Proposed amendment (additional text) in red added at 5th meeting
Amendments made during 6th meeting in blue

Annex 21 - Appendix 1

USE OF THE DYNAMIC STABILITY SIMULATION

The effectiveness of the directional and/or roll-over stability control function of power-driven vehicles and trailers of categories M, N and O, may be determined by computer simulation.

1. USE OF THE SIMULATION

1.1 The vehicle stability function shall be demonstrated by the vehicle manufacturer to the Type Approval Authority or Technical Service with the same dynamic manoeuvre(s) as for the practical demonstration in Paragraph 2.1.3. or 2.2.3. of Annex 21.

1.2. The simulation shall be a means whereby the vehicle stability performance may be demonstrated with the vehicle stability function enabled or disabled, and in the laden and unladen conditions.

1.3. The simulations shall be carried out with a validated modelling and simulation tool. The simulation tool shall only be used when the parameters of the vehicle to be type-approved fall within the validated range of parameters of the simulation tool. The verification shall be carried out using the same manoeuvre(s) as defined in Paragraph 1.1. above.

The method by which the simulation tool is validated is given in Annex 21, Appendix 2.

1.3.1. ~~A validated simulation tool that has not been validated specifically for the vehicle manufacturer requesting type-approval shall be shown once by that vehicle manufacturer, via a conformation test, to be suitable for the vehicles for which type-approval is requested.~~

In the case where a validated simulation tool is used by a vehicle manufacturer, other than for whom the simulation tool was validated, a confirmation test shall be conducted. The confirmation test shall be a single comparison between an actual vehicle test and a simulation using one of the manoeuvres as defined in Paragraph 1.1. above.

The results of the confirmation test shall be attached to the type-approval documentation.

1.4. The availability of the simulation tool software, to the software version used, shall be maintained for a period of not less than 10 years.