranting the substantial implementation costs. While it has been suggested that adoption will enhance safety, review of available DOT incident data does not substantiate this claim. In fact, Federal Aviation Administration enforcement data suggests that many incidents result from complete noncompliance with air transport regulations.

## 2. PROPOSAL

2.1 Minor improvements and elimination of inconsistencies could be accomplished through revision of the existing packing instructions. We note, for example, the majority of renumbering results from including the outer package quantity limit in each packing instruction typically requiring the establishment of two packing instructions in place of each existing packing instruction. If this were not done, the vast majority of the substances could continue to be assigned to the existing packing instructions which could be editorially revised. **We recommend the panel take a more pragmatic approach not requiring the renumbering of virtually all packing instructions but improving the existing packing instructions in preparation for DGP/22.** If permitted DGAC would actively participate in a working group charged with this task.

## 3. ADDITIONAL GENERAL COMMENT

3.1 *Substantive changes proposed in paragraph 1.3 d) of DGP/21-WP/4.* Reformatting, as the word suggests, should be limited to editorial improvements. In this respect, DGAC does not consider

it appropriate to include the proposed substantive changes described in paragraph 1.3 d) of DGP/2-WP/4 in the reformatting effort. DGAC is unaware of any data that suggests that the changes proposed are warranted.

**3.2 DGAC recommends that these proposals be separated from the reformatted packing instructions and considered separately on their merits.**

#### 4. SPECIFIC COMMENTS

4.1 *Reiteration of certain requirements on closures and compatibility.* Packing Instructions Y340-Y344 (as well as numerous other packing instructions) specifically restate the applicability of certain requirements concerning compatibility and closures. Specifically they state under the heading of General Requirements:

“1) Compatibility Requirements

- Substances must be compatible with their packagings as required by 4; 1.1.3; sub risk.

2) Closure Requirements

- Closures must meet the requirements of 4; 1.1.4.”

4.1.1 These provisions are redundant in that these provisions are already applied through a reference to the requirements in Part 4, Chapter 1. Calling specific attention to these provisions leads the user to consider other applicable requirements not specially identified as not being applicable or not as important. **We recommend that these provisions be deleted from each proposed packing instruction.**

4.2 *Redundant/confusing compatibility requirement.* Numerous packing instructions include the provision: “Metal packagings must be corrosion resistant or with protection against corrosion for substances with a class 8 sub risk.” It is assumed that this provision is only intended for corrosive materials contained within a package. However, as written the text may be taken to mean the package must also be designed to withstand corrosive materials inadvertently spilled on the outside of the package, particularly when this provision is found in packing instructions where the materials might not be expected to have a corrosive hazard. This provision is also curious in that there are equally serious compatibility concerns with other materials of construction (e.g., plastics) but these are not mentioned. DGAC considers the compatibility requirement in 4;1.1.3 to be complete. **We recommend deletion of this requirement as it is redundant being already covered in referenced general requirements.**

4.3 *Renumbering of packing instructions where there is no apparent substantive change.* Under the proposal many packing instructions for batteries; batteries wet nonspillable; vehicle, flammable liquid powered; battery powered equipment; magnetized material; life saving appliances; consumer commodities and numerous other entries have been renumbered. There do not appear to be substantial changes in these instructions. **To minimize the overall impact of the proposal, DGAC recommends retaining the existing packing instruction numbers for these entries.**

4.4 *Elimination of bags as an authorized packaging for UN 3077.* **DGAC recommends that bags continue to be authorized as a suitable single packaging for UN 3077, environmentally hazardous substance, solid nos.**