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**Economic Commission for Europe**

Inland Transport Committee

**World Forum for Harmonization of Vehicle Regulations**

**185th session**

Geneva, 23-25 November 2021

Item 15.3. of the provisional agenda

**Consideration of technical regulations to be listed in
the Compendium of Candidates for UN GTRs, if any**

 Request to list in the compendium of candidate Global Technical Regulations (compendium of candidates) India’s Durability Driving Enforcement Procedure for two-wheeled vehicles

 Submitted by the representative of India[[1]](#footnote-2)\*

The document reproduced below is submitted by India to the Executive Committee (AC.3) for consideration. It is a request to include in the Compendium of Candidates the Durability Driving Enforcement Procedure. In order to be considered by AC.3, this request is accompanied by a copy of the regulations mentioned (see Article 5, paragraphs 5.2.1., 5.2.1.1. and 5.2.2. of the 1998 Agreement).

 Request to list in the compendium of candidate Global Technical Regulations (compendium of candidates) India’s Durability Procedure for two-wheeled and three-wheeled vehicles

1. India requests to include in the Compendium of Candidates the India’s Durability Procedure for two-wheeled and three-wheeled vehicles.

 ****I. Background****

2. Indian automotive regulations are notified by nodal ministry, i.e., Ministry of Road transport and Highways (MoRTH). MoRTH notified the Bharat Stage -VI (BS-VI) regulations vide GSR 889 (E) dt. 16 September 2016. The notification provides the rules, pollutant limit values, durability mileages, DF, etc for certification according to BS-VI procedure for 2 wheeler, 3 wheeler, Passenger cars and heavy duty vehicles applicable from 1st April 2020.

 II. Description of Regulations

3. Outline

(a) Limits, DF and Durability Mileage for 2-wheelers

**Limit Values for Two wheelers fitted with PI & CI engines: BSVI**

|  | *Vehicle Class* | *BS VI Emission Norms* |
| --- | --- | --- |
|  |  |  |
|  |  | COmg/km | HCmg/km | NOx mg/km | NMHCmg/km | PMmg/km | EVAPmg/test | OBD | Durability mileage (km) Type V |
| PI Vehicles | 1 & 2-1 | 1000 | 100 | 60 | 68 | 4.5\* | 1500 | STAGE II | 20000 |
| 2-2 | 1000 | 100 | 60 | 68 | 4.5\* |
| 3-1 & 3-2 | 1000 | 100 | 60 | 68 | 4.5\* | 35000 |
| CI Vehicles | All | 500 | 100 | 90 | 68 | 4.5\* | - | 35000 |
|  | DF (for all classes) | 1.3 | 1.3 (SI)1.1 (CI) | 1.3 (SI)1.1 (CI) | 1.3 (SI)1.1 (CI) | 1.0 (CI) | 300\*\* | - | - |

\* Applicable to gasoline direct injection (DI) engines only.

\*\* Fixed DF of 300 mg/test shall be added to SHED test results. Alternative to fixed DF, manufacture may opt for ageing of evaporative emission control devices as per procedure specified in AIS 137 and as amended time to time.

(b) Limits and DF for 2-Wheelers (Vehicles with cc ≤ 50 and Vmax ≤50 km/hr)

| *Pollutant* | *TA=COP norms mg/km* | *Deterioration Factor (D.F.)* | *Test Cycle (Cold Start at T=0 sec)* |
| --- | --- | --- | --- |
|  |  |  |  |
| CO | 500 | 1.2 | IDC as per AIS137 |
| HC | 350 | 1.2 |
| NOx | 150 | 1.2 |

(c) Limits, DF and Durability Mileage for 3-wheelers:

**Three wheelers fitted with PI and CI Engines: BS VI**

| *Vehicle with PI engines* |
| --- |
|  |
|  | COmg/km |  | HC+NOxmg/km | NOx mg/km | EVAPmg/test | OBD | Durability mileage (km) Type V | Test Cycle (Cold Start at T=0 sec) |
| Limit | 440 |  | 435 | 130 | 1500 | Stage II | 35000 | IDC AIS137 |
| D.F. | 1.20 |  | 1.2 | 1.2 | -- | -- | -- |  |

| *Vehicle with CI engines* |
| --- |
|  |
|  | COmg/km |  | HC+Nox mg/km |  NOx mg/km | PMmg/km | OBD | Durability mileage (km) Type V | Test Cycle (ColdStart at T=0 sec) |
| Limit | 220 |  | 200 | 160 | 25 | Stage II | 35000 | IDC AIS137 |
| D.F. | 1.10 |  | 1.0 | 1.00 | 1.20 | -- | -- |  |

 III. Related documents

4. The above mentioned Indian regulatory text for assessing the durability of Pollution control devices for 2-Wheelers and 3-Wheeler vehicles are detailed in the following linked documents. The documents can be downloaded from the links given therein.

(a) Government Rule notification numbered GSR 889 (E) dt. 16th September 2016 which specifies the emission norms, durability mileage and mathematical DF values for 2W on page no. 32 in English and for 3W on page no. 36 in English. It also refers the relevant Automotive Industry Standards (AIS) that contain the test procedures. The linked file contains the regulatory text both in Hindi (official language) and in English -

<https://morth.nic.in/sites/default/files/notifications_document/Notification_no_G_S_R_889_E_dated_16_09_2016_regarding_Mass_Emission_Standards_for_BS_VI_0.pdf>

(b) The durability test procedures are detailed in AIS (Automotive Industry Standards) no. 137- Part 1 for 2W and AIS 137-Part 2 for 3 Wheelers (in English). AIS documents can be directly downloaded from below links

(i) 2W AIS standard (refer chapter 5 for durability procedure on page no. 209 onwards)

<https://hmr.araiindia.com/Control/AIS/515201944426PMAIS137_Part_1_F.pdf>

(ii) 3W AIS standard (refer chapter 5 for durability procedure on page no 161 onwards)

<https://hmr.araiindia.com/Control/AIS/524201950214PMAIS_137_Part_2_F.pdf>

1. \* In accordance with the programme of work of the Inland Transport Committee for 2021 as outlined in proposed programme budget for 2021 (A/75/6 (part V sect. 20) para 20.51), the World Forum will develop, harmonize and update UN Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate. [↑](#footnote-ref-2)