

Radio Frequency Allocation for various Automotive Applications

- In the last meeting it was agreed to take up the recommendations with Department of Telecommunications.
- SIAM in its meeting with DoT in December 2021 presented the requirements for delicensing of specific frequencies.
- **Committee may review the status.**

Radio Frequency Allocation for various Automotive Applications – SIAM Submission to DoT

S. No	Frequency Band	Max Power	Application & Submission
1.	312-315.25 MHz	0.25mW (EIRP) (89.2 dBμV/m@3m)	<p>Application: Remote keyless Go, TPMS, etc.</p> <p>Submission: This frequency band is used in USA and Japan for these applications in automobiles and therefore Indian OEMs need this band for manufacturing and testing of vehicles developed for these markets. The process of manufacturing/ experimental license is tedious for continuous manufacturing and does not support ease of business scenario. Therefore, we request for delicensing of this band for low powered automotive applications. Reference can be drawn for the examples shared in ITU report e.g. Japan has exemption for licensing for low power operations.</p>
2.	5.875 - 5.925 GHz	23 dBm / MHz, 10 mW	<p>Application: C-V2X, Vehicle to vehicle & vehicle to Infrastructure communication, etc.</p> <p>Submission: The band is delicensed for DSRC [Refer IND30 footnote on page 200 of NFAP 2018]. However, this band is also being used in US, EU and Japan for C-V2X for ITS (referenced attached FCC & EU documents for US, EU). C-V2X is a protocol like DSRC for implementing V2X use cases like V2V, V2I, V2P.</p>
3.	868.10 - 868.60 MHz	+14 dBm	<p>Application: Short range communication devices (20- 50m)-Keyless On/Off</p> <p>Submission: Submission: This frequency is de-licensed in Europe for application in TPMS/Keyless entry/Start Stop function. The application of this frequency also works with 434 MHz. We are not able to offer Radio remote application which also works at 434 MHz because 434 MHz being used by keyless entry / TPMS etc. Availability of this frequency will ensure offering of all features simultaneously.</p>

Analysis of vehicle fire - causes and preventive measures

- In the last meeting agreed to deliberate on the mechanism of capturing requisite data.
- SIAM was requested to review the proposal put up by ICAT and propose a way forward on the subject.
- SIAM has submitted its feedback on the subject vide its letter dated 6th April 2022.
- **Committee may review.**

SIAM submission

- **PRACTICAL ISSUES:**
 - a) Fire cases are particularly complex in nature as the evidence is usually gets destroyed together along with the vehicle in case of a fire accident, thus making it difficult to ascertain and establish root cause of the accident.
 - b) There is a lack of specialized agencies / investigative authorities which makes it a challenge to ascertain the cause of motor vehicle fires.
 - c) Customers find it difficult to understand, come to terms with and accept reasons for fire incidents. Easy to raise alternative theories as to the cause. Some cases are reported by media with the writer’s own views and imagination of the cause. Sometimes they are accepted by owners without an inspection of the vehicle.
 - d) Most fire causes are due to improper maintenance, tampering or fitment of after-market installations, alterations or retro fitments.
 - e) Social media allows people to believe it is easy to understand and assess the cause of a fire, however, that is not the case in reality.
 - f) Insurance companies lack adequate experience and generally take their chances in court by way of a subrogation claim (often using free-lance “forensic experts”). Most free-lance ‘Forensic Experts’ do not have necessary expertise, qualifications or experiences required to handle vehicle fire cases.
 - g) It is time consuming to resolve such cases. Therefore, it is vital to know what cases are reported and what is not to be reported. Proper reporting of such cases is imperative for manufacturer and Auto Industry brand image.

SIAM submission

• **LEGAL ISSUES:**

- a) Customers’ personal and vehicle details if uploaded on public system are open to privacy breach, hence some customers may not like confidential information to be uploaded onto a public system/domain. This would require a separate consent to be obtained from each customer, so that both parties are satisfied of the security of the system.
- b) As every recorded fire case would be documented, it is necessary to provide strong and well reasoned reasons for cause of vehicle fire, as this may be open to exploitation by lawyers in court of law.
- c) Easy bait for plaintiffs’ (especially insurance companies) lawyers to commence actions on evidentially borderline cases either as a gamble and/or to force a settlement.

SIAM submission

• **Observation on technical standards:**

- a) Implementation of AIS 101 (Rear end collision): It is proposed that to align the standard with UNR 34, retaining the fire safety requirements. The activity of standard alignment and implementation is being taken-up in AISC crash panel.
- b) Gas leakage alert system: Safety requirements such as provision of vent pipes for gas to vent out in case of leakage is already available in AIS024/28 standards. Leakage detection requirements are not necessary.
- c) Fire extinguisher: Shall be specific to fuel type. Already for E20 and CNG these requirements are considered.
- d) Implementation of FDAS for M1 category: There is No Global reference/ benchmark and hence not recommended.

SIAM submission

• **Recommendations:**

- a) As is frequently observed, it is hard to establish the root cause of vehicle fire because the extent of damage to the vehicle is quite high so the overall objective to suggest remedial actions needs further deliberation.
- b) It is understood in most of the cases cause of fire is due to usage non genuine accessories installed by customers & unauthorised retro fitment of critical systems/ subsystems which tempers fuel supply, engine combustion & electric supply etc., OEMs may not be responsible for vehicle fire in such incidents.
- c) Capturing and uploading of data related to fire incidences in vehicles cannot be done by OEMs as report back to OEM in such cases is quite low. It is suggested that IRDAI / Police would be better equipped to maintain the records on such portal as such incidences usually involve these stakeholders at the time of reporting and capturing of details.
- d) In case the government eventually decide in favour of creation of portal, restricted access may be provided only to concerned OEM and the Ministry/ Portal managing agency to the contents of such portal to protect confidentiality. It ought to be created under a system involving internal and external legal advisors so that privilege may be used as a defense to disclosure.
- e) The portal shall capture the date of reporting the incident to OEM. This reporting shall be on Quarterly basis covering incidents reported until last quarter.
- f) The nature of the information that is disclosed on such a portal may be limited to those which are not personally identifiable, by way of a format.

SIAM submission

• **Recommendations:**

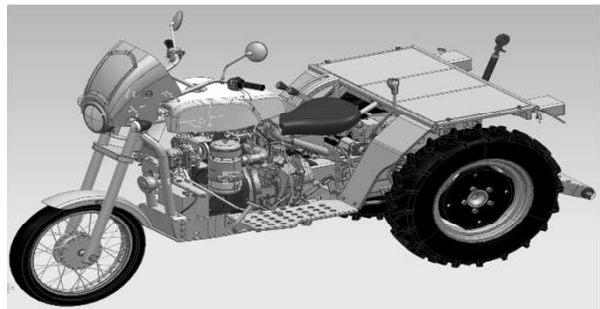
- g) Concerned vehicle should be made available for OEM analysis on request basis. In case Police/customer do not agree for vehicle analysis same shall be reported in the portal appropriately.
- h) Regarding “Analysis of investigation”, a common template defining minimum qualifiable parameters for the report would have to be developed so as to have common understanding among all stakeholders.
- i) Without a trained and technically equipped investigative agency, merely having a portal to publish particulars of individual vehicle accidents where a fire is involved may not be resulting in desired An ISO 9001:2008 Certified Society benefits. Sometimes the fire may be the consequence of another event, such as a collision, usage of spurious/non-standard parts or servicing from unauthorized service centres. This may pose challenge in segregating the reported cases.
- j) Global practices followed by developed countries such as those of National Highways and Traffic Safety Administration (NHTSA, USA) should be studied in detail before any online portal in India is considered for development and institutionalization.

