



WORKING PAPER

DANGEROUS GOODS PANEL (DGP)

TWENTY-SECOND MEETING

Montréal, 5 to 16 October 2009

Agenda Item 2: Development of recommendations for amendments to the *Technical Instructions for the Safe Transport of Dangerous Goods by Air* (Doc 9284) for incorporation in the 2011-2012 Edition

**DRAFT AMENDMENTS TO THE TECHNICAL INSTRUCTIONS TO ALIGN TO THE UN
RECOMMENDATIONS — PART 3
METAL HYDRIDE STORAGE SYSTEMS, UN 3468**

(Presented by USFCC)

SUMMARY

Clarification is proposed for new Special Provision A176 (proposed at DGP-WG09, see DGP/22-WP/6) to remove confusion over the word “conveyances” that has been copied from the UN Model Regulations.

Action by the DGP: The DGP is invited to revise new Special Provision A176 as presented in the appendix.

1. INTRODUCTION

1.1 A new special provision was proposed at the DGP Working Group of the Whole Meeting in Auckland (DGP-WG09, 4 to 8 May 2009) (DGP/22-WP/3, paragraph 3.2.7 and DGP/22-WP/6 refer) to align with new Special Provision 356 from the UN Model Regulations, added to cover HYDROGEN IN A METAL HYDRIDE STORAGE SYSTEM, UN 3468. The new special provision is copied from DGP/22-WP/6 below:

A176 (356) Metal hydride storage system(s) installed in conveyances or in completed conveyance components or intended to be installed in conveyances must be approved by the appropriate national authority before acceptance for transport. The dangerous goods transport document must include an indication that the package was approved by the appropriate national authority or a copy of the appropriate national authority approval must accompany each consignment.

1.2 During DGP-WG09, some members of the DGP remarked regarding the word “conveyances” and questioned the meaning of this word and if it included aircraft, ships or other modes of transportation.

1.3 The Fuel Cell Industry wishes to clarify the meaning of the word “conveyances” by explaining the source of the requirement for competent authority approval.

1.4 New coverage for UN 3468, HYDROGEN IN A METAL HYDRIDE STORAGE SYSTEM to be included in the 16th Edition of the UN Model Regulations requires that metal hydride storage systems comply with ISO 16111. This compliance is for design, manufacture, testing and usage of the metal hydride storage system.

1.5 Specifically, the metal hydride storage systems must:

“meet the service conditions, design criteria, rated capacity, type tests, batch tests, routine tests, test pressure, rated charging pressure and provisions for pressure relief devices for transportable metal hydride storage systems specified in ISO 16111:2008 and their conformity and approval must be assessed in accordance with 6;5.2.5.”

1.6 Notwithstanding this requirement, the scope of ISO 16111 specifically does not cover metal hydride storage systems for use in vehicles. The following is extracted from the scope statement of ISO 16111:2008:

“This International Standard defines the requirements applicable to the material, design, construction, and testing of transportable hydrogen gas storage systems, referred to as "metal hydride assemblies" (MH assemblies) which utilize shells not exceeding 150 l internal volume and having a maximum developed pressure (MDP) not exceeding 25 MPa (250 bar). This International Standard only applies to refillable storage MH assemblies where hydrogen is the only transferred media. Storage MH assemblies intended to be used as fixed fuel-storage onboard hydrogen fuelled vehicles are excluded. This International Standard is intended to be used for certification purposes.”

Please notice the penultimate sentence above, repeated here:

“Storage MH assemblies intended to be used as fixed fuel-storage onboard hydrogen fuelled vehicles are excluded.”

This basically means that since metal hydride storage systems intended for use on vehicles are excluded from ISO 16111 coverage, the Technical Instructions should NOT require compliance (or permit compliance) by reference to ISO 16111.

1.7 A change to the new Special Provision A176 (356) might clarify the intent of this exclusion.

APPENDIX

Chapter 3

SPECIAL PROVISIONS

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Table 3-2. Special provisions

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A176 (356) Metal hydride storage system(s) installed in conveyances vehicles or in completed conveyance vehicle components or intended to be installed in conveyances vehicles must be approved by the competent authority before acceptance for transport. The transport document must include an indication that the package was approved by the competent authority or a copy of the competent authority approval must accompany each consignment.

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Alternatively, if this is viewed as too great a change from the UN language, inserting "such as road vehicles" after instances of "conveyances" could help to clarify the meaning.

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