Transmitted by the expert from India

Informal document **GRE-77-08**
(77th GRE, 4-7 April 2017
agenda item 7 (c))

# PROPOSAL FOR DRAFT AMENDMENTS TO REGULATION No. 53

(Uniform provisions concerning the approval of category L3 vehicles with regard to the installation of lighting and light-signalling devices)

(India proposals are marked in ~~strikethrough~~ and ***blue text***)

## Front Position Lamp to be made optional in R 53. (Indian Proposal GRE/76/06)

### 1 Background:

**1.1** India had proposed amendment to R53 which relate to:

(a) Making Front Position Lamp (FPL) optional
(b) If fitted, it may have a separate control.
(c) Permission for Rear Position Lamp and Registration mark illuminating lamps to be ON for a short period between master switch ON and engine starts running.

On the basis of informal discussions and going through previous records, India would like to add the following justification to the previous document (Indian proposal GRE/76/06).

**1.2** Regarding the proposal (a):

India understands that a similar proposal from IMMA was considered by GRE in the year 2003/2004 and was subsequently dropped due to safety concerns of redundancy in case of failure of Head Lamp. India understand that it would be necessary to address the redundancy requirements

Indian comments on safety requirements are summarised below:

### 2.0 Safety issues related to FPL in case of failure of headlamp:

**2.1** Main purpose of FPL is to provide conspicuity of the vehicle from the front FPL. It will not give anything other than a marginal visibility to the rider.

**2.2** In India, the FPL has been optional so far. No adverse effects have been reported due to failures of Headlamp in the absence of FPL.

### 3.0 Redundancy requirements:

A headlamp can have the following type of failures:

(a) Failure of the light source.
(b) Discontinuity in the circuit (breakage of electric wire, contact working loose etc).
(c) A mechanical failure of the headlamp.

The general practice for the purpose of providing redundancy for any safety requirement is “only one failure at a time”. This practice is well established for braking systems (for all categories of vehicles, steering system for 4 wheelers etc).

Mechanical Failure of the headlamp will cause the FPL also non functional.

**3.1 Redundancy already built in without FPL**

In the following cases, FPL is not needed for providing redundancy:

**a)** If DRL is used instead of AHO, in case of a failure of headlamp, DRL will provide conspicuity.

**b)** ECE R 53 prescribes different architectures for fitment of headlamp. If there are more than one headlamp (either main or passing beam), failure of one normally will not affect the operation of the other headlamp(s). Hence, FPL is not needed for redundancy

**3.2 Redundancy needed**

Redundancy is needed only in case where the passing beam headlamp and main beam headlamps are reciprocally incorporated, using a double filament light source or single filament light source operating at different voltages (e.g. H9).

Failure on one filament will not be affecting the other filament. Hence if the passing beam filament fails, main beam can be put ON and vice versa. The discontinuity of electrical circuit causing both the passing beam and main beam OFF needs to be addressed.

**4 Indian Proposal:**

If GRE feels that redundancy issue need to be addressed, India proposes the following Note to be added in 5.15 along with the modifications suggested in GRE/76/06 :

*"Front Position Lamp fitment is optional in case of the following:*

*(a) Vehicle is fitted with daytime running lamp*
*(b) failure of one headlamp beam will not fail all other headlamp beam(s)"*