

Minutes of 60th Meeting of Central Motor Vehicle Rules-Technical Standing Committee (CMVR-TSC) held online on 13th April 2022 under the Chairmanship of Shri Amit Varadan, Joint Secretary (MVL)

List of participants is attached as **Annexure-I**.

- 1.0** Shri A. A. Badusha, ARAI, welcomed the Chairman Shri Amit Varadan, Shri K. C Sharma, MoRTH, Officials from Transport Department of Delhi, Rajasthan and Karnataka, Director ARAI, Director CIRT and all the delegates. He highlighted that CMVR-TSC is in its 25th year of inception and it has been instrumental in shaping the automotive industry in India. He acknowledged the contributions of all past Chairmen and Committee members who played a key role in the smooth functioning of the Committee in all these years. Shri Badusha then invited Chairman to share his opening remarks.

Chairman welcomed the members and mentioned that it was a pleasure to have stakeholders attending the meeting physically, which was not possible to the pandemic situation last year. He emphasized the importance of the work taken up by the Committee in meeting the Government's objective to promote automotive safety. He stressed on having the automotive regulations in India at par with those established internationally. He highlighted India's commitments at the global level in the area of Environment and Safety and requested the concerned stakeholders to put in joint efforts for the national cause. He directed that the harmonization of Indian Automotive Standards with UN Regulations and UN Global Technical regulations needs to be accelerated. Chairman expressed his concern with respect to the recent fire incidents in electric two wheelers. Also, there is a need to conduct a workshop to understand the fire issues and deliberate on the way forward.

2.0 Confirmation of Minutes of the previous meeting :

Secretariat informed that Minutes of 59th meeting of CMVR-TSC were circulated vide email dated 19th March 2021 and no comments were received. Committee noted the information and approved the minutes.

3.0 Progress on follow-up points of the last / earlier meetings of CMVR-TSC :

(i) Radio Frequency Allocation for various Automotive Applications :

Shri P. K. Banerjee, SIAM, informed that SIAM has made representation to Department of Telecommunication for delicensing of additional frequencies.

He mentioned that delicensing for some frequencies is sought for new technologies which need to be introduced in vehicles sold in India and some for the vehicles to be produced in India for International markets. Shri Nikhil Desai, SIAM, presented the list of frequencies to be delicensed which is put up for consideration to DoT. The list is attached as Annexure-II. He requested MoRTH to put up suitable recommendations to DoT for the same. Shri Deepak Sawkar, SIAM, informed that in the past certain frequencies which were to be used for technologies such as Advanced Emergency Braking Systems (AEBS) were delicensed for the vehicles produced in India but meant only for exports. Shri B. Bhanot, IAC, expressed that in absence of delicensing of frequencies required for vehicle to vehicle and vehicle to infrastructure communications standard formulation work in these areas is significantly affected. He requested MoRTH to take up the subject with DoT.

Committee noted the current status. Chairman informed that MoRTH will put up recommendations to DoT for consideration.

(ii) Crash Guards / Bull Bars :

Ms. Vijayanta Ahuja, ICAT, presented the background on the subject. The Committee deliberated on the basic concept of allowing crash guards / bull bars irrespective of whether when fitted on vehicle they will be able to meet the crash test requirements. Shri K. C. Sharma, MoRTH, informed that Ministry had earlier issued a direction to all Transport Commissioners requesting to stop the use of crash guards / bull bars since these are in violation of Section 52 of Motor Vehicle Act. However, after receiving representations from manufacturers of crash guards / bull bars, it was felt that a study may be conducted to understand the effects and subsequently take a call on permitting such devices. Ms. Ahuja informed that one of the crash guard manufacturers had come forward to evaluate his design vis-à-vis the CMVR requirements which are perceived to be affected by fitting the additional accessories. She submitted that the crash guards / bull bar designs which are evaluated and qualify the requisite tests as per CMVR, may be allowed. Shri A. V. Mannikar, ARAI, expressed that only in the event wherein the crash guard / bull bar manufacturer collaborates with an OEM and get the approval for the design at the time of type approval of vehicle model itself, such fitments may be allowed. However, if the design is not part of OEM approved fitment then crash guards / bull bars shall not be

allowed considering their effect on safety. Shri B. Bhanot, IAC, expressed that on one hand safety is promoted by introducing stringent crash norms and on the other there is deliberation on fitment of accessories which may affect the same. Even though ICAT study suggests that one of the designs meets the requirements but it will be impractical for crash guard and bull bar manufacturers to seek approval for all designs for different vehicle models and therefore the additional fitments shall not be permitted. Prof. Anup Chawla, IIT Delhi, submitted his reservations for fitment of crash guards / bull bar and expressed that it will significantly affect the pedestrian safety. Shri A. A. Badusha, ARAI, raised the issue of impact of fitment of additional accessories which are not part of OEM standard accessories for compliance to Pedestrian Protection standards and on the warranty claims for vehicles. Shri P. K. Banerjee, SIAM, expressed that it is a complex issue and mostly related to the customer personal choice. SIAM deliberated the issue in detail with its members and were unable to come to a conclusion and it was agreed that the prescribed norms as would be decided by competent authority shall be followed.

Based on the above deliberations, Committee decided to drop this subject.