**In view of the above, to begin with, SIAM would like to propose that collection and reporting of such data should be taken up by insurance agencies / police wherein the OEM shall also be intimated of such reporting by either of the agencies.
The same may be taken forward for implementation after thorough deliberation of the recommendations.**

Three wheeled Agricultural Tractor

- A proposal is received to frame regulatory requirements for three wheeled agricultural tractors.
- Preliminary testing as per current CMVR provisions in done by ICAT.
- ICAT will present the update.
- **Committee may deliberate and decide further course of action.**

3 Wheeled Tractor



8th April,2022

3 Wheeled Tractor



Parameter	IS 14272-2011	(EU) No 167/2013	CMVR
Vehicle category	A	T	A
No of wheels allowed	All wheeled		4 wheels only
Usage allowed	Usage :designed to pull, push, carry or actuate certain implements, machines or trailers	pull, push, carry and actuate certain interchangeable equipment designed to perform agricultural or forestry work, or to tow agricultural or forestry trailers or equipment	Usage : for field operations & with trailer to transport agricultural materials

Summary:

- Current CMVR definition of Agricultural tractor permits only 4 wheeled tractors
- European definition & IS 14272 allows all wheeled tractors

Testing Status

CMVR Test Performed	Test Standard	Test Status	Observation
(Max Speed)	AIS 116	<input checked="" type="checkbox"/>	■All these test were conducted successfully and no discrepancies were found
Brake	(IS 12061:1194) &(IS 12204:2014)	<input checked="" type="checkbox"/>	
Sound Level at Bystander	AIS 115 (Part 2):2009	<input checked="" type="checkbox"/>	
Driver-Perceived Noise Level	AIS-115 (Part 1):2009	<input checked="" type="checkbox"/>	
Turning circle diameter	IS 11859 (2004)	<input checked="" type="checkbox"/>	
Field of vision	AIS 107:2009	<input checked="" type="checkbox"/>	
Rear View Mirrors Installation	AIS-114 : 2009	<input checked="" type="checkbox"/>	
Installation requirement for lighting and light signalling devices	AIS 030 (Rev 01):2012	<input checked="" type="checkbox"/>	

Additional Test Performed

- Test Name: Stability Test
- Test Type: Non-CMVR
- Test Description:
Tilt Angle (Degree) @0.25°/s
The vehicle shall be tilted at very low rates of 0.25 °/s or less

➤ Observed Results:

Sr. No.	Left	Right
1	29°	30.6°
2	29°	30.4°
3	29°	30°

- Proposal: To mandate stability test with test limit of 28 degrees

Tractor-Definition comparison

Category	Summary	Observation	Proposal
1. Category A 1/ T1	<ul style="list-style-type: none"> ➤ Min track width ≥ 1150 mm ➤ Unladen mass > 600 kg ➤ Ground clearance: ≤ 1000 mm 	<p>➤ IS 14272 & European: (EU) No 167/2013 subclassify tractors in A1 to A4 categories</p> <p>➤ Only tractor definition is provided in CMVR. Sub categories of tractor A1 to A4 is not defined in CMVR</p>	<p>➤ Proposal</p> <ul style="list-style-type: none"> ○ Inclusion of 3 wheeled tractor under CMVR, 1989 ○ Amendment to tractor definition in CMV Rule 2 in line with (EU) No 167/2013 & IS 14272-2011 ○ Apply following additional test requirements for 3 wheeled tractor <ul style="list-style-type: none"> ▪ Stability test with test limit of 28 degrees ○ Following test to be exempted <ul style="list-style-type: none"> ▪ Steering effort test (AIS 042) ○ Rest of the test requirements shall be same as applicable on tractor as per CMVR, 1989
2. Category A 2/ T2	<ul style="list-style-type: none"> ➤ Min track width ≤ 1150 mm ➤ Unladen mass > 600 kg ➤ Ground clearance ≤ 600 mm 		
3. Category A 3/ T3	<ul style="list-style-type: none"> ➤ Min track width: NA ➤ Unladen mass < 600 kg ➤ Ground clearance: NA 		
4. Category A 4/ T4	special purpose wheeled agricultural tractors		

AIS-009 (Rev.2): Automotive Vehicles - Installation Requirements of Lighting and Light-signalling Devices for L Category Vehicles, their Trailers and Semi-Trailers.

Alignment Level : UN R 53 till its December 2018 version.

Key Elements:

- Annexure E is added to give explanation about "THE HORIZONTAL INCLINATION", "THE BANK ANGLE" AND THE ANGLE "Δ".
- Addition of definition and requirements of principal passing beam, interdependent lamp, lamps marked with 'D', Horizontal inclination, Horizontal inclination adjustment system (HIAS), Bank angle, HIAS, HIAS signal generator, HIAS test angle, Bend Lighting, H plane, Sequential activation, Emergency stop signal.
- Word "illuminating surface" is replaced by "apparent surface."
- Addition of provision to prohibit Stop lamps and direction indicator to be reciprocally incorporated
- Requirements for Daytime Running Lamp (DRL) / Automatic Headlamp On (AHO) are newly added

AIS-010 (Rev.2) (Part 3): Provisions concerning the Approval of Front Position Lamps, Rear Position Lamps, Stop Lamps, Direction Indicators, Rear- Registration Plate Illuminating Devices and Reversing Lamp for Vehicles of Category L and their Trailers and Semi-trailers.

Alignment Level : UN R 50 till its December 2018 version.

Key Elements:

- Introduction of the spherical coordinate measuring system and test point locations
- Introduction of Sequential activation of light sources
- Addition of LED as light source
- Addition of Maximum luminous intensity in candella for all lamps referred in AIS-010 (Rev.1) (Part 3)
- Modified Provision which allows the angle of 10° below the horizontal may be reduced to 5°, in the case where a device is intended to be installed with its H plane at a mounting height less than 750 mm above the ground.
- Modified Test procedure for photometry and colorimetry.

AIS-034 (Rev.2) (Part 1): Provisions concerning the Approval of Filament Light Sources for use in Approved Lamp of Power-driven Vehicles and their Trailers.

Alignment Level : UN R 37 till its December 2018 version.

Key Elements:

- Deletion of Filament light sources (Group 3 - light sources to be used as Replacement only- All category).
- R10/5W filament bulb retained with lead time as agreed in AISC .
- 8 New Filament Light Source added in Group 1 (Light source those can be used without any general restriction).
- 15 New Filament Light Source added in Group 2 (light source to be used only for signalling lamps, cornering lamps, reversing lamps and rear registration plate lamps).
- 23 filament source shifted from Group 1 & 2 to Group 3 (light sources to be used as Replacement only).

AIS-034 (Rev.2) (Part 2): Provisions concerning the Approval of Gas-discharge Light Sources for use in Approved Lamps of Power-driven Vehicles.

Alignment Level : UN R 99 till its December 2018 version.

Key Elements:

- Technical Alignment with Respective UN Regulation for all categories of vehicles.
- Addition of 5 New Gas discharge light source (D5S, D6S, D8R, D8S, D9R).

AIS-057 (Rev. 2): Performance Requirements for Retro-Reflecting Devices for Motor Vehicles and their Trailers.

Alignment Level : UN R 3 till its December 2018 version.

Key Elements:

- Definition for Colour of the reflected light of the device is added.
- Provision to prohibit the shape of the light emitting surfaces shall not be easily confused with a triangle at normal observation distances is added.
- While alignment Annexure with respect to Stability In Time of the Optical Properties of Retro-reflecting Devices and Colour Fastness are not considered.

