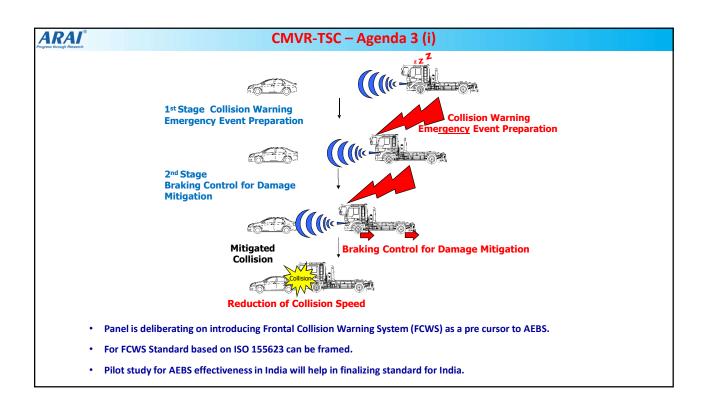


ARAI CMVR-TSC - Agenda 3 (i) Implementation of ABS in India Step 1: ABS mandated for following categories of vehicles [Standard: IS:11852:2003 (Part 9)] N2 and N3 category of vehicles other than tractor-trailer combination manufactured on and after 1st October 2016 meant for carrying hazardous goods and LPG. N3 category vehicles manufactured on and after 1st October 2007 which are double decked transport vehicles. N3 category vehicles manufactured on and after 1st October 2007 that are used as tractor trailer combinations. M3 category of buses that ply on All India Tourist Permit, manufactured on and after 1st October 2007. Step 2: ABS mandated for all M3 and N3 category vehicles New Models – 1st April 2015 Existing Models - 1st October 2015 Step 3: ABS mandated for all M1 and M2 category vehicles New Models – 1st April 2018 Existing Models - 1st April 2019 Step 4: ABS or CBS mandated for L2 category vehicles (Engine Capacity ≤ 125 cc; max continuous rated or net power ≤ 11 kW; and power to weight ratio ≤ 0.1 kW/kg.) and ABS for all other L2 category vehicles [Standard: IS: 14664: 2010] New Models - 1st April 2018 Existing Models - 1st April 2019

Presently only N1 and N2 (except for rigid N2 carrying hazardous goods) category vehicles are exempted from ABS requirement.







Reconsideration for postponing braking/ESC regulation timelines.

Annexure II

Background



- EVSC for Buses (>22+D) through G.S.R 246 dated **29th March 2019** as per AIS 150 applicable for implementation from 1st April 2023.
- Type IIA-Endurance braking test through G.S.R 173 dated 1st March 2019 as per IS-11852:2013 applicable for implementation from 1st April 2022.
- Industry was entirely focused on development of BS VI vehicles along with other applicable regulations such as RPAS (Other than M1 categories) and FDSS for school buses from 1st April 2020.
- From March 2020 industry has encountered many challenges for proceeding with developmental efforts on forth coming regulations.

(EVSC and endurance braking developments work came to standstill as industry was fully engaged to meet the notified timelines of BS VI and other safety regulations)

Current Situation:

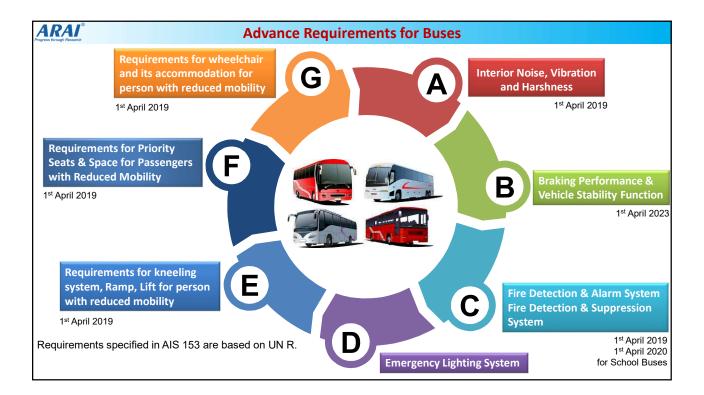


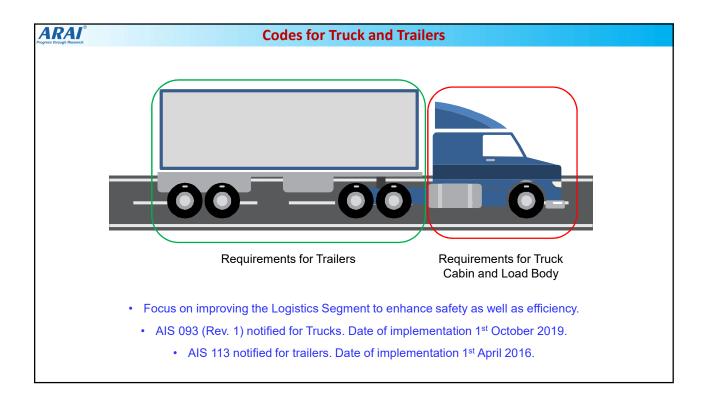
- Due to outbreak of Covid 19 pandemic, sudden lock down and severe disruption in supply chain resulted in bringing down manufacturing volumes of BS VI vehicles across entire CV industry.
- Also the CMVR Type Approval certification of BS VI vehicles slated for completion got shifted to a later date.
- On account of manpower entry restrictions in manufacturing plants and R&D, associated social distancing, the design & developmental and manufacturing efficiencies are at much lower levels even at this juncture.
- Hence the product developmental plan will have to be revised thoroughly considering the availability of new supplies as well.
- This will lead to realization of developmental efforts to a much later date on account of identifying new supplier, virtual simulation, availability of first cut proto parts, initial validation, changes in proto parts, system and vehicle level validation, CMVR Certification followed by availability of brake system in its entirety for mass production.

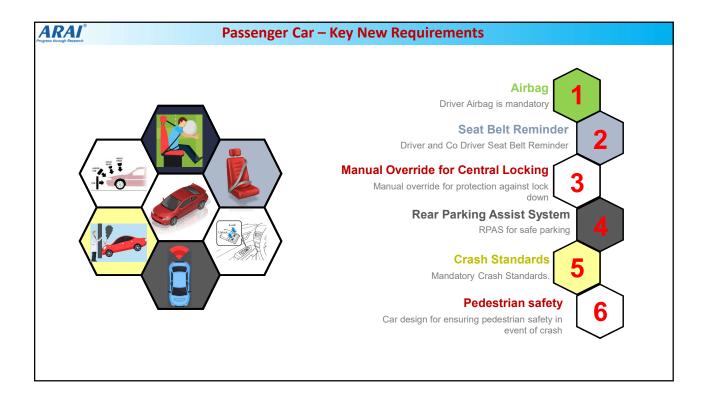
(EVSC and endurance braking developments has to be started from scratch keeping timelines as per current COVID situations)



Agenda 3.0 (ii) Review of Alignment status of AIS / IS standards with UN Regulations







Crash Standards

- > Steering Impact (AIS-096)
- ✓ Notification: S.O. 1139 (E) dated 28th April 2015
- ✓ New Models 1st Oct. 2017, Existing Models 1st Oct. 2019
- ✓ Scope M1 and N1 with maximum mass less than 1500 kg (Not applicable to multi-stage built vehicles produced in quantities not exceeding 500 vehicles in any period of 12 months duration). Additionally, Quadricycles have been included.
- Test speed: The speed on impact shall be between 48.3 km/h (30 mph) and 53.1 km/h (33 mph).
- ✓ Aligned with UN R 12.

> Offset Frontal Collision (AIS-098)

- √ Notification: S.O. 1139 (E) dated 28th April 2015
- √ New Models 1st Oct. 2017, Existing Models 1st Oct. 2019
- ✓ Scope: M1 category of a total permissible mass not exceeding 2.5 t; heavier vehicles may be approved at the request of the manufacturer (Not applicable to multi-stage built vehicles produced in quantities not exceeding 500 vehicles in any period of 12 months duration).
- √ Test speed: The speed on impact shall be 56 (+1) km/h.
- ✓ Aligned with UN R 94.
- ✓ UN R94 is revised and approved during 181st WP.29 meeting
- Major updates are Chest displacement limit is amended to cover elderly occupant injuries and scope is amended to cover heavier M1 (upto 3500kg) and N1 (upto 2500kg).
- ✓ Will be implemented in Europe from 2022.





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Crash Standards

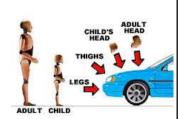
➤ Lateral Collision (AIS-099)