(iii) Definition of Hybrids - mild & strong hybrids vehicles :

Shri K. C. Sharma informed that the subject was reviewed and it is observed that there are contradictions in definitions of hybrids as per AIS 102 and AIS 137. Earlier FAME 1 scheme considered definitions as per AIS 102. Subsequently it was deliberated that to qualify a vehicle as a hybrid vehicle it should have more than one powertrain and the vehicle could run in a standalone manner. This clarity is existing in Fame 2 document, AIS 137 and as well as BEE super credit scheme. The definitions in these three documents were as per UN Regulations and it is felt that the definition should be harmonized and that definition existing in AIS 102 may be amended suitably. He mentioned that though mild hybrids do offer advantage in fuel economy yet they do not qualify as hybrids as per the definitions existing in international standards and the documents such as AIS 137, Fame 2 etc. Also, Ministry receives representations from states to categorize hybrids as strong or otherwise which is not feasible. Shri P. K. Banerjee, SIAM, expressed that the subject of providing incentives as per the laid down norms and the definitions existing in AIS standards are two different issues. He informed

that SIAM has already submitted that incentives may not be given to mild hybrids. However, the definitions in the standards may not be altered. Shri Gururaj Ravi, SIAM, expressed that definitions in AIS 102 are as per UN R 101 and that AIS 102 is the master standard for hybrid vehicles. These definitions have been in existence and in use for certification over the years and therefore shall be retained. Definitions in AIS 137 are supporting definitions which are used for super credits. Shri Alok Jaitley, SIAM, expressed that alteration in definitions may affect the approvals already granted to vehicles and that this aspect may be duly considered while taking any decision.

Committee noted the above arguments and it was agreed to harmonize definitions in all standards as per International regulations. Shri A. A. Badusha, ARAI, recommended that additionally IS: 14272 which covers definitions for vehicle types and notified under CMVR, may also be amended to include the requisite definitions. Committee requested AISC panel to deliberate on the subject and recommend proposals for consideration. A committee has been formed under the chairmanship of Shri K C Sharma, MoRTH with members from:

- Ministry of Heavy Industries
- Ministry of Finance
- ARAI (Shri A.A. Badusha)
- International Centre for Automotive Technology (Smt. Vijayanta Ahuja)
- Society of Indian Automobile Manufacturers
- Government of Kerala

(iv) Analysis of vehicle fire - causes and preventive measures :

Secretariat informed that based on the discussions in the last meeting SIAM has submitted its response to MoRTH on the proposal put up by ICAT. Shri P. K. Banerjee, SIAM, presented SIAM's views. The presentation is attached as **Annexure-III**. Shri Banerjee expressed that it is difficult to ascertain the root cause of fire since in most of the cases the product is fully destroyed. Also, the investigations carried out by OEMs point to the spurious parts fitted on vehicles as one of the major concerns for vehicle fires. However, considering the sensitivity of the subject and based on directions given in the past, SIAM maintains a database of fire incidents and the information is made available from time to time. ICAT had submitted its recommendations for further progress on this front but subject of fire is a complicated issue which would

require detailed deliberation before arriving at a way forward. He highlighted that based on ICAT proposal the data would be readily available on portal for public access which may lead to confusion. Shri Deepak Sawkar, SIAM, requested that the fire incident should be reported after the root cause analysis is completed. Shri Rajendra Khile, SIAM, presented an example wherein a root cause analysis revealed that the vehicle fire had nothing to do with vehicle per se. Shri Alok Jaitley, SIAM, expressed the need for establishing an expert committee for conducting root cause analysis of vehicle fire incidences and that the reporting of incidences without a proper study may not be appropriate. Shri Balraj Bhanot, IAC, expressed that there is a need to establish adequate check points to promote only those vehicle manufacturers who are capable to carry out detailed evaluation of their product before launching in the market. In light of the electric two wheelers fire issues, Shri K. K. Kapila, IRF, recommended to have a licensing policy for battery manufacturers and that there needs to be a Conformity of Procedure (CoP) system for traction batteries.

Chairman clarified that the need for reporting the incident is essential. The database format can have a provision to present the current status of investigation into the incidence for the information of the public. Further, details such as number of incidences vis-à-vis the number of vehicles sold for that model may be presented to give a clear perspective to the public. Ms. Vijayanta Ahuja, ICAT, informed that the draft structure for the portal is ready. She informed that the same will be reviewed based on SIAM's recommendations and that the finalized draft structure will be put up for review to MoRTH in one month's time. She proposed that with the assistance from NIC the portal can be launched subsequently. Shri Banerjee requested that a final decision on the subject may be taken once the draft structure of the portal is finalized by ICAT.

Chairman recommended that a special meeting will be called to discuss this specific issue and that ICAT needs to present its finalized proposal in the meeting for consideration.

Committee further deliberated on the need to establish an expert committee to evaluate vehicle fire incidences. Chairman requested ARAI to coordinate the activity of establishing the Committee which may include experts from Government agencies such as DRDO besides experts from automotive safety domain. Shri K. C. Sharma, MoRTH, recommended that Committee may have

different verticals based on the type of primary source of propulsion viz., gaseous fuels, electric etc. Dr. Reji Mathai, Director ARAI, proposed that the proposal for the Committee will be put up for consideration in the special meeting on the subject.

It was agreed to discuss the above subjects in a special meeting to finalize a way forward.