Summary of work on light and light signaling standards

- ❑ Work on AIS 009 (Rev. 2), AIS 010 (Part 3) (Rev. 2), AIS 034 (Part 1) (Rev. 2), AIS 034 (Part 1) (Rev. 2), AIS 057 (Rev. 2) is completed.
- ❑ Revision of AIS 012 (Part 1 to 10), AIS 010 (Part 1, 2, 4 and 5) and AIS 083 is under discussion and is expected to complete by June 2022.
- ❑ At the time of adoption of above standards, lead time for implementation of all lighting standards will be proposed as a package.
- ❑ Further AIS 008 (Rev.2), AIS 089 (Rev.1) and AIS 090 (Rev.1) were adopted in previous meetings of CMVR-TSC and subsequent draft notifications for the same was submitted to Ministry.
- ❑ This Draft Notification may be deferred and included in notification which will be proposed for all lighting standards package. In the next meeting of CMVR-TSC.

Amendments for adoption

- Following Amendments to AIS standards are proposed for adoption:

Sr. No.	Amd. Nos.	Title of AIS standard	Nature of amendment
1.	Amd 10 to AIS-007 (Rev.5)	Information on Technical Specifications to be submitted by the Vehicle Manufacturer (Revision 5) Remark: Pages other than tables	<ul style="list-style-type: none"> a. Add technical information for base fuel type and blend fuel type, since different types of alternate fuels are currently getting notified. b. Add information regarding Endurance Braking System in Table 5. c. Add Tyre specific parameters to address compliance to AIS:142. d. Add information regarding “Manufacturing Plant Location(s) of each manufacturer” and Part No. for Wheel Rims and Safety Glass considering QCO issued by BIS. e. Modify information asked for Lamps and Bulbs for two and three wheeled vehicles, in line with four wheeled vehicles. f. Add requirements of Quadricycles in Table 1A. g. Renumber Table 1 as 1C and Table 1C as Table 1. The renumbered Table 1 will only be applicable for L2 category of vehicles and Table 1C will be applicable for L3 and L7 category of vehicles.
2.	Amd 2 & 3 to AIS-017	Procedure for Type Approval and Certification of Vehicles for Compliance to Central Motor Vehicles Rules.	<ul style="list-style-type: none"> Amd 2 - To withdraw Amendment 1 Amd 3 - To modify requirements for Application for Type Approval and definition of notified standard. To delete Annexure A regarding List of Applicable Rules and Method of Establishing Compliance and to delete Appendix C1 (Inter-Relationship between CEA and CMVR) and Appendix C2 (Definitions of type and variant for major systems)
3.	Amd 1 to AIS-017 (Part 6)	Procedure for Establishing Whole Vehicle Safety Conformity of Production (WVSCoP) for L, M, N category of vehicles, E-rickshaws & E-carts	<ul style="list-style-type: none"> Amendment is carried out to bring clarity on following: <ul style="list-style-type: none"> a. Reference standards b. Applicability of the standards c. Sealed area for pre-dispatch vehicles d. Selection of battery-operated vehicles produced for sale without battery e. Language, etc.

Amendments for adoption

Sr. No.	Amd. Nos.	Title of AIS standard	Nature of amendment
4.	Amd 5 to AIS-023	Automotive Vehicles - Seats, their Anchorages and Head Restraints for Passenger Vehicles of Categories L7, M2, M3 and Goods Vehicles of Category N - Specifications	To add simulation method as an alternate method for approval of seats
5.	Amd 1 to AIS-028 (Rev.1) (Part A), (Part B) and (Part C)	Code of Practice for use of Gaseous Fuels in Internal Combustion Engine	To retain the content of compliance plate and Label as the earlier version of AIS-028 standard
6.	Amd 10 to AIS-037	CoP of Safety Component	To cover all traction batteries in the scope of AIS-037 with following applicable test while doing CoP: i) Electrical Safety - Overcharge protection test ii) Thermal Safety - Over-temperature protection test iii) Mechanical safety - Vibration test
7.	Amd 1 to AIS-038 (Rev.2)	Specific Requirements for Electric Power Train of Vehicles Part I: Requirements of a Vehicle with Regard to Specific Requirements for the Electric Power Train Part II: Requirements of a Rechargeable Electrical Energy Storage System (REESS) with Regard to its Safety	a. To modify the scope of the standards by deleting the reference of Rule 2 (u) of CMVR since the said rule is only for Battery Operated Vehicles (BOV) whereas the safety requirements for electrical safety and Traction Battery Safety covered in AIS-038 (Rev.2), are to be met by hybrid electric and fuel cell electric vehicles also. b. To bring clarity with respect to pulsating DC voltages which is in-line with GTR 20 (Phase 1) and UN R 100 proposal.

Amendments for adoption

Sr. No.	Amd. Nos.	Title of AIS standard	Nature of amendment
8.	Amd. 1 to AIS-039 (Rev.1)	Electric Power Train Vehicles – Measurement of Electrical Energy Consumption	a. To bring clarity with respect to the energy consumption in case of multiple driving modes b. To bring clarity with respect operation of DRL/AHO during the test. c. Full MIDC cycle to be used for energy consumption test for vehicle categories of M and M2 with GVW up to 3.5 Ton. Note: Amendment is proposed to add testing as per full MIDC as an option. Mandatory testing as per full MIDC, for respective vehicle category will be effective from the date of implementation of next revision of AIS 039 (Rev. 1).
9.	Amd 2 to AIS-040 (Rev.1)	Electric Power Train Vehicles - Method of Measuring the Range	a. Add full MIDC requirement for measuring the range. b. To bring clarity with respect to the energy consumption in case of multiple driving modes c. To bring clarity with respect operation of DRL/AHO during the test
10.	Amd 12 to AIS-052 (Rev.1)	Code of Practice for Bus Body Design and Approval	All Type 1 buses are having different types of seats such as front facing, rear facing & side facing. Further standee passengers are allowed in all Type 1 buses. Fitment of the reclining seats will reduce the seating capacity, since the seat pitch required will be more than 650 mm. Hence amendment is proposed to make provision in Type 1 buses for fitment of Reclining seats as an option & at the discretion of manufacturer & user.
11.	Amd 1 to AIS 062 (Rev. 1)	Agricultural Tractor Lighting	To add Construction Equipment Vehicle in the scope of the standard

Amendments for adoption

Sr. No.	Amd. Nos.	Title of AIS standard	Nature of amendment
12.	Amd 5 to AIS- 065	Statutory Plates and Inscriptions for Motor Vehicles, their Location and Method of attachment – Vehicle Identification Numbering System	Inclusion of code for test agency - National Automotive Test Tracks (NATRAX) as it is included under Rule 126 of CMVR by Ministry of Road Transport and Highways (MoRT&H), vide their notification number GSR 511 (E) dated 18th July, 2019.
13.	Amd 3 to AIS-071 (Part 1)	Automotive Vehicles - Identification of Controls, Tell-Tales and Indicators	AIS 160 specifies visual display, control and tell-tale requirements for CEVs which are as per ISO IS/ISO: 6011:2003 and IS/ISO: 10968:2004 for CEVs covered in IS/ISO 6165:2012 and as per AIS 071 (Part 1) for CEVs other than those covered in IS/ISO 6165:2012. The amendment is proposed to bring clarity on the same.
14.	Amd 3 to AIS-075	Approval of Vehicles with regards to their protection against unauthorized use-four wheeled vehicles)	To add provisions to extend the approvals granted as per AIS-075 (Part 1), which is primarily meant for M1 and N1 category vehicles, to the vehicles covered in the scope of 075 (Part 2) i.e. to M2, M3, N2 and N3 category of vehicles.
15.	Amd. 1 to AIS 089 (Rev.1)	Approval of Rear Marking Plates for Heavy and Long Vehicles	<ul style="list-style-type: none"> a. Replace cross reference of AIS-053 with IS-14272:2011 b. To give reference of AIS-010 (Rev.1) (Part 5) till the date of implementation of AIS-010 (Rev.2) (Part 5) c. Clarity on optional fitment of Class 5 devices

