DANGEROUS GOODS PANEL

Dubai, 31 March to 4 April 2003

Agenda Item 2 : Development of recommendations for amendments to the Technical Instructions for incorporation in the 2005/2006 edition

ICAO T.I. PART 4, CHAPTER 11; PACKING INSTRUCTION 900 b

(Presented by Horst Busacker)

1. INTRODUCTION

1.1 The transport of **Vehicles, flammable gas powered**, as described in Part 4, Chapter 11 PI 900 b) requires that the pressure vessel which contains the flammable gas must be completely emptied and all lines from the vessel to the gas regulators, and gas regulators themselves, must also be drained of all trace of flammable gas. To ensure that these conditions are met, gas shut-off valves must be left open and connections of lines to gas regulators must be left disconnected upon delivery of the vehicle to the operator. As a result of these requirements the vehicles lose a part of the Road Traffic License, and the fulfillment of the requirements can only be achieved as a result of costly undertakings.

2. PROPOSAL

2.1 Change in Part 4, Chapter 11 PI 900 b) into the following sentences:

b) for flammable gas-powered vehicles, machines or equipment, ~~pressurized vessels containing the flammable gas must be completely emptied of flammable gas. Lines from vessels to gas regulators, and gas regulators themselves, must also be drained of all trace of flammable gas. To ensure that these conditions are met, gas shut-off valves must be left open and connections of lines to gas regulators must be left disconnected upon delivery of the vehicle to the operator. Shut-off valves must be closed and lines reconnected at gas regulators before loading the vehicle aboard the aircraft;~~ the compressed gas vessel and the leads of the gas regulator do not need to be completely emptied through disconnection and may be left connected on delivery to the air transport under the following provisions:

1) The voltage feed to the valves has to be interrupted, by which the valves both at the pressure vessel and gas regulator close automatically.

2) After closing the pressure vessel valve, the consumer (e.g. flammable powered engine, hydrogen fuel cell) must be operated until interruption by lack of gas.
3) In no part of the system between pressure vessel and electrical operated shut off valve, 5% of the maximum allowable working pressure must not be exceeded during the transport. The remnant in the system components must be in the gaseous phase.

The complete system must be checked and authorized in accordance with the specific regulations.

The shipper must have a certificate for the fulfilment of the above conditions from an authorized workshop.

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