Informal Document No. 12
(52nd GRRF, 16-18 September 2002,
agenda item 5.)

Proposal from the United Kingdom regarding further amendments to the draft Regulation No.79, Document TRANS/WP.29/GRRF/2002/5

Following further study and discussion of the amendments proposed in Document TRANS/WP.29/GRRF/2002/5 and Document TRANS/WP.29/GRRF/2002/23 the United Kingdom would suggest the following additional changes.

1 Document TRANS/WP.29/GRRF/2002/23

1.1 Amend proposed paragraph 0, Introduction, as follows:

(a) by prohibiting ---- road surface. Such systems ------ basis. To allow ---- received. Vehicles fitted with such systems for national approval may also be type approved in accordance with this Regulation provided that the effects of the additional systems are taken into account in so far as they interface with the basic steering system and comply with the requirements of paragraph 5.1.9 of this Regulation.

Justification: To emphasise that vehicles fitted with autonomous steering systems approved for national use can also be approved generally to this Regulation.

Add new paragraph to paragraph 0, Introduction to read:

Direct positive steering of trailers by energy supply and electrical control from the towing vehicle is not able to be type approved to this Regulation at present as there are not any standards applicable to energy supply connectors or to control transmission digital information interchange connectors. It is anticipated that this will be addressed in the future and the Regulation will be amended at that stage.

1.2 Delete paragraph 1.4 and renumber existing paragraphs 1.6 and 1.7 as 1.3 and 1.4.

Justification: The Scope is not the correct place for construction requirements – requirement will be given in a new paragraph 5.1.6.

1.3 Amend proposed paragraph 2.3.5 to read:

2.3.5 "Corrective steering" means ------- dynamic behaviour ~~rather than affect the basic chosen path of the vehicle~~ to assist in maintaining the chosen or correct basic path.

Justification: To more closely follow the original wording.

2 Document TRANS/WP.29/GRRF/2002/5

2.1 Amend paragraph 1.7 to read:

1.7 Electric ------ function(s) ~~(see paragraph 5.2.3.1).~~

Justification: The referenced paragraph is to be deleted by subsequent amendments.

2.2 Amend paragraph 5.1.3 to read:

5.1.3 The direction ------ steering angle. These requirements ---- steering equipment.

These requirements may also not apply in the case of full power steering when the vehicle is stationary and when the system is not energised.

Justification: Full power steering systems may be designed such that the steering control can move freely without affecting the angle of the steered wheels when the vehicle is stationary and the steering system is not energised, for example, the ignition circuit is not switched on.

2.3 Add new paragraph 5.1.6 to read as follows and renumber existing paragraphs 5.1.6, 5.1.7, 5.1.8 and 5.1.9 to 5.1.7, 5.1.8, 5.1.9 and 5.1.10 respectively:

5.1.6 Automatically commanded steering may be approved in accordance with this Regulation but in the case where the resulting turning radius is less than [500m], the vehicle shall also be limited to a maximum speed of [30]km/h.

Justification: To replace paragraph 1.4 deleted from the Scope, to allow automatically commanded steering for driver assistance in lane keeping on essentially straight roads and to limit the application of high steering angles to low speed use.

2.4 Amend existing paragraph 5.1.9 (renumbered to 5.1.10) to read:

5.1.9 Control systems – The requirements -------- corrective steering. However, ---- achieving a higher ~~stability~~ level objective ---- steering system. If such ----- steering system.

Justification: The control systems have effects other than on stability, for example, autonomous steering approved to national requirements requires assessment according to Annex 6 in so far as it has a direct effect on the main steering system.

2.5 Delete paragraphs 5.2.3, 5.2.3.1 (including footnote 1/) and 5.2.3.2

Justification: Whilst it is useful to draft Regulations that are to some extent "future proof", the inclusion of these provisions is premature as there has been little interest shown by trailer manufacturer's in applying electrical control or electrical steering for direct positive steering of trailers. At this stage it is not clear what the power requirements are likely to be and whether the 30A capability of the ISO 7638 connector is sufficient. The latest draft amendments to ISO 11992 (produced earlier this year) do not take into account a steering control function and there seems little possibility of this being addressed in the near future, particularly as there are not any interested parties, for example, trailer or trailer steering manufacturer's, involved in the ISO group. The situation is dealt with in the Scope of the Regulation and can be referred to in the proposed paragraph 0, Introduction.

If the paragraphs are retained, the wording will need amendment in respect of the incorrect use of "point to point", the issue of dual priority ("braking and steering shall have priority") and the question of what is meant by "shall not delay braking or steering functions".

2.6 Amend paragraph 5.3.1.4 to read:

5.3.1.4 In the case where the braking system of the vehicle shares the same energy source as the ~~s~~teering system and this energy source fails, the steering system shall have priority and shall be capable of meeting the requirements of paragraphs 5.3.2 and 5.3.3 as applicable. In addition the braking performance shall not drop below the prescribed service brake performance as given in annex 3 of this Regulation, on the first brake application.

Amend paragraph 5.3.1.5 to read:

5.3.1.5 In the case where the braking system of the vehicle shares the same energy supply as the ~~s~~teering system and this energy supply fails, the steering system shall have priority and shall be capable of meeting the requirements of paragraphs 5.3.2 and 5.3.3 as applicable. In addition the braking performance ~~must~~ shall comply with the prescriptions of annex 3 of this Regulation.

Justification: To ensure that priority is given to steering.

2.7 Amend paragraph 5.4.2.1.3 to read:

5.4.2.1.3 If a symbol ------- comply with ~~the relevant~~ symbol J.04, ISO/IEC registration number 7000-2441 as defined in ISO 2575:2000.

Justification: To fully identify the correct symbol.

2.8 Amend Annex 3 to add new paragraph 1 to read as follows and renumber existing paragraphs 1 and 2 to 2 and 3:

1 For tests carried out in accordance with this annex the following vehicle conditions shall be met:

1.1 The vehicle shall be loaded to its technically permissible maximum mass distributed between the axles as declared by the vehicle manufacturer. Where provision is made for several arrangements of the mass on the axles, the distribution of the maximum mass between the axles shall be such that the mass on each axle is proportional to the maximum oermissible mass for each axle. In the case of tractors for semi-trailers, the mass may be repositioned approximately half way between the kingpin position resulting from the above loading conditions and the centreline of the rear axle(s);

1.2 The tyres shall be inflated to the cold inflation pressure prescribed for the mass to be borne by the tyres when the vehicle is stationary;

1.3 Before the start of the tests the brakes shall be cold, that is, with a disc or outer brake drum surface temperature less than 100^{o}C.

Justification: To ensure that the vehicle conditions agree with those given in Regulation No. 13 (Braking).

2.9 Amend Annex 5, paragraph 2.1.1 to read:

2.1.1 The hydraulic lines of hydraulic transmission ~~must~~ shall be capable of ~~withstanding~~ a burst pressure at least four times the maximum normal service pressure (T) specified by the vehicle manufacturer. Hose assemblies shall comply with ISO Standards 1402: ~~1984~~ 1994, 6605:1986 and 7751: ~~1983~~ 1991.

Justification: To update the ISO Standard references.