Amendments for adoption

Sr. No.	Amd. Nos.	Title of AIS standard	Nature of amendment
16.	Amd. 1 to AIS 090 (Rev.1)	Approval of Retro-Reflective Markings for Motor Vehicles, their Trailers and Semi-Trailers	<ul style="list-style-type: none"> a. To exempt chassis-cabs, incomplete vehicles such as drive-away-chassis and tractors for semi-trailers from the scope of AIS-090 (Rev.1). b. To Replace cross reference of AIS-053 with IS-14272:2011. c. To give reference of AIS-010 (Rev.1) (Part 5) till the date of implementation of AIS-010 (Rev.2) (Part 5). d. To modify definition of full contour marking. e. To add definition of partial contour marking. f. Editorial correction in Annex 5, Table 1 for better clarity.
17.	Amd 4 to AIS-110	Automotive Vehicles -Temporary-Use Spare Wheel/ Tyres and Run Flat Tyres	<ul style="list-style-type: none"> a. To specify design speed of 80 km/hr for temporary spare unit, fitted on vehicles of category L7, for types 1, 2, and 3. b. To add clarity with respect to use of Max Speed Warning symbol for Quadricycle since maximum speed of such vehicles is 70 km/h. c. To add provision for L7 category vehicles, an instruction to drive with caution and at no more than the permitted maximum speed which may be specified by vehicle manufacturer. d. Provision to allow Testing of Category L7 with maximum speed less than 55 km/hr at 90 percent of maximum speed as per current IS standard for brakes and addition of formulae for stopping distance for such vehicles.
18.	Amd 6 to AIS-113	Code of Practice for Type Approval of Trailers / Semi-trailers of categories T2, T3 and T4 being towed by Motor Vehicles of categories N2 and N3	To add provisions for Type Approval of Road Trains

Amendments for adoption

Sr. No.	Amd. Nos.	Title of AIS standard	Nature of amendment
19.	Amd 3 to AIS-123 (Part 1)	CMVR Type Approval of Hybrid Electric System Intended for Retro-fitment on Vehicles of M and N Category having GVW <= 3500 kg	To delete environmental tests requirements for traction motor to bring in-line with UN R 85/AIS 041 and deletion of tests for Wiring Harness / Cables / Connectors, as safety requirement for high voltage cable colour code, is already part of the standard.
20.	Amd 1 to AIS-123 (Part 2)	CMVR Type Approval of Hybrid Electric System Intended for Retro-fitment on Vehicles of M and N Category having GVW exceeding 3500 kg	
21.	Amd 3 to AIS-123 (Part 3)	CMVR Type Approval of Electric Propulsion Kit Intended for Conversion of Vehicles for Pure Electric Operation	
22.	Amd 4 to AIS-123 (Part 1)	CMVR Type Approval of Hybrid Electric System Intended for Retro-fitment on Vehicles of M and N Category having GVW <= 3500 kg	<ul style="list-style-type: none"> a. To add Bi-Mode Hybrid Vehicle Configuration. b. To add Series Hybrid Retro-fitment Configuration. c. To permit increase in GVW up to 10% after retro-fitment. d. To measure range and energy consumption in Electric Mode of Bi-Mode vehicle configuration e. To extend retro-fitment to same category of vehicle irrespective of vehicle manufacturer f. To Add AIS 156 and AIS 038 (Rev 2) new standards

Amendments for adoption

Sr. No.	Amd. Nos.	Title of AIS standard	Nature of amendment
23.	Amd 1 to AIS-124	Procedure for Type Approval and Certification of Motor Caravans for compliance to Central Motor Vehicles Rules	<ul style="list-style-type: none"> a. To modify in the scope of the standard the seating capacity to 12 excluding driver in place of 13 excluding driver. b. To correct version of reference standards for Fire extinguishers.
24.	Amd 4 to AIS-125 (Part 1)	Constructional and Functional Requirements for Road Ambulances	To allow provision to fit an attendee seat near the head of stretcher, in case of multi stretcher ambulance.
25.	Amd 1 to AIS-129	End of Life of Vehicle	To align the requirements with respect scrapping centre with the ones specified through the draft notification G.S.R 190 (E) dated 15th March 2021 and to modify the scope of Part 2A and 2B to include L, M and N category vehicles.
26.	Amd 1 to AIS-135	Fire Detection and Alarm System (FDAS) & Fire Detection and Suppression Systems (FDSS) for Buses – Requirement	For addition of Fire protection system in occupant compartment.
27.	Amd 5 to AIS-145	Additional Safety features for Category M & N Vehicles	To mandate airbags for the front passenger
28.	Amd 6 to AIS 153	Additional Requirements for Bus Construction	To add provisions for exemption from vibration and harshness test for buses with air suspension, if same body is tested and approved with mechanical suspension.

Amendments for adoption

Sr. No.	Amd. Nos.	Title of AIS standard	Nature of amendment
29.	Amd 1 to AIS-156	Specific Requirements for L Category Electric Power Train Vehicles Part I: Requirements of a Vehicle with Regard to its Electrical Safety Part II: Requirements of a Rechargeable Electrical Energy Storage System (REESS) with Regard to its Safety	<ul style="list-style-type: none"> a. To modify the scope of the standards by deleting the reference of Rule 2 (u) of CMVR since the said rule is only for Battery Operated Vehicles (BOV) whereas the safety requirements for electrical safety and Traction Battery Safety covered in AIS-156, are to be met by hybrid electric and fuel cell electric vehicles also. b. To brings clarity with respect to pulsating DC voltages which is in-line with GTR 20 (Phase 1) and UN R 100 proposal.
30.	Amd 1 to AIS-159	High Security Registration Plate (HSRP)	<p>To add following</p> <ul style="list-style-type: none"> a. Vehicle categories such as agricultural tractors, power tillers, modular hydraulic trailer in the scope of the standard b. Provisions for green strip for BS VI vehicle. c. To add clarity with respect to temperature resistance test requirements and incorporation of tolerances in the third registration plate stickers for characters and numbers.

Amendments for adoption

Sr. No.	Amd. Nos.	Title of AIS standard	Nature of amendment
31.	Amd 1 to AIS 160	Construction Equipment vehicles	<p>Provision for deemed compliance to Safety Standard SS15.1 if compliance as per AIS 010 and AIS 012 is granted.</p> <p>Installation and performance requirement for light and light signalling devices.</p> <p>Performance requirement for retro reflective tape.</p>
32.	Amd 1 to AIS 163	Special Purpose Vehicles	<p>Amendment is carried out to define specifications for Cash Vans viz., Power to weight ratio, payload, Engine Capacity and Ground Clearance.</p>

**Agenda 4.0 Report from AISC
(b) Report on Running Subjects**



**2nd Progress Report by Core
Committee**

13th April 2022

***Core Team Members**

Mr. A. V. Mannikar, Advisor, ARAI
Mr. Deepak Sawkar, Sr. Advisor, Maruti
Suzuki
Mr. C. Anilkumar, GM, TATA Motors
Mr. Amit Karwal, DGM, ICAT

2nd Progress Report - Bharat NCAP Core Committee

- MoRTH gave direction in Nov 21, to review and revive **Bharat-NCAP** proposal submitted in the past
- Accordingly **Core Team** under AISC was established to review and recommend the implementation plan and also review Technical and Assessment Protocols
- Core Committee has held 10 meetings till date and formulated 'Draft Bharat NCAP Program' being proposed herewith
- Consultations have been held with SIAM and ACMA as stakeholders and their recommendations have been considered

