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World Forum for Harmonization of Vehicle Regulations (WP.29)

Working Party on General Safety Provisions (GRSG)
(Eighty-sixth session, 19-23 April 2004,
agenda item 10.3.)

**DRAFT PROPOSAL FOR THE 03 SERIES OF AMENDMENT
TO REGULATION 26**

Transmitted by the experts from France, the Netherlands, the
Czech Republic, Japan, Germany and the International
Organization of Motor Vehicle Manufacturers (OICA)

Note: This proposal is based on documents TRANS/WP29/GRSG/2003/11 and 28 and informal document N° 25 distributed at the fifty-fifth session of GRSG, by the experts from the Netherlands, France and OICA.

Note: This document is distributed to the Experts on General Safety Provisions only.

A. PROPOSAL

Add a new paragraph 2.10., to read

"2.10 "Aerial" means any device used for transmitting and/or receiving electromagnetic signals."

Paragraph 6.17., amend to read

"6.17. ~~Radio receiving and transmitting aerials~~ **Aerials**"

Paragraphs 6.17.4. and 6.17.4.1., amend to read:

"6.17.4. The bases of aerials shall not project more than ~~30~~ **40** mm when determined according to the procedure of annex 3, paragraph 2. ~~However, in the case of aerials with amplifiers built into the base, these bases may project up to 40 mm.~~

6.17.4.1. In cases where by the absence of a flexible shaft or part it is not possible to identify what the base is of an aerial this requirement is deemed to be met if, after a horizontal force of not more than 50 daN in forward and rearward direction is applied by a flat-ended ram of not more than 50 mm diameter at the most salient part of the aerial:

- (a) the aerial bends towards the support and does not project more than ~~30~~ **40** mm ~~or 40 mm in case an amplifier is installed in the aerial~~, or
- (b) the aerial breaks off and the remaining part of the aerial does not show any sharp or dangerous part that can be contacted by the 100 mm sphere and does not project more than ~~30~~ **40** mm ~~or 40 mm in case an amplifier is installed in the remaining part of the aerial at the outside of the vehicle.~~

Add a new paragraph 6.17.4.2., to read:

"6.17.4.2 Paragraphs 6.17.4. and 6.17.4.1. shall not apply to aerials located behind the vertical transversal plane passing through the "R" point of the driver, provided that the maximum projection of the aerial including its housing does not exceed [70 mm] when determined according to the procedure of annex 3, paragraph 2.

If the aerial is located behind that vertical plane but projects more than [70 mm], paragraph 6.17.4.1. shall apply using a projection limit of [70 mm] instead of 40 mm.

Add new paragraphs 12.4. to 12.7., to read:

"12.4. As from the official date of entry into force of the 03 series of amendments, no Contracting Party applying this Regulation shall refuse to grant approval under this Regulation as amended by Supplement 2 to the 02 series of amendments.

- 12.5. As from 24 months after the date of entry into force of the 03 series of amendments, Contracting Parties applying this Regulation shall grant approvals only if the vehicle type to be approved meets the requirements of this Regulation as amended by Supplement 2 to the 02 series of amendments.**
- 12.6. Until [48 months] after the date of entry into force of the 03 series of amendments to this Regulation, no Contracting Party applying this Regulation shall refuse national type approval of a vehicle type approved to the preceding series of amendments to this Regulation.**
- 12.7. Starting [48 months] after the entry into force of the 03 series of amendments to this Regulation, Contracting Parties applying this Regulation may refuse first national registration (first entry into service) of a vehicle which does not meet the requirements of the 03 series of amendments to this Regulation."**

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B. JUSTIFICATION

Introduction

GRSG agreed at its eighty-fifth session to let the interested parties meet in order to discuss the issue of shark fin aerials homologation. This group met in the OICA premises (Paris) on 9 December 2003 with representatives of the following countries and organization: France, the Netherlands, the Czech Republic, Japan, Germany and OICA.

All attendees were convinced that the real world situation had evolved compared to the situation at the time when Regulation No. 26 was written. As a matter of fact, since the time the Regulation was written, the shape of the vehicles has changed considerably and the location and design of the aerials (former location on the fence, former design as a rigid rod) have evolved as well.

During the meeting, accident data (figures and real world videos were tabled) demonstrated that the first draft for an amendment to Regulation No. 26 (TRANS/WP29/GRSG/2003/11), while well safety oriented, would not improve the situation in terms of safety and homologation. The group admitted that the current situation, where the authorities are obliged to grant approval to simultaneously non complying and non dangerous aerials, needs to be improved. It was hence decided to accommodate both the NL proposal and the OICA document (informal document N°25 of the eighty-fourth GRSG session).

With the above suggestion, the group is convinced that the good safety level is kept while all types of aerials and real world data are taken into consideration.

Justifications for the proposed amendments are the following:

Re. Paragraph 2.10.

A new definition of aerial as "device used for transmitting electromagnetic waves" was felt necessary in order to clearly define the device addressed in paragraph 6.17. and following. The group agreed on the above wording because:

- "transmitting" means "receiving" AND "emitting";
- "electromagnetic waves" include all kinds of radio waves (telecommunication, radio, GPS, etc...) that can be transmitted by aerials as defined in the regulation. Moreover, this term was preferred to the current term "radio..." for facilitating translation to French.

Re. Paragraph 6.17.

The title of the subparagraph has been simplified for consistency with the new above definition.

Re. Paragraph 6.17.4.

A maximum projection of less than 40 mm was preferred to 30 mm to simplify testing and harmonize requirements with other elements addressed by the regulation e.g. door or luggage compartment handles, fastening elements. Besides, an amplifier is usually installed in modern aerials, so that the alternative of 30 mm is superfluous in most current cases.

Re. new Paragraph 6.17.4.2.

The maximum permitted projection of [70mm] was agreed because of the laws of Physics. As a matter of fact, an aerial devoted to GPS and telecommunication transmissions at the relevant frequencies must have a length of 75 mm in order to keep an efficiency of 100 %.

It was considered important to keep a good level of efficiency for the improvement of indirect safety via the aerial (automatic emergency calls, ITS mobility, etc...).

Especially in rural areas, both static emergency notification system and radio network efficiency are deteriorated. Therefore, it is particularly important not to prevent a good level of transmission efficiency for automatic or manual emergency calls from vehicles in such areas.

In the context of this new proposal, a length of [70 mm] behind a vertical plane passing through the "R" point of the driver is demonstrated as not safety relevant. Therefore, it would not be detrimental to safety that an aerial located that way projects up to [70 mm], either a priori or after applying a force.

Transitional provisions

Considering the importance of the technical changes compared to the current vehicle/aerial design, it has been considered adequate to propose the new requirements as a new series of amendments (03 series) to Regulation No. 26 instead of a simple supplement 02 to the 02 series of amendments. This is in line with the positions presented at the one-hundred-and thirty-first session of WP.29 (TRANS/WP.29/953, para.89).

It is considered important, for both the vehicle manufacturers and the equipment manufacturers to have transitional provisions of at least two years. In view of the poor safety relevance of the issue, as demonstrated during the meeting of the subgroup, transitional provisions of 24 months for new type approval and 36 months for entry into service are deemed to be acceptable.