(v) Level playing field for OEMs and body builders of trucks and buses :

Chairman informed that submissions in this regard have been received from SIAM and Ministry is reviewing the same for addressing the concerns suitably. He highlighted on the recent initiative of making the fire detection, fire suppression and fire protection systems compulsory for all buses i.e. for both OEM and bus body builder, which is one such step taken by the Government. Shri P. K. Banerjee, SIAM, appreciated Ministry for considering the subject and highlighted the disparity between OEMs and bus body builders which leaves OEMs in a disadvantageous position. He highlighted that state road transport undertakings are the biggest entity in area and may be advised suitably to encourage to seek type approvals from test agencies. Shri K. K. Kapila, IRF, recommended that self-certification should be discouraged. Government may explore opportunities to incentivize type approvals through road safety fund. Shri Balraj Bhanot proposed that bus body builders may be provided two options viz., first, they can seek approval for their design from test agency or second, they may use a standard type approved design which can be shared between different bus body builders. Shri S. N. Dhole, CIRT, highlighted that there are numerous combinations of buses and it would be difficult to have standardized designs. Shri A. A. Badusha, ARAI, informed that bus body builders seek to keep individual identity and therefore standardized design are not a feasible solution. However, test agency may explore to provide type approval services at the most optimum cost. Shri K. C. Sharma, MoRTH mentioned that the phase wise approach as presently perceived under the guidance of Chairman is the best way forward to bring the bus body builders in the ambit of type approval process through test agencies.

Chairman informed that the concerns are noted and that Ministry is already in process of reviewing the concerns.

Shri S. N. Dhole further requested Ministry to address the registration issues wherein the buses not compliant to AIS 052 (Rev. 1) are getting registered. Chairman suggested that an advisory may be issued to the Transport Departments in this regard.

(vi) Increase of life of buses and cars from 8 years to 12 years covered under All India Permit :

Shri P. K. Banerjee, SIAM, expressed that the intent of the agenda item is to extend the life of vehicles seeking national permit. In this regard, Ministry of Road Transport & Highways has published the All India Tourist (Authorisation or Permit) Rules, 2021 vide GSR 166 (E) dated 10th March 2021. As per Rule 4(5), the permit shall not be granted to a tourist vehicle after completion of 12 years from the date of first registration.

4.0 New Subject for Discussion :

(i) Sunroof as an optional feature in top models and premium luxury cars :

Shri A. A. Badusha, ARAI, informed that a submission was received at the Secretariat, wherein concern with respect to non-availability of top specification vehicle model/variant without sunroof has been highlighted. He informed that the submission states that fitment of sunroof has concerns such as addition of extra weight which may affect fuel economy, sun roofs are misused by users to poke body parts outside an open sunroof, added extra cost in the overall package etc. It is requested that the buyer may have an option to buy top specification model with or without sunroof. Shri P. K. Banerjee, SIAM, expressed that sunroof does not compromise the integrity of the vehicle. Vehicles with sunroof also meet the laid down crash requirements. It is a market demand driven feature and that the agenda point may not be pursued further on technical grounds. Committee noted the information. This agenda point need not be pursued further.

(ii) Three wheeled Agricultural Tractor :

Ms Vijayanta Ahuja, ICAT, presented the proposal on the subject. Her presentation is attached as **Annexure-IV**. She highlighted the difference in definitions of Agricultural Tractors in European Directive, IS standard and CMV Rules and expressed that CMVR definition restricts the agricultural

tractors to be only four wheeled whereas European Directive and IS standard has no such restriction. She presented the outcome of various tests conducted by ICAT on a three wheeled agricultural tractor. Additionally, stability test was performed to ensure added safety. She proposed that suitable changes may be done in CMVR so that three wheeled tractors may be certified. Shri Philip Koshy, TMA, expressed that three wheeled tractors would be useful for farmers with small land holding. Shri R. P. Vasudevan, TMA, submitted that the construction of the three wheeled tractor allows it to maneuver easily and that with its less axle weight is helpful in avoiding damage of the roots of plants in the farm. It was also informed that three wheeled tractors are available in Europe and US. Shri K. K. Kapila expressed that since these tractors would also ply on roads they shall be fitted with reflective tapes to enhance visibility. Committee noted the information. It was agreed to adopt the proposal and that suitable action will be taken in this regard.

Shri R. P. Vasudevan further raised the subject of provision of accessories on tractors to facilitate braking and functioning of light and light signaling devices on trailers. He highlighted that Agricultural trailer code has not been notified yet and therefore the accessories provided are of no use and add to the cost of the tractors unnecessarily. Shri A. A. Badusha, ARAI, highlighted that few agricultural trailer manufacturers are using these features for brakes as well as light and light signaling devices and that it may not be appropriate to discontinue such features altogether. Shri Vasudevan expressed that fitment of such accessories shall not be mandated and can be made available if are opted for by the trailer manufacturer.

Committee noted the information and it was agreed that AISC may review the proposal and a way forward may be presented to Ministry for consideration.

5.0 Report from AISC

(a) Standards and amendments for deliberations / adoption :

Secretariat presented the details of the following standards for consideration for adoption by the Committee. The presentation is attached as **Annexure-V**.