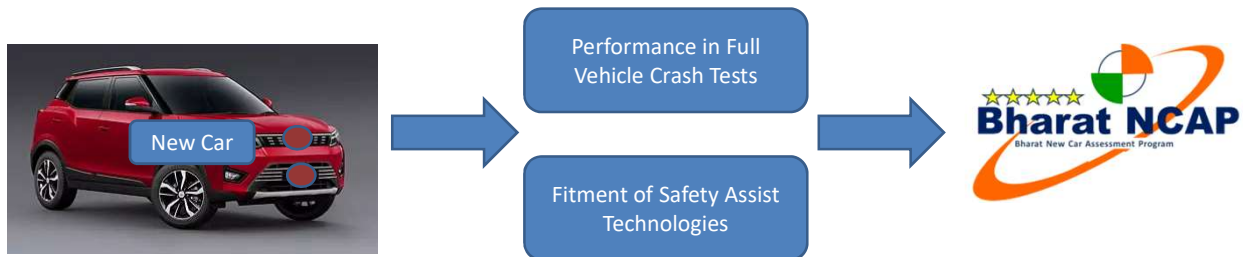
2nd Progress Report

- 1st Draft Program was presented to MoRTH on 9th Feb.2022
- Core Committee has done further consultations and has refined the program to adhere to guiding principle of keeping 'Bharat NCAP' program equivalent to or ***exceeding the requirements of Global NCAP 2022-25 Program***
- Draft Test Protocols are ready for approval
- **Program proposed herewith is for 2022-2025* period**
- **SIAM has recommended to begin with Voluntary Phase wherein OEMs can offer the cars for testing and Test Agencies can test and publish the test results**

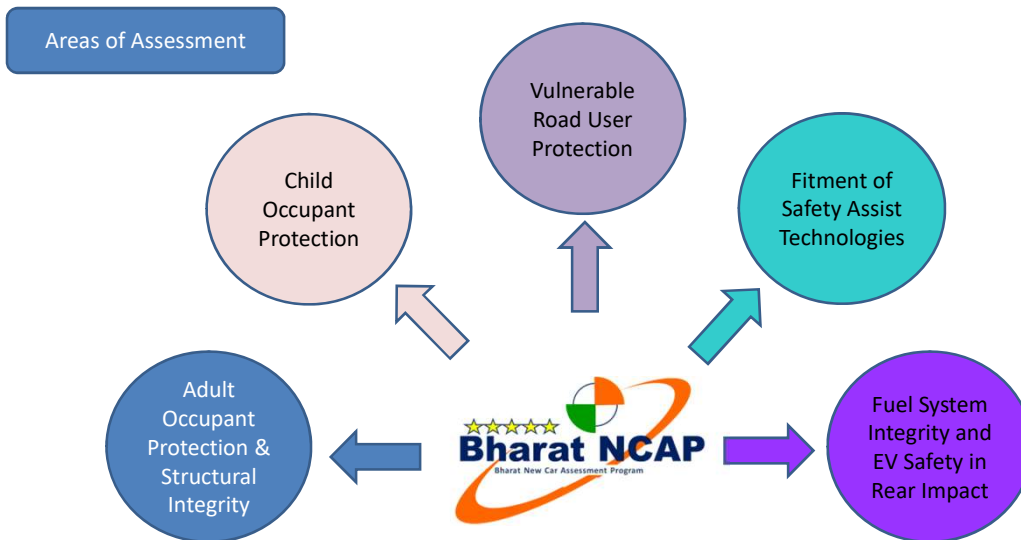
* Subject to approval of MoRTH and subsequent notification with adequate lead times

Proposed Bharat New Car Assessment Program (Bharat NCAP)

- The Scheme proposes to assesses safety of car models ***sold/intended to be sold in the Indian Market***
- Bharat NCAP requirements are ***over and above Regulatory Requirements***
- Program is proposed as ***Voluntary Program***
- Assessment of Safety will be done on the basis of performance of the car in ***crash tests and installation of advanced safety assist technologies***



Proposed Bharat New Car Assessment Program (Bharat NCAP)



Proposed Bharat New Car Assessment Program (Bharat NCAP)

Crash Tests in Bharat-NCAP

Test	Dummies	Test Speed	Area of Assessment
Frontal ODB Crash Test	Hybrid-III 50th - 02 No., Q1.5-01 No., Q3-1 No.	64kph	Adult and Child Occupant Protection
Side MDB Crash Test	ES-2 -01 No., Q1.5-01 No., Q3-1 No.	50kph	
Pole Side Impact*	ES2	29kph	
Pedestrian Protection Headform & Legform Impact Tests	Adult and Child Headforms, Flex-PLI Legform	35kph	Vulnerable Road User Protection
Rear Moving Barrier Impact as per AIS101	Not Applicable	35kph	Fuel System Integrity for ICE and EV Safety

*Proposed for 5-Star Performance

Proposed Bharat New Car Assessment Program (Bharat NCAP)

Safety Assist Technologies* for Bharat NCAP






Sr. No.	Description of Safety Technology	Group
1	Seat Belt Reminders on all forward-facing all seating positions	Safety Assist Technologies
2	3-Point seat belts on all forward facing seating positions	
3	Head Restraints in all forward facing outboard seats	
4	Hill Climb Assist Technology	
5	Validated Electronic Stability Control (ESC)	

* Out of several candidate technologies, the proposed list of technologies is recommended as most relevant and potential contributor to enhance overall occupant safety environment

Proposed Bharat New Car Assessment Program (Bharat NCAP)

Sr. No	Group	Description of test / Evaluation	Assessment Points	Assessment Points	Weightage	Normalized Score
A	Adult Occupant Protection	Frontal ODB-64KPH	16	32	60%	60
		Side MDB -50KPH	16			
		Pole Side impact-29kph	Qualifier for 5 star			
B	Child Occupant Protection	Assessment in ODB 64kph test	16	49	20%	20
		Assessment in Side MDB test	8			
		CRS Installation Checks	12			
		Vehicle based Assessments	13			
C	Pedestrian Protection	Adult Headforms	24	30	20%	20
		Child Headforms				
		Lower-Leg Impacts	6			
D	Fuel System Integrity	Rear Impact Test (AIS101)	Qualifier for 1 Star & above			
E	Safety Assist Technologies	5-Safety Technologies (listed in Slide No. 7)	Qualifier. Minimum 'n' technology for 'n' STAR			
Total Points				111	100%	100

Proposed Bharat New Car Assessment Program (Bharat NCAP)

Overall Star Rating Program			
STARS	Minimum Overall Weighted Score (AOP + COP + VRU)	SAFETY ASSIST Technologies	QUALIFYING SAFETY
	85%	All 5	POLE SIDE IMPACT + FUEL SYSTEM INTEGRITY
	70%	Any 4	FUEL SYSTEM INTEGRITY
	55%	Any 3	FUEL SYSTEM INTEGRITY
	40%	Any 2	FUEL SYSTEM INTEGRITY
	30%	Any 1	FUEL SYSTEM INTEGRITY

Comparison of proposed Bharat NCAP Program with Global NCAP 2022-25 Program

Assessment Areas	Test	Dummies	Test Speed	Global NCAP 2022-25	Bharat-NCAP	Differences
Adult Occupant Protection (AOP)	Frontal ODB 64 KPH	Hybrid-III 50th - 02 No., Q1.5-01 No., Q3-1 No.	64kph	Yes	Yes	Aligned with Global NCAP
	Side MDB 50KPH	ES-2 -01 No., Q1.5-01 No., Q3-1 No.	50kph	Yes	Yes	Aligned with Global NCAP
	Pole Side Impact*	ES2	29kph	<ul style="list-style-type: none"> Test mandatory for 5-star Internal Test Data to be provided with specified fitment rate for 4 star 	Test proposed for 5-Star with ES2 dummy	Aligned with Global NCAP
Child Occupant Protection (COP)	Frontal ODB 64 KPH	Q1.5-01 No., Q3-1 No.	64kph	Yes	Yes	Aligned with Global NCAP
	Side MDB 50KPH	Q1.5-01 No., Q3-1 No.	50kph	Yes	Yes	Aligned with Global NCAP
Vulnerable Road User /Pedestrian Protection (VRU)	Head Impacts	Adult and Child Headforms	35kph	Compliance to UN R127 from 3 Star & above	Yes	Exceed Global NCAP
	Legform Impacts	Flex-PLI	40kph			
Fuel System Integrity	Rear Moving Barrier Impact	Not Applicable	35kph	No	Yes	Exceed Global NCAP

*Curtain airbags are assessed in worldwide NCAPs via a Pole Side Impact Test. In most countries, curtain airbags are yet to be mandated and are usually introduced thru NCAPs. In light of the draft notification on 6-airbags as per inputs by members during BNCAP consultations, Pole Side Impact test is recommended for 5-star performance .