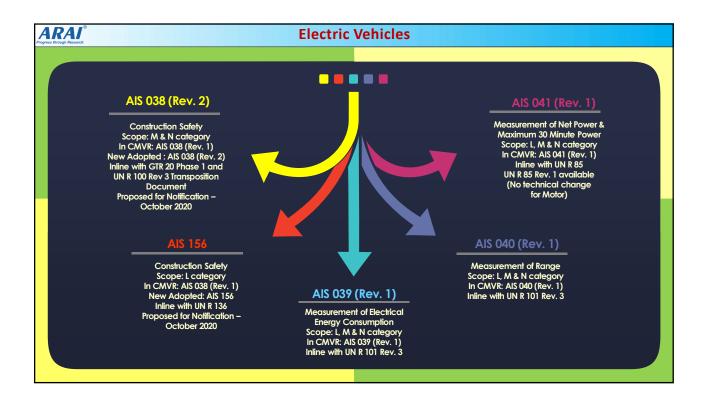
- √ Notification: S.O. 1139 (E) dated 28th April 2015 & S.O. 2412 (E) dated 3rd September 2015
- ✓ New Models 1st Oct. 2017, Existing Models 1st Oct. 2019
- ✓ Scope: M1 and N1 categories of vehicles where the R Point of the lowest seat is not more than
 700 mm from ground level when the vehicle is in the condition corresponding to the reference
 mass.
- √ Not applicable to multi-stage build vehicles produced in quantities not exceeding 500 vehicles in any period of 12 months duration.
- ✓ Test Speed: The mobile deformable barrier speed at the moment of impact shall be 50 ± 1 km/h.
- ✓ Aligned with UN R 95.
- ✓ UN R95 is revised and approved during 181st WP.29 meeting.
- Major updates are: scope is amended to cover heavier M1 (upto 3500kg) and N1 with no general exemption for R-point height from ground.
- ✓ Will be implemented in Europe from 2022.

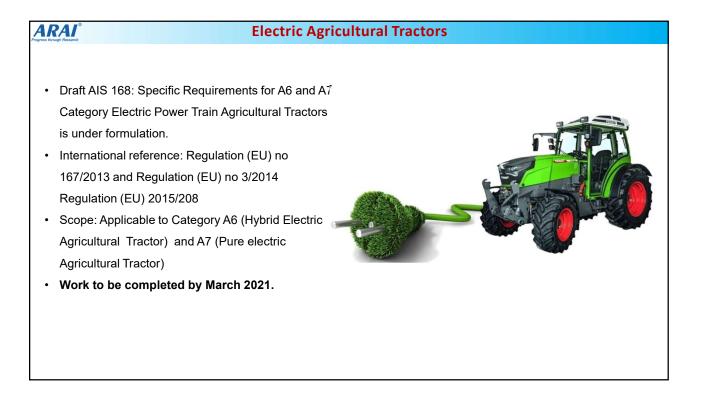
Pedestrian Safety (AIS-100)

- ✓ Notification: S.O. 2412 (E) dated 3rd September 2015
- ✓ New Models 1st Oct. 2018, Existing Models 1st Oct. 2020
- √ Scope: M1 with GVW not exceeding 2500 kg, category N1 (derived from M1) with GVW not exceeding 2500 kg.
- ✓ Not applicable to above stated vehicles if GVW is upto 500 kg and where the distance, measured longitudinally on a horizontal plane, between the transverse centreline of the front axle & the R point of the driver's seat is less than 1100 mm.
- ✓ Aligned with UN GTR 9 Amd. 1. Work is in process to align with Amd. 2









Electro Magnetic Compatibility

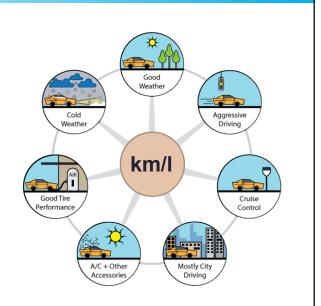
- In CMVR AIS 004 (Part 3)
- New Adopted Standard: AIS 004 Part 3 Rev 1: Automotive Vehicles –Requirements for Electromagnetic Compatibility
- Rev. 1 of AIS 004 (Part 3) is completely aligned with UN R 10 Rev 5.
- Applicable to all Category Vehicles including additional requirements for Electric Vehicles.
- Implementation plan: Notification is in process.

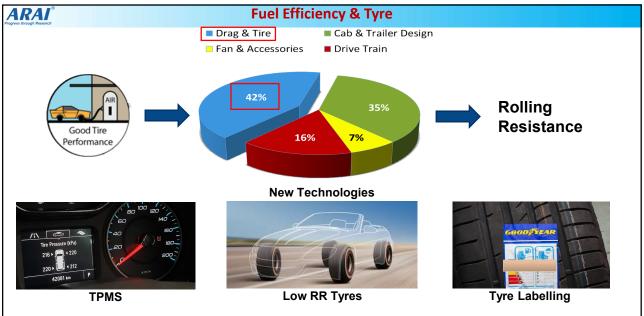


ARAI°

Fuel Efficiency & Tyre

- ➤ In recent times Government focus is to reduce Fuel import Bills.
- ➤ Fuel efficiency norms for Passenger Cars and Heavy Commercial Vehicles (Vehicles > 12 t) are already notified.
- > Norms for other vehicle categories are under formulation.
- Many factors affect the fuel efficiency of a vehicle.