- i. AIS-009 (Rev.2): Automotive Vehicles - Installation Requirements of Lighting and Light-signaling Devices for L Category Vehicles, their Trailers and Semi-Trailers
- ii. 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
- iii. AIS-034 (Rev. 2) (Part 2): Provisions concerning the Approval of Gas-discharge Light Sources for use in Approved Lamps of Power-driven Vehicles
- iv. 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
- v. AIS-057 (Rev. 2): Performance Requirements for Retro-Reflecting Devices for Motor Vehicles and their Trailers

Secretariat informed that the above standards are aligned with reference UN Regulations up to 31st December 2018. It was informed that in the year 2019, the UN Regulations on light and light signaling devices have undergone an administrative change and that numerous standards were combined into only three new regulations which have come into force from May 2020. Hence, with the alignment of national standards with UN Regulations up to 31st December 2018, the national standards would be technically aligned with UN Regulations and that further simplification of standards in line with new UN Regulations, will be taken up subsequently. As a first step, above five standards have been completed by the respective panel and that other fifteen standards would be completed by June 2022. Secretariat requested Committee to consider the above standards for adoption. Shri K. C. Sharma, MoRTH, expressed that it would be appropriate to consider all light and light signaling devices standards in a single package and that the adoption as well discussion on implementation can be discussed in next meeting. Also, the transitional provisions in the above standards allow a time frame of four years, which may not be acceptable. Chairman expressed that panels should strive to align with the latest reference standards and that aligning with 2018 version of UN Regulations is not the right approach. He mentioned that the approach

of alignment of national standards with earlier version of UN Regulations will not allow us the opportunity to be at par with International Regulations ever. He requested the panels to put in extra efforts to complete further alignment and regrouping of all standards at the earliest. Shri P. K. Banerjee, SIAM, expressed that India needs to be careful in adopting everything that UN Regulations prescribe, since some of the technologies prescribed may not be relevant at all. He mentioned that though the proposed standards are aligned with 2018 version of UN Regulations yet the technical requirements are not compromised. Shri A. A. Badusha, ARAI, suggested that since the proposed standards are aligned technically with UN Regulations, these may be adopted and that further alignment work can be initiated by the panel. Dr. Reji Mathai, Director ARAI, expressed that time lines can be defined for the panels to complete the task of further alignment. Committee noted the above information. Chairman directed that the five standards, which are already finalized by the respective panel, to be adopted for now and the remaining standards can be considered for adoption subsequent to their finalization.

v. AIS 035 (Rev.1) - Foot Controls for M1 and L7M :

Secretariat presented the proposal for adoption of AIS 035 (Rev. 1). It was informed that AIS 035 is revised to align with latest version of UN Regulation 35 and specifically intends to bring clarity with respect to the measurement method for lateral distances of the pedals to nearest wall to the left, when footrest is provided. The revised standard is proposed to be implemented from two years from the date of notification and that it shall be applicable only for new models. Chairman expressed that the proposed lead-time shall be reduced considering that it is only proposed for new models.

Committee noted the information and it was agreed to adopt the proposed standards. A lead time of eighteen months was agreed for implementation of the standard under CMVR.

vi. AIS 149 - Conformity of production (CoP) procedures for verifying compliance to constant speed fuel consumption norms for commercial vehicles with GVW/GCW exceeding 3.5 tonnes :

Shri A. A. Badusha, ARAI, presented the proposal for adoption of the standard. He informed that Conformity of Production (CoP) for verifying compliance to Constant Speed Fuel Consumption Norms for Commercial Vehicles with GVW/GCW exceeding 3.5 tonnes, has been mandated by Government vide notification S.O. 1072 (E) dated 23rd April 2015 and S.O. 2670 (E) dated 16th August 2017. Based on earlier discussions in the Committee headed by Bureau of Energy and Efficiency, it was agreed to formulate an AIS standard covering the administrative requirements for CoP and that needs to be notified under CMVR. The standard consists of administrative procedure for Constant Speed Fuel Consumption Conformity of Production (CSFC CoP), correction factor for BS-VI vehicles to be applied on the Fuel Economy (FE) norms equations of BS IV Heavy duty vehicles and Light and medium commercial vehicles. Committee noted the information and adopted the proposed standard.

vii. AIS 166 - Protective Devices for Two Wheelers :

Secretariat presented the proposal for adoption of AIS 166. It was informed that as per earlier discussions in CMVR-TSC based on directions of the Hon'ble High Court on safety aspects for the pillion, AIS standard formulation work was taken up. The standard covers coverage area requirements keeping in mind the functionality aspects of the vehicle along with technical requirements such as dimensions for different type/ designs of such protective devices and measurement methodology. It was highlighted that the standard is not applicable for Special Purpose Vehicles (SPVs) and Vehicles with engine capacity greater than 500cc and 11 kW in case of battery-operated vehicles. A lead-time of eighteen months was proposed for implementation of the standard under CMVR. Shri K. K. Kapila, IRF, recommended that the lead-time may be reduced to twelve months. Shri Harjeet Singh, SIAM, submitted that saree guards are already provided today and that the implementation of standard under CMVR is to standardize the design. However, the lead time is proposed considering that for the existing saree guard design tooling is in place and sufficient time is necessary for change over.

Committee noted the details and adopted the proposed standard. Also, a lead-time of twelve months was agreed for implementation of the standard.

viii. AIS 173 - Requirement for Approval of Quiet Road Transport Vehicles:

Secretariat presented the proposal for adoption of AIS-173. The standard is aligned with UN R 138 and prescribes the minimum sound level to be generated by electric vehicles at specified speeds along with the test procedure.

Committee noted the information and adopted the standard. With respect to implementation time for the standard Committee noted the submissions made by the members and it was agreed that the same will be discussed in a panel meeting and the finalized lead time will be proposed within one month.

ix. AIS 174 - AIS for Battery Operated Construction Equipment Vehicles:

Secretariat presented the proposal for adoption of AIS-174. It was informed that no UN Regulations cover requirements for electric CEVs and that reference for AIS 174 is drawn from miscellaneous standards such as European Directive EU No 167/2013, existing AIS standards for Battery operated Vehicles and AIS 168 on Electric Agricultural Tractors. The various requirements to be met by electric and hybrid CEVs are covered in the standard and were highlighted to the Committee.

Committee noted the contents and adopted the proposed standard. Committee requested AISC panel to revert back with the proposed lead-time for implementation.

x. AIS 177 - TA Requirements for Vehicle of Category L2-5 of Electric Powertrain (Combi Vehicle) :

Secretariat presented the proposal for adoption of AIS-177 on new vehicle category - L2-5. It was informed that a new vehicle category concept was presented to the Committee in the last meeting and it was agreed to formulate AIS standard on the same. The vehicle is a combination of a two and three wheeled vehicle and it is proposed that it shall comply all CMVR norms for two and three wheeled vehicles. The highlights of the standards were presented. Further, it was informed

that the standard can be implemented with immediate effect. Also, requisite changes in Vahan Portal to facilitate registration would need to be carried out.

Committee noted the contents and adopted the proposed standard.

xi. AIS 179 - AIS on Carriage of Dangerous Goods Packed in Limited Quantity and Excepted Quantity:

Secretariat presented the proposal for adoption of AIS-179 on Carriage of Dangerous Goods Packed in Limited Quantity and Excepted Quantity. The reference for the standard is drawn from ADR, IS 11466, AIS-093 (Rev. 1), UN Regulation 105 and UN Regulation 111. The standard will facilitate transportation of dangerous goods in limited quantity. It was informed that permission is sought from UNECE to use text from ADR and that the standard will be taken up for publication subsequently. The standard is proposed to be implemented from date of notification.

Committee noted the information and adopted the standard in principle. Secretariat was requested to follow up with UNECE for permission to use extract from ADR.

Secretariat proposed the adoption of numerous amendments to AIS standards as given in **Annexure-VI**. It was informed that these amendments were approved in 66th and 67th meeting of AISC and were subsequently published by AISC Secretariat. The list of amendments along with justification were circulated to the members along with agenda for the meeting. No comments have been received. Secretariat requested the Committee to formally adopt the amendments. Committee noted the information and adopted the amendments.

(b) Report on Running Subjects :

Committee reviewed the progress of the subjects currently under discussion under AISC. The presentation is attached as **Annexure-VII**.

i. Bharat NCAP :

Shri A. V. Mannikar, ARAI, presented the update on the subject. He informed that based on the directions given by Ministry, Bharat NCAP protocols, which were prepared earlier, were taken up for review with

an aim to align the same with GNCAP protocols. GNCAP protocols for year 2022-2025 are already published and were taken as reference for preparing the revised protocols. The draft protocols are now ready and they are either at par or exceed GNCAP specifications. Bharat NCAP requirements will be applicable to vehicles sold or intended to be sold in India. These will be over and above the regulatory requirements specified in CMVR which will include crash tests and assessment of fitment of safety assist technologies. He highlighted the different areas of assessment along with the details of the different crash tests to be conducted and the safety assist technologies necessary to be fitted. Shri Mannikar highlighted the assessment method and criteria for awarding different ratings. The procedure is at par with GNCAP and in some areas have even exceeded GNCAP specifications such as prescription of fuel system integrity which is not specified in GNCAP. Shri Mannikar presented the detailed comparison between the GNCAP and Bharat NCAP evaluation criteria and it was noted that specifications are at par or exceed GNCAP specifications. He acknowledged the efforts taken by various experts to prepare the protocols and proposed that the Bharat NCAP scheme may now be taken forward for implementation at the earliest. He expressed that Test Agencies can support/lead implementation of Voluntary Phase, before administrative arrangements can be put in place by MoRTH. With regards to implementation timeline, Shri Mannikar proposed that preparatory phase may be specified from April 2022 to October 2022 which would be required for readiness of processes and planning of necessary resources. The preparatory phase will be followed by a Pre-Run (Calibration Phase) from October 2022 to April 2023. This would cover the process validation, Test Lab Accreditations and correlation, and Training of Staff. Subsequently, the official launch of voluntary phase can start from April 2023. He expressed that administrative arrangements such as Implementing Agency, Vehicle Sampling Guidelines, Test Lab Accreditation, Public Relations and redressal mechanisms have to be put in place. He submitted that the draft notification for the Bharat NCAP will be prepared in consultation with Ministry. Also, the subject of initial funding for the program will require separate discussions.

Committee noted the information and congratulated the team led by Shri. Mannikar for finishing the task in the given time. Chairman informed that the subject will be reviewed by Ministry and necessary steps will be taken in due course.

Shri Balraj Bhanot, IAC, proposed that a similar scheme may be prepared for assessing two wheelers since the percentage of two-wheeler population as well as the number of accidents and fatalities is highest as compared to other vehicle categories. Shri Harjeet Singh, SIAM, highlighted that two wheelers are following all safety norms as prescribed internationally and in fact have three more regulations viz., stand, foot rest, and external projections, that are not covered under UN Regulations also. Shri Mannikar expressed that the focus presently was to cover Passenger cars only and, as and when needed in future, safety programs for other vehicle categories may be considered.

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

Secretariat presented the proposal for implementation of AIS 004 (Part 3) (Rev. 1) i.e. 1st April 2024 for new models and 1st April 2025 for existing models. It was informed that the standard was adopted in the 57th meeting of CMVR-TSC and it was agreed to review the lead time for implementation after the infrastructure is in place. Committee noted the information. Shri K. C. Sharma, MoRTH, stated that the suggested time line is lenient.

Committee deliberated on the need for CoP for Battery Operated Vehicles and batteries. It was informed that for vehicles, Whole Vehicle Safety CoP scheme is now notified. However, the CoP for batteries needs to be notified. Shri Sharma suggested that the frequency for carrying out CoP for batteries needs to be deliberated by the panel and that it needs to be made stringent to have a positive impact on the quality of battery packs and thus avoid failures. Shri A. A. Deshpande, ARAI, proposed that transport of battery cells needs to be regulated in alignment with international practices. Additionally, battery operated vehicles which are below 250 W need to be brought under the ambit of type approval to ensure that safety checks are carried out comprehensively.

Committee noted the information.

iii. Amendment to AIS 159 - High Security Registration Plate:

Secretariat presented the update on the subject. It was informed that Amendment 1 to AIS 159 was proposed to address the following:

- i. Vehicle categories such as agricultural tractors, power tillers, modular hydraulic trailer are added in the scope of the standard.
- ii. Provisions for green strip for BS VI vehicle.
- iii. To add clarity with respect to temperature resistance test requirements and incorporation of tolerances in the third registration plate stickers for characters and numbers.
- iv. To address some technical deficit viz; tolerances in the test's specifications, to add dimensional requirements in line with CMVR 51 and its dimensional tolerances etc.

Secretariat highlighted that 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 and that the matter is now put up for consideration of CMVR-TSC.

Issues with respect to provision of tolerance for size of letters and numerals of the registration mark were highlighted. It was submitted that CMVR 51 states that the dimensions shall not be less than those specified in the table given in CMVR 51. Even though no observation was received from any transport authorities on the certified plates, yet while working on Amendment 1 to AIS 159 need was identified to bring clarity with respect to measurement procedure and that same procedure needs to be followed by all test agencies. On the advice 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. 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. Accordingly, it is proposed to modify CMV Rule 51 to specify measurement method and tolerances for measurement i.e. all measurements shall be done in visible hot stamped black foil area and tolerances of “-2 mm” be allowed in dimensions specified in Rule 51 for plate size: 200X100 mm and 285X45 mm and “-1 mm” for plate size 500x120 and 340x200 mm.

Shri A. A. Badusha, ARAI, expressed that with the defined / standardized procedure for measurement it will bring consistency in the results obtained by all test agencies. Shri P. K. Banerjee, SIAM, mentioned that the proposal is a good initiative to bring clarity in the overall process and is supported by the industry. Shri K. K. Kapila, IRF, appreciated the work done by the panel to bring clarity.

Committee noted the above observations and suggestions and agreed with the proposal. Secretariat was requested to submit a proposal for consideration of the Ministry.

Further, Secretariat informed that panel deliberated on the feasibility of new colour scheme for vehicles running on alternate fuels. The current colour schemes as per SO 2339 (E) dated 14.07.2020 were presented. 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 for 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. Committee noted the information.

iv. Other Running Subjects:

Secretariat presented the progress on the following subjects on which new AIS standards or revision of existing AIS standards are under formulation. It was informed that various new technology subjects have been taken up by AISC to prepare new standards in line with UN Regulations and UN Global Technical regulations.

- a) AIS-180: Construction of vehicles carrying Hazardous Goods
- b) AIS-184: Driver Drowsiness Attention Warning System for M & N category vehicles
- c) Advanced Emergency Braking Systems (AEBS) - AIS-162 for M2, M3, N2 and N3 category vehicles
- d) Advanced Emergency Braking Systems (AEBS) - AIS-185 for M1 and N1 Category Vehicles
- e) Revisions of AIS 100 (Pedestrian Protection Systems)
- f) AIS-101 (Protection of Fuel Systems in Rear Impact)
- g) Revisions of AIS standards for light and light signaling devices.

- h) Battery Durability
- i) Advanced Steering Command Functionalities (ACSF)
- j) Lane Departure Warning System (LDWS)
- k) Blind Spot Identification
- l) Cyber Security and Management System (CSMS)
- m) Software Updates and Management System (SUMS)
- n) Automated Lane Keeping System (ALKS)
- o) Moving off Information System
- p) Event Data Recorder (EDR)
- q) Artificial Intelligence
- r) ADAS/DCAS (Dynamic Control Assist Systems)
- s) Functional Requirements for Automated Driving (FRAV) & Validation methods for Automated Driving (VMAD)
- t) Super Single Tyre
- u) AIS (AIS-178) on Adapted Vehicles of category Two wheelers, Three wheelers and Tricycles
- v) AIS-181: Approval of Tank Vehicles with regard to Rollover Stability
- w) AIS-183: Type Approval Requirements for Three Wheeled Moped of L1-1 Category

Committee noted the information. Technical Panels were requested to complete the task in a time bound manner. It was agreed to review the progress in the next meeting.

v. New / Revised IS standards for implementation under CMVR :

Secretariat informed that BIS had submitted a list of IS standards which are published and had requested for their implementation under CMVR. The proposal for lead-time was discussed by respective TED committees and AISC and the following proposal is put up for consideration of the Committee.

S. No.	IS standard	Subject	Proposed Timeline
1.	IS: 8654: 2019	Brake Fluid	1 st April 2023
2.	IS: 15636:2012	Tyres	1 st April 2023
3.	IS: 16905: 2018	FUPD	1 st April 2023
4.	IS 13942 (Part 1): 2019	External Projection for M1	1 st April 2023
5.	IS: 11921:2020	CSFC	1 st April 2023
6.	IS 13944: 2021	Window Retention	1 st April 2023
7.	IS: 13988:2014	Gradeability	1 st April 2023
8.	IS: 15223:2020	Interior Fitting for M1	1 st April 2023
9.	IS: 13943: 2017	Passenger cars Wheel Guards	1 st April 2024
10.	IS: 11852:2019	Brakes for M &N	1 st April 2025 (new models) / 1 st April 2026 (existing models)
11.	IS 14812:2021	Rear Underrun Protection Device	1 st April 2024

With respect to lead time for brake standards, it was noted that the earlier version of IS 11852:2013 has been recently notified i.e. 1st April 2021 for new models and 1st April 2022 for existing models. In view of the time required for development as per new standard and the test cycle it is proposed to implement the revised standard with a gap of four years from the date of implementation of IS 11852:2013. Committee noted the observation.

6.0 Finalized Draft AIS (hosted on MoRTH Website) :

Secretariat informed that the finalized draft of the following standards was hosted on MoRTH website to seek comments from public at large. These standards were adopted in the earlier meeting of CMVR-TSC. Secretariat requested the Committee to allow publishing of the standards.

- i. AIS-164: Constructional and Functional Requirements for Insulated Vehicles
- ii. AIS-169: Guidelines on Provisions for Adapted Vehicles of categories M1, N1 and M2

Committee noted the information and it was agreed to publish the standards.

7.0 Report from BIS :

Secretariat informed that BIS had submitted a list of additional standards published for preparing an implementation plan for the same. The list will be taken up for discussion in the next meeting of AISC. Further, it was informed that revised standard for pass by noise measurement of 4 wheelers is finalized and will be published shortly.

Shri R. R. Singh, BIS, suggested that as and when document is circulated for wide circulation AISC can deliberate on the implementation plan to hasten the process of adoption of IS standards under CMVR. Committee noted the progress. AISC was requested to consider BIS views on deliberation of proposed time line for implementation of IS standards.

Shri R.P. Vasudevan, TMA, requested BIS to submit the list of IS standards developed under FAD11 Sectional Committee on Agricultural Tractors to CMVR-TSC / AISC for consideration. Committee requested Shri Singh to coordinate between FAD11 and AISC secretariat on the subject.

Shri K. C. Sharma, MoRTH, requested BIS to explore the feasibility of issuing quality control order for Diesel Exhaust Fluid (DEF). It was highlighted that the subject has been under discussion for some time but is not getting concluded due to lack of clarity on the authority to issue the said quality control order. He requested BIS to deliberate on the subject and to take it up appropriately. Shri R. R. Singh requested MoRTH to put up the submission to DG, BIS for consideration and necessary action.

8.0 Review of Notifications :

Secretariat informed that various safety regulations were adopted in the earlier meeting of CMVR-TSC viz., implementation of revised pass by noise standard for 2 and 3 wheelers, implementation of Revision 1 of AIS-071 (Part 1): 2019:

Identification of Controls Tell-Tales and Indicators, implementation of IS: 14225:2017 Locking System and Door Retention Components (SO notification), Implementation of IS 16712:2018: Automotive vehicles: Spray Suppression System for Two Wheeled Vehicles etc. Committee noted that the work is in progress on various subjects and that the notifications will be released in due course.

9.0 Any Other Point :

a) Fire Alarm Systems (FAS) and Fire Protection Systems (FPS) :

Shri P. K. Banerjee, SIAM, submitted the concerns of the industry on the subject. He highlighted that suppliers have shown reservations in meeting the specifications of the prescribed standard. Shri P.S. Gowrishankar, SIAM, expressed that since the requirements for putting fire protection system in buses are notified with effect from January 2023, it leaves manufacturers and suppliers inadequate time to do the required development work. He requested that the implementation time may be extended. Chairman informed that DRDO has already called for expression of interest for five ToT (Transfer of Technology) licenses. OEMs may like to share this information with their vendors.

b) Vehicle Tracking Devices :

Shri P. K. Banerjee, SIAM, highlighted the issue of use of spurious vehicle tracking devices being used in market. He informed that earlier MoRTH had issued an advisory to States stating that vehicle tracking device approved as per standards prescribed under CMVR shall be fitted on vehicles. However, Ministry may like to take up Industry's concern with the States again for effective implementation. Chairman informed that Ministry will review the request.

c) BNCAP - Nomination from ACMA :

Shri Uday Harite, ACMA, proposed nomination of ACMA members for future deliberations on Bharat NCAP. Shri A. V. Mannikar informed that futuristic technologies which may become part of protocols beyond 2025 will require experts from ACMA. Committee noted the information and agreed with the proposal.

d) Alcohol Interlock :

Shri K. K. Kapila, IRF, proposed that in conjunction with standard on driver drowsiness, standard on alcohol interlock may also be initiated. He informed that regulation on the subject is available in Europe and that it will promote road safety. He expressed that he will submit the provisions available in Europe to Ministry for consideration. Committee noted the information.

Meeting ended with thanks to the Chair.

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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 basic 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:**

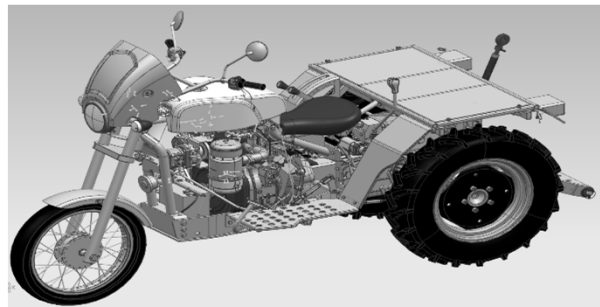
- g) Concerned vehicle should be made available for OEM analysis on request basis. In case Police/customer do not agree for vehicle analysis same shall be reported in the portal appropriately.
- h) Regarding “Analysis of investigation”, a common template defining minimum qualifiable parameters for the 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 (WVCoP) 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 brings 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

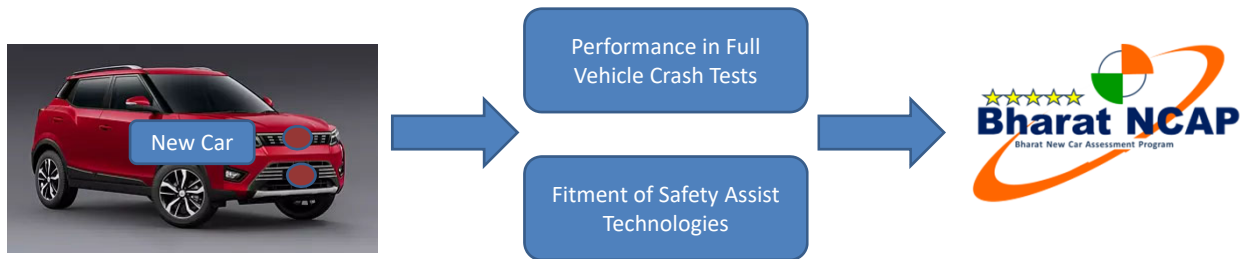
2nd Progress Report

- 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**

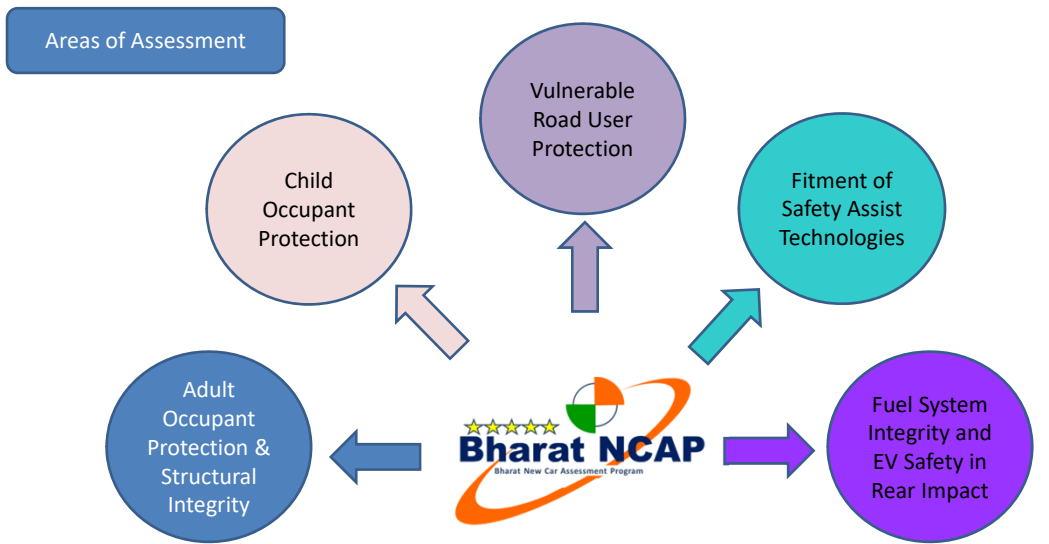
* Subject to approval of MoRTH and subsequent notification with adequate lead times

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

 CMVR-TSC – Agenda 4 (b) Annexure VII						
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 .

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

➤ **Key Differences with Global NCAP 2022-25 Program**

➤ **It is ensured that Bharat NCAP is technically aligned with Global NCAP 2022-25 program**

➤ **Additionally,**

- 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.

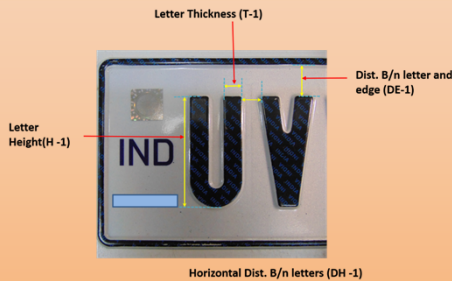
Amendment to AIS 159 (High Security Registration Plates)

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

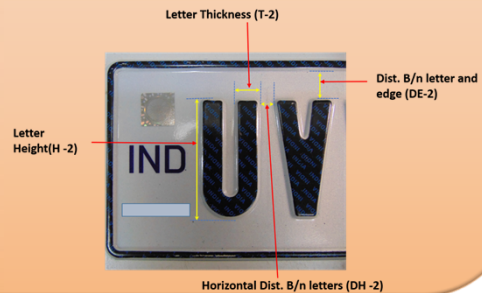
Issues:

- 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

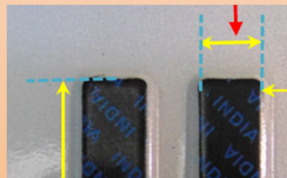
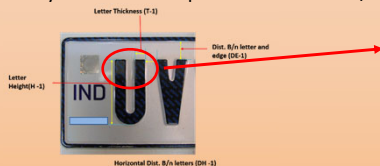


Amendment to AIS 159 (High Security Registration Plates)

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

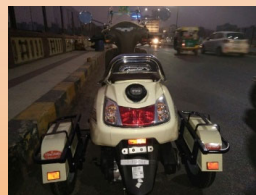
Key Elements:

- 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.