ARAI® Progress through Research		CMVR-TSC – Agenda 4 (b)			Annexure VII
Assessment Areas	Technology	Global NCAP 2022-25	Bharat-NCAP	Differences	Status
SAFETY ASSIST TECHNOLOGIES	Safety Belt Reminder for all forward facing seats	Yes	Yes	<ul style="list-style-type: none"> In GNCAP, SBR for rear seats is mandatory for 5-star only Bharat NCAP identifies SBR as priority technology and hence is proposed for all forward facing seating positions 	Exceed Global NCAP
	Validated Electronic Stability Control (ESC)	Yes	Yes	<ul style="list-style-type: none"> In GNCAP, ESC is mandatory for 5-star and 4-star performance as standard fitment in tested model and in popular variant. For 3-star performance, ESC shall be offered in atleast 01 variant. Bharat NCAP proposes ESC as mandatory fitment for 5-star and allows choice for other ratings 	Aligned with Global NCAP
	3-Point belt all forward facing seating positions	Yes	Yes	<ul style="list-style-type: none"> Global NCAP specifies 3-Pt. belt for rear row center seating position as requirement for child protection Bharat NCAP has proposed this as safety technology 	Aligned with Global NCAP
	Validated Head Restraint Fitment @ all forward facing outboard seats	No	Yes	<ul style="list-style-type: none"> Bharat NCAP has proposed fitment of validated head restraints on all forward facing outboard seats as this feature ensures protection from risk of whiplash injuries 	Exceed Global NCAP
	Hill Climb Assist	No	Yes	<ul style="list-style-type: none"> Bharat NCAP proposes Hill Climb Assist as an important safety feature to help drivers in maintaining full control in hilly driving conditions 	Exceed Global NCAP

ARAI® Progress through Research		CMVR-TSC – Agenda 4 (b)		Annexure VII
<p>➤ Key Differences with Global NCAP 2022-25 Program</p> <p>➤ It is ensured that Bharat NCAP is technically aligned with Global NCAP 2022-25 program</p> <p>➤ Additionally,</p> <ul style="list-style-type: none"> ➤ Bharat NCAP proposes assessment for Vulnerable Road Users – Exceeds Global NCAP requirements ➤ Bharat NCAP proposes fitment of Safety Assist Technologies from 1-star onwards – Exceeds Global NCAP requirements ➤ Bharat NCAP proposes unique safety assist features such as Hill Climb Assist and Rear Row Head-Restraints – Exceeds Global NCAP ➤ Bharat NCAP specifies ESC as mandatory for 5-star. Hence technically aligned 				

➤ **Open Points and Way Forward**

Technical Subjects

- Bharat NCAP considering following options for Rating .
 - Rating base variant only
 - Rating base + higher variant (OEM offered)
 - **Rating all variant**
 - Any other possibility which Ministry might like to be included.

Administrative Subjects

- **Test Agencies can support/lead** implementation of Voluntary Phase, before administrative arrangements can be put in place by MoRTH
 - **Proposal for Implementation Time Line and Notification :**
 - **Preparatory phase :** April 22 to October 22 (Readiness of processes and planning of necessary resources)
 - **Pre-Run (Calibration Phase) :** October 22 to April 23(Process Validation , Test Lab Accreditations and correlation), Training of Staff for specialize Jobs, administrative procedure stream lining.
 - **Proposed Official Launch of Voluntary phase : April 23 on Wards**
 - Implementing Agency, Vehicle Sampling Guidelines, Test Lab Accreditation, Public Relations and RTI redressal mechanisms have to be put in place
- Draft Notification : To be prepared appropriately in discussions with Ministry**
- Funding:** This will need Separate discussion .

➤ **Bharat NCAP Core Group Meetings**

Sr. No	Meeting Details	Date	Meeting Mode	MoM
1	Meeting No. 1 – Core Group + SIAM Invitees	12-August-2021	Online	Available
2	Meeting No. 2 – Core Group + Invitees	27-August-2021		
3	Meeting No. 3 – Core Group	15-December-2021		
4	Meeting No. 4 – Core Group	10-January-2022		
5	Meeting No. 5 – Core Group + Sub-Group Chairs	03 & 04 February 2022		
6	Meeting No. 6 – Core Group + Sub-Group Chairs	15-February-2022		
7	Meeting No. 7 – Core Group + Sub-Group Chairs + ACMA Invitees	24-February-2022		
8	Meeting No. 8 – Core Group	04-March-2022		
9	Meeting No. 9 – Core Group + Sub-Group chair	17-March-2022		
10	Meeting No. 10 – Core Group + Sub-Group chair	25-March-2022		
11	Meeting No. 11 – Core Group	02-April-2022		
12	Workshop with ACMA	11-March-2022		--

➤ **Acknowledgements**

	Full Name	Responsibility with Bharat NCAP	Parent Organization
1	Abhay Mannikar	Member, B-NCAP Core-committee	Advisor, ARAI
2	Deepak Sawkar	Member, B-NCAP Core-committee	Maruti Suzuki India Ltd.
3	Anil Kumar Chigullapalli	Member, B-NCAP Core-committee	TATA Motors
4	Amit Karwal	Member, B-NCAP Core-committee	ICAT
5	Pratyush Khare	Chairman-Sub-group on Frontal Impact	TATA Motors
6	Praveen Bansode	Chairman-Sub-group on Side Impact	Mahindra & Mahindra
7	Alok Jaitley	Chairman-Sub-group on Vehicle Selection	Maruti Suzuki India Ltd.
8	Amit Singh	Chairman-Sub-group on Pedestrian Protection	Maruti Suzuki India Ltd.
9	Rajendra Khile	Chairman-Sub-group on Child Safety	Renault Nissan India
10	Sakthivelan S	Chairman-Sub-group on Safety Technology	Mahindra & Mahindra

To a safer mobility while celebrating



Implementation plan of Revision 1 of AIS 004 (Part 3) (Rev. 1) - EMC.

**Alignment Level :
UN R 10 (Revision 2) (Amendment. 2)**

Key Elements:

- The Revision was adopted during the 57th meeting of CMVR-TSC.
- The scope of the standards is applicable to M, N and T category of vehicle which covers the following points:

Present Standard - AIS 004: Part 3:	New Proposed Revision - AIS 004: Part 3: Rev 1
<ul style="list-style-type: none"> • Covers ICE vehicles and Electric Vehicles EMC Testing • Also covers Electronic Sub Assembly (ESA) testing for all above vehicles. • Inline with UN R 10.3 	<ul style="list-style-type: none"> Proposed revision covers EMC testing of (ICE +EV) vehicles • ++Vehicle which has REESS (Battery) charging mode coupled to the power grid • ++Electronic Sub Assembly (ESA) with REESS (Battery) charging mode coupled to the power grid • Inline with UN R 10.5

Implementation : 1st April 2024 (New Models) and 1st April 2025 (Existing Models)

Amendment to AIS 159 (High Security Registration Plates)

Key Elements:

- Amendment 1 to AIS 159 was proposed to address the following:
 - Vehicle categories such as agricultural tractors, power tillers, modular hydraulic trailer are added in the scope of the standard.
 - Provisions for green strip for BS VI vehicle.
 - To add clarity with respect to temperature resistance test requirements and incorporation of tolerances in the third registration plate stickers for characters and numbers.
 - To address some Technical deficit viz; tolerances in the test's specifications, to add dimensional requirements inline with CMVR 51 and its dimensional tolerances etc.
- Consensus could not be achieved with respect to provision of tolerances for the Size of letters and numerals of the registration mark.
- In the 67th meeting of AISC Amendment 1 was approved except for the changes where consensus could not be reached as highlighted above.

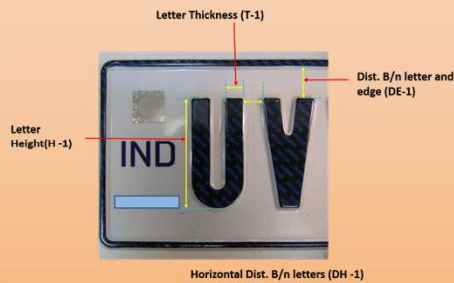
Amendment to AIS 159 (High Security Registration Plates)

Provision of tolerance for size of letters and numerals of the registration mark:

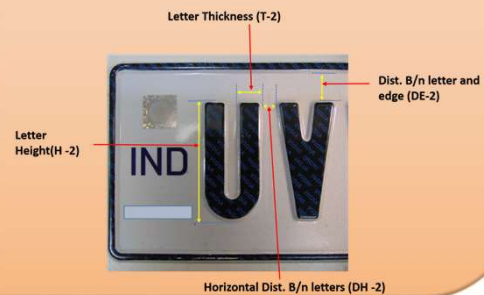
Issues:

- CMVR 51 states that the dimensions shall not be less than those specified in the table given in CMVR 51.
- Earlier in absence of HSRP the letters and numerals were either painted or put as stickers on registration plate.
- With introduction of HSRP, letters and numbers are now embossed on the registration plate and security features. Since there is an ambiguity with respect to the measurement procedure for the sizes of letters and numerals it is felt that the procedure for measurement needs to be specified clearly.

Measurement on blackening portion of embossing area



Measurement on root of embossing area

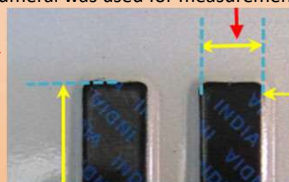
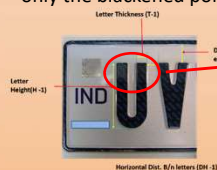


Amendment to AIS 159 (High Security Registration Plates)

Provision of tolerance for size of letters and numerals of the registration mark:

Issues:

- In absence of clear procedure for measurement, HSRP were approved by Test Agencies by either of the measurement technique as shown in earlier slide.
- Till date no observation was received from any transport authorities or users on the same.
- While working on Amendment 1 to AIS 159 need was identified to bring clarity with respect to measurement procedure. It was agreed that the same procedure needs to be followed by all test agencies.
- On advise of MoRTH a round robin exercise was carried out by all test agencies by following a set procedure wherein only the blackened portion of the letter/numeral was used for measurement as shown in figure.



Acceptable range of Z-Score as per NABL / ISO:17025 is less than 2

Round robin results shows maximum is 1.50 and minimum is 0.00

- The data generated during the exercise highlighted the additional need of specifying tolerances for the size of letters and numerals since it was difficult to meet the specified dimensions of Rule 51, specially for small size HSRP viz., **200X100mm and 285X45mm**, if only blackened portion is considered.

Amendment to AIS 159 (High Security Registration Plates)

Provision of tolerance for size of letters and numerals of the registration mark:

Proposal – Modification in Rule 51:

Insert a note below table:

1. All measurements shall be done in visible hot stamped black foil area.
2. Tolerances of - 2mm be allowed in dimensions specified in Rule 51 for plate size: 200X100mm & 285X45mm and -1 mm for plate size 500x120 and 340mm x 200 mm.

Committee may deliberate

HSRP - New Color scheme for Alternate Fuel Vehicles

- MoRTH requested the panel to deliberate and submit the proposal for the new colour scheme for vehicles running on alternate fuels.
- SO 2339(E) dated 14.07.2020 specifies different colour schemes as shown below:

TABLE			
S. No.	CLASS OF VEHICLE	ALPHA NUMERIC COLOUR	BACK GROUND COLOUR
(1)	(2)	(3)	(4)
1.	Non Transport	Black	White
2.	Transport	Black	Yellow
3.	Transport Vehicles under Rent- a- Cab	Yellow	Black
4.	Transport Vehicles under Rent- a- Cab (Battery Operated)	Black	Green
5.	Battery Operated Vehicle Non Transport	White	Green
6.	Battery Operated Vehicle Transport	Yellow	Green
7.	Diplomat consular Dip Mission	White	Deep Blue
8.	Consular Post(registration mark consisting of Letter "CC"/"UN"/"IOC")	Yellow	Deep Blue
9.	Home Based non diplomatic Official of diplomatic mission or consular post (registration mark consisting of Letter "CD"/"UN"/"IOD")	White	Light Green
10.	Vehicles with Temporary Registration	Red	Yellow
11.	Vehicles in Possession of Dealers	White	Red

- AIS 159 panel deliberated on the subject and it was proposed that instead of going for different colour scheme for registration plate, emphasis shall be given to use more colour scheme on 3rd registration plate sticker to identify the vehicles running on Alternate Fuels.
- **Outcome of the panel discussion was informed to MoRTH on 24.03.2022.**

AIS-180: Construction of vehicles carrying Hazardous Goods

Alignment Level : UN Regulation 105 and ADR 2021 (Part 9).

Key Elements:

- 2 Panel meetings conducted.
- The panel has delegated responsibilities to various task holders to review the various provisions.
- The clarity on role of PESO in this context will be needed and their representatives along with representatives from All India Motor Transport Association may be involved in the panel deliberations.
- Panel would be ready with the updates by the next meeting of AISC.

AIS-184: Driver Drowsiness Attention Warning System for M &N category vehicles

Alignment Level : (EU) 2019/2144

Key Elements:

- 2 Panel Meetings conducted
- Scope of the standard applies to M & N category of vehicles.
- Draft D0 has been formed and circulated for comments
- Comments from various stake holders are received and will be deliberated by the panel.

Advanced Emergency Braking Systems (AEBS) - AIS-162 for M2, M3, N2 and N3 category vehicles

Alignment Level : UN R 131 (Revision 1) (Amendment 1)

Key Elements:

- 9 Panel meetings conducted.
- The draft D3 incorporating all agreed comments is circulated and implementation plan of the same is currently under discussion.
- The subject is likely to be concluded by the next meeting of AISC.

Advanced Emergency Braking Systems (AEBS) - AIS-185 for M1 and N1 Category Vehicles

Alignment Level : UN R 152

Key Elements:

- 2 Panel meetings conducted.
- Revised draft standard is circulated to the members for comments.

Revisions of AIS 100 (Pedestrian Protection Systems)

Alignment Level :
UN GTR 9 (Amendment 2)
UN R 127

Key Elements:

- 2 subgroup meetings and 2 Panel meetings conducted.
- The standard applies to M1 and N1 category of vehicles with GVW not exceeding 2500 Kgs.
- A draft revised version of AIS-100 with Flex-PLI as mandatory test tool of assessment is formulated and scope is extended to M2 category up to 4.5 ton.
- Panel has completed the work and the draft standard will be put up to AISC for its approval in forthcoming meeting.

AIS-101 (Protection of Fuel Systems in Rear Impact)

Alignment Level :
UN R 153

Key Elements:

- 2 subgroup and 2 panel meetings conducted.
- The standard applies to M1 category of vehicles.
- Revision of AIS-101 on Protection of Fuel Systems in Rear Impact with intention of aligning the requirements with UN R 153 and addition of electric vehicles in the scope of the standard has been formulated and is currently under discussion.

**Revisions of AIS standards for light and light signaling devices.
(AIS 010 (Rev.2) (Part 1, 2, 4 and 5)) and AIS-083 (Rev.1))**

Alignment Level :

AIS 10 (Revision 2) (Part 1)	Asymmetric Head Lamp	UN R 112 (Revision 3) (Amendment 5)
AIS 10 (Revision 2) (Part 2)	Symmetric Head Lamp	UN R 113 (Revision 3) (Amendment 6)
AIS 10 (Revision 2) (Part 4)	Gas Discharge Head Lamp	UN R 98 (Revision 3) (Amendment 8)
AIS 10 (Revision 2) (Part 5)	Colour of Light	India Specific Standard
AIS 085 (Revision 1)	Head Lamp Cleaning Devices	UN R 45 (Revision 2) (Amendment 5)

Key Elements:

- After the outcome of last AISC held in November 2021, the draft AIS were discussed and D2 version of same were hosted on ARAI website, seeking comments till 8th December 2021.
- A panel meeting was held on 2nd Feb 2022, to finalize the pending action points, such as: arrangement of approval mark and transitional provisions.
- Further it was agreed to formulate finalized versions of all five standards. Final version will be submitted to 68th AISC for approval if no major technical comments are received.

**Revisions of AIS standards for light and light signaling devices.
(AIS 012 (Rev.2) (Part 1 to 10))**

Alignment :

AIS 012 (Revision 2) (Part 1)	Front Fog Lamps	UN R19 Suppl. 10 to the 4 series of amendments of Regulation
AIS 012 (Revision 2) (Part 2)	Rear Fog Lamps	UN R38 Suppl. 19 to the original version of the Regulation
AIS 012 (Revision 2) (Part 3)	Cornering Lamps	UN R 119 Suppl. 6 to the 01 series of amendments of Regulation
AIS 012 (Revision 2) (Part 4)	Rear Registration Plate Lamps	UN R 4 Rev. 3 – Amend. 3 Suppl. 19 to the original version of the Regulation
AIS 012 (Revision 2) (Part 5)	Direction Indicators	Revision 6 – Amend. 4 Suppl. 29 to the 01 series of amendments of Regulation
AIS 012 (Revision 2) (Part 6)	FL& RL Position Lamps, Stop Lamps and End-outline Marker lamp	UN R 7 Suppl. 27 to the 02 Series of amendments of Regulation
AIS 012 (Revision 2) (Part 7)	Reversing Lamps	UN R 23 Suppl. 22 to the original version of the Regulation
AIS 012 (Revision 2) (Part 8)	Side-Marker Lamps	UN R 77 Suppl. 18 to the original version of the Regulation
AIS 012 (Revision 2) (Part 9)	Parking Lamps	UN R 91 Suppl. 17 to the original version of the Regulation
AIS 012 (Revision 2) (Part 10)	Daytime Running Lamp	UN R 87 Rev. 3 – Amend. 4 Suppl. 20 to the original version of the Regulation

Key Elements:

- The technical content of standard is finalized. Further a panel meeting was held on 10th March 2022 for discussing on marking requirements.
- The modified drafts based on deliberated and agreed comments would be hosted on ARAI website.
- Final version will be submitted to 68th AISC for approval if no major technical comments are received.

New subjects proposed by India GR groups

Subject	International Reference	Current Status
Battery Durability	UN GTR No. 20	UN GTR was adopted in 186 th Session of WP.29 (March 2022 Session). Draft AIS based on the same is prepared and is under discussion.
Advanced Steering Command Functionalities (ACSF)	UN R 79	Draft is circulated and comments received have been suitably incorporated. Further no comments are received.
Lane Departure Warning System (LDWS)	UN R 130	Draft is circulated comments received are discussed and agreed ones have been incorporated suitably. Likely to get finalized by next AISC
Blind Spot Identification	UN R 151	Draft prepared and circulated for comments
Cyber Security and Management System (CSMS)	UN R 155	Draft is formulated, comments are discussed and experts who have worked on UN Regulations are roped in for clarifying things related to Indian Context
Software Updates and Management System (SUMS)	UN R 156	
Automated Lane Keeping System (ALKS)	UN R 157	Draft is circulated, comments are received from various stake holders and is currently under discussion. Likely to get finalized by next AISC.
Moving of Information System	UN R 159	Draft prepared and circulated for comments
Event Data Recorder (EDR)	UN R 160	Draft is formulated and circulated for study comments awaited.

New subjects proposed by India GR groups

Subject	International Reference	Current Status
Artificial Intelligence	---	Workshops and IWG meetings are being attended by India Experts to understand the thing in an efficient manner
ADAS/DCAS (Dynamic Control Assist Systems)	----	Currently UN Regulation is under draft stage and Informal Working Group meetings are being attended by Indian Experts to understand the subject
Functional Requirements for Automated Driving (FRAV) & Validation methods for Automated Driving (VMAD)	----	Currently New Assessment Test Methods Master Document (NATM-MD) is adopted which has road scenarios and Dynamic Driving Tasks is under review for India Specific Conditions.

Super Single Tyre

Key Elements:

- Two virtual interactions were held with Mr Satish Pandey, Central Road Research Institute (CRRRI) towards finalising the overall scope of work & analysis including project duration for evaluation of effect of Super Single Tyres on road pavement through modelling and simulation.
- Subsequently in Sept 2021, M/s CRRRI has shared a quote with TML.
- TML is analyzing the quote for further evaluation of Super Single Tyre based on the indications provided by CRRRI, New Delhi.
- Considering granularities involved, this activity is taking longer time duration. Further to this, panel will report further course of actions, progression and way forward in next CMVR TSC meeting.

New AIS (AIS-178) on Adapted Vehicles of category Two wheelers, Three wheelers and Tricycles

Key Elements:

- 2 Panel meetings conducted
- Standard is applicable to two wheeler, Three wheelers, E-rickshaw and Tricycles adaptation
- Expected timeline for completion October 2022.



AIS-181: Approval of Tank Vehicles with regard to Rollover Stability

Alignment Level : UN Regulation 111

Key Elements:

- Number of meetings: 2
- Standard is applicable to N2, N3, T3 and T4 vehicles
- Test procedure (standard prescribes 3 methods to validate tank roll over, OEM to choose any one method)
 - Tilt table test procedure (Option A)
 - Tilt table test procedure / CG based calculation (Option B)
 - Lateral stability calculation (Option C)
- In another six months panel will complete its activities.



AIS-183 : Type Approval Requirements for Three Wheeled Moped of L1-1 Category

Alignment Level : EU Regulation 168/2013

Key Elements:

- Number of meetings: 2
- It is proposed to use nomenclature as “ L1-1 M” for passenger and “L1-1 N” for goods category. {Justification : the vehicle Speed and criteria is sub part of L1 category in India}
- Emissions – Class 0-1 and Class 0-2 as per EU Regulation 168/2013 inline with GTR 02
- AHO / DRL to be applicable
- Pass by Noise : as per IS 3028:1998; Noise limit - 75dB
- Arm Rest in case of separate Seat configuration :
 - Right hand (RH)side arm rest to be fixed and Left hand (LH) side arm rest to be swivel for movement of the rider. Propulsion of vehicle should be restricted when right arm rest is not locked.
 - LH Arm rest shall be able to withstand, force of 70 kg applied statically (direction of the force shall be vertically downwards).
 - No test required in case of fixed RH Arm rest or handrail is provided.