- AIS 142 adopted. Inline with UN R 117. In process of notification.
- · AIS 142 includes tests for Rolling Resistance, Wet Grip performance and Rolling Sound.
- · Tyre Labelling is under discussion under BEE.

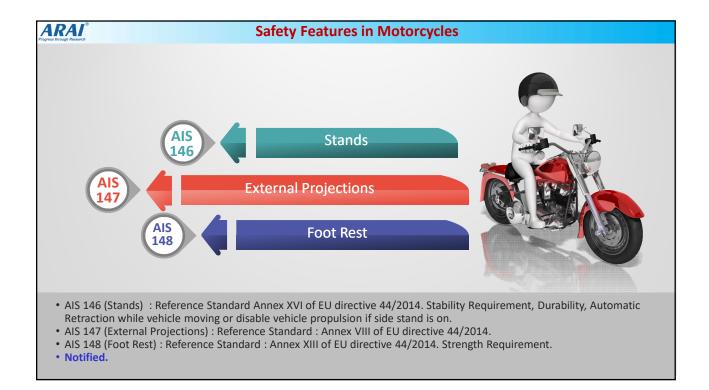
Tyres

Performance Testing of Tyres

- Standard notified in CMVR (Presently).
 - IS 15627 (2W and 3W), IS 15633 (M1 category vehicles), IS 15636 (commercial vehicles), AIS-110 (temporary spare wheels) are notified under CMVR.
- Current regulations are partially aligned with UN R 30, 54, 75 and FMVSS standards. IS requirements are derived as combination of UN R and FMVSS requirements.
- Scope of UNECE (30, 54, 75) and IS (15633/36/75) standards are identical respectively.
- > Scope of GTR-16 and IS /UN R is different. Current GTR is applicable to tyres used for vehicles with gross vehicle mass 4536 kg or less and sizes 8" and below are excluded form GTR.
- Alignment of IS standards (IS 15633/36) with GTR 16 is not initiated.
- ➤ IS 15627/33/36 are aligned to respective UN R amendments, which are largely for addition of new tyre sizes. New amendments to IS 15627 and 15633 are under circulation under TED7.

Super Single Tyre

- A Technical panel is working on specifications for super single tyre (Wide Tyre).
- Work is expected to be complete by March 2021.



Pass by Noise Standards

2 Wheelers

- In CMVR: IS 3028
- Proposed new Standard: IS 3028 Part 1: Automotive Vehicles Noise Emitted by Moving Vehicles — Specification and Method of Measurement Part 1 L 2 Category
- This standard is in-line UN R 41 Rev. 2.
- Revised standard is adopted.
- · Notification is in process.
- · Similarly IS: 3028 Part 3 for 3 wheelers is in process of notification.

4 wheelers

- In CMVR: IS 3028
- Proposed new Standard: IS 3028 Part 2: Automotive Vehicles Noise Emitted by Moving Vehicles — Specification and Method of Measurement Part 2 Other than L2 and L5 category vehicles
- This standard is under formulation to align with latest UN Regulation.
- Expected time frame for finalization April 2021.





Lighting Standards

Adaptive Front Lighting System

- In CMVR: AIS 127 (SO 2210 (E), dated 01/06/2018)
- Date of implementation: 1st April 2019
- To be tested if fitted (Europe and India).
- Aligned with UN R 123, Revision 1, Amendment No. 4, (Supplement 4 to the 01 series of amendment of the Regulation - Date of entry into force: 15 July 2013)
- · Scope: M & N category
- AIS:127 allows testing as per latest UN R & its amendment based on manufacturer request and approval by AISC chair.

Lighting standards

- In CMVR: AIS:010 (Rev. 1) 2011 Part 1-5; AIS:012 (Rev. 1) 2011 Part 1-10; AIS:057 (Rev. 1) 2011; AIS:008 (Rev. 1) 2011; AIS:009 (Rev. 1) 2011 etc.
- Aligned with UN regulations of year 2008 & 2009. These standards were published in year 2011 and notified vide S.O. 6108 (E) dated 10.12.2018. Implementation date: 1st October 2019
- These standards applies to respective lighting devices (Front fog lamps, rear lamps, number plate lamps etc.) for all category of vehicles.
- Next level revision is in progress to align with latest UN Regulations. Work is estimated to be finished by March 2021.

Adaptive Front Lighting system