

# ELECTRICAL ZONE SUMMARY

This document is a summary of the electrical requirements detailed in ADR and other UK documents. Unfortunately the Zonal requirements are not consistent, therefore, the following is based on the most stringent requirements:

This summary must be read in conjunction with the following documents:

ADR 2019 - Part 9

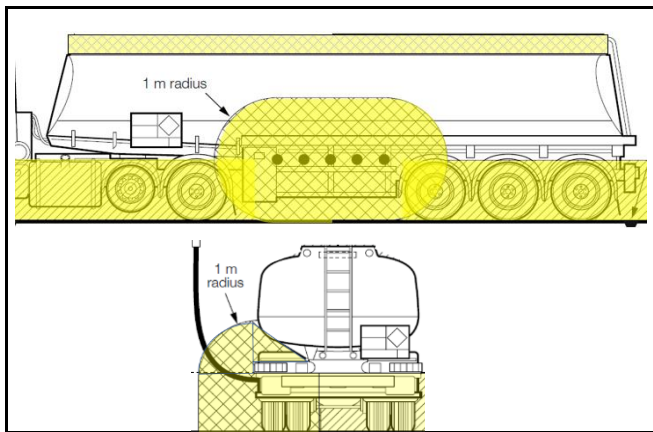
Storage of flammable liquids in tanks - HSG 176 - 2015

FCS 1364:2019 - ADR 'FL' & 'AT' Vehicle Radio Communication Equipment Installation

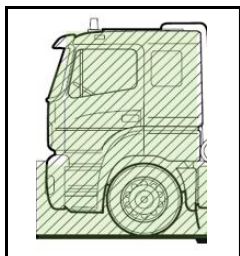
Energy Institute - Petroleum Road Tanker Design & Construction - 4th Edition - October 2019



## Permanently Energised Equipment

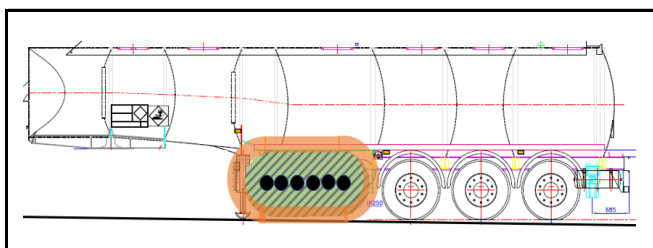


- ... which is not subject to 9.2.2.3 and 9.2.2.4, shall meet the requirements for Zone 1 for electrical equipment in general (ADR 9.2.2.9.1 (b))
- ... which is situated outside Zones 0 and Zone 1, shall meet the requirements for Zone 1 for electrical equipment in general (ADR 9.7.8.3)
- ... within 1 metre radius of loading valves and vapour recovery adaptors (HSG 138 - Fig 4)
- ... electrical equipment situated inside cabinets for equipment used for filling and discharge (ADR 9.7.8.2)
- ... Radio equipment shall meet the requirements for Zone 1 (including transmitters / receivers with integral batteries) (FCS 1364 - 5.3.6)

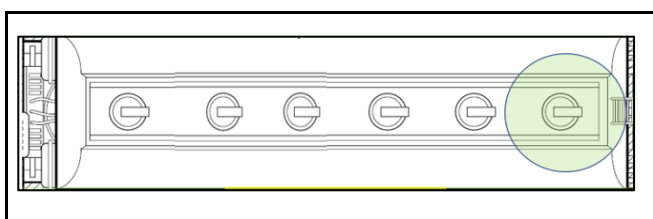


- permanently energised equipment situated in the cab (ADR 9.2.2.9.1 (b))
- ... which is situated outside Zones 0 and Zone 1, shall ... meet the requirements for Zone 2 according to IEC 60079 part 14 for electrical equipment situated in the driver's cab (ADR 9.7.8.3)
- ... Radio transmitter / receiver equipment situated in the cab (FCS 1364 - 4.2.2)

## Non-Permanently Energised Equipment



- ... electrical equipment installed (<500 mm) adjacent to tank service equipment (EI 3.1.7.1)
- ... electrical equipment installed (>500 mm - < 1 000 mm) from tank service equipment - IP 65
- ... electrical equipment installed (> 1 000 mm) from tank service equipment - no restriction



- ... tank top electrical equipment within 1 m of tank vents and other openings should be protected to Zone 2 standards (HSG 176 - 280)

### Terminology:

*permanently energised*

- electrical equipment not disconnected / reconnected by the operation of the master switch
- electrical equipment (including hand-held devices) that incorporate integral batteries