**Economic Commission for Europe**

Inland Transport Committee

**Working Party on the Transport of Dangerous Goods**

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**Proposals for amendments to annexes A and B of ADR:**
**Construction and approval of vehicles**

# Chapter 9.2: requirements for electrical connections

**Transmitted by the Government of Germany**

**Related document: Document ECE/TRANS/WP.15/2010/12**

## Introduction

1. As standard EN 15207 has some deficiencies, ADR should not prescribe its application at all or only with restrictions.

2. In No. 5.1.5 of the standard, the obligatory connection assignments are listed. For seven of the 15 connections, the following is given: “Reserved for later use”. When the reserved connections are assigned, the plug/socket connection does no longer meet the standard. In accordance with No. 5.2.1 of the standard, “additional selective connections” are permissible. It is not clear if this means the already provided but not assigned contacts or if other contacts may be connected additionally.

3. Annex A of the standard includes a schematic diagram of a wiring example in which a lead is branched off before the battery master switch. The electrical consumers connected to this lead are not switched current and voltage free by the battery master switch. The lead is therefore a bypass with which the battery master switch is circumvented, as stipulated by the provisions, and thereby rendered ineffective.

4. Both the plug and the socket are equipped with a sheet-metal lug. In accordance with the standard, these two lugs are to be bolted together. This is considered unpractical and it is also not envisaged for connections in accordance with EN 12098.

5. In accordance with No. 7.2 of the standard, a warning sign under EN 60079-7 is to be “provided”. It is not clear how this requirement is to be implemented.

## Proposal

6. In order to solve this problem, it is suggested to prescribe the application of standard ISO 12098:2004 only for the mechanical design of the plug/socket connection:

7. Electrical connections between motor vehicles and trailers shall have a protection degree IP54 in accordance with IEC 60529 and be designed to prevent accidental disconnection. Connections shall be in conformity with ISO 12098:2004 or ISO 7638:2003, as appropriate. If additional electrical connections are necessary, the mechanical locking device of the plug and the plug socket shall be designed in accordance with

ISO 12098:2004. If there is more than one electrical connection between a motor vehicle and a trailer, a mix-up of the plug/socket connections must be prevented.

8. This requirement should be added to 9.2.2.6.3 (for type approval) as well as 9.7 (for completed vehicles).

*Note* The report on the 85th session (document ECE/TRANS/WP.15/199) of the WP.15 includes the envisaged amendment to 9.2.2.6.3:

*"Connections shall be in conformity with ISO 12098:2004 and ISO 7638:2003, as appropriate."*

The wording should read:

*"Connections shall be in conformity with ISO 12098:2004 or ISO 7638:2003, as appropriate."*