
Economic Commission for Europe

Inland Transport Committee

Working Party on the Transport of Dangerous Goods

17 October 2018

105th session

Geneva, 6-9 November 2018

Item 6 of the provisional agenda

Interpretation of ADR

Interpretation of 9.2.2.9 – electronic equipment in the driver's cab of FL vehicles

Transmitted by the Government of the Netherlands

1. FL vehicles can be in areas where explosive atmospheres occur (i.e. during loading). The electrical system of FL vehicles can be made safe for these occasions by the breaking of the electrical circuits by the battery master switch. Parts of the electrical installation that needs to remain energized while the circuits are broken shall comply with the relevant parts of the IEC 60079 (explosion protection). The protection degree depends on the Zone it is placed in and the gas group.
 2. The cabin of the truck is classified as a "Zone 2" area in which explosive atmospheres may occasionally be present. In the cabin, electronic units are placed that shall remain energized. Most of these systems have batteries or small capacitors included and some have a connection to the electrical system of the truck to (re)charge the batteries. In most cases, the charging connections will not be energized while the circuits are broken. Examples of such electronic units are Toll-boxes, radios, mobile telephones, laptops and other communication systems.
 3. Electronics work on relative low voltages and low currents. The risk for ignition of an explosive atmosphere by the low energy that is available from this electronics is taken into account in ADR (i.e. 24V-1 Amp for propane-air mixture). In practice, most of the electronic equipment that meets the requirements of IEC 60079 is not available or rarely available. The prices for electronic equipments that meet the requirement of IEC 60079 are up to 500 % or more than for units that do not comply with IEC 60079.
 4. In general, so far electronic systems intended to be used in the driver's cab seem to present no problems.
 5. Discussion:
 - Shall electronic equipment be seen as parts of the electrical installation?
 - What is the risk for explosion due to energized electronic equipment in Zone 2 of the driver's cab?
 - Is it necessary that electronic equipment fixed in the driver's cab shall comply with parts of IEC 60079 as appropriate?
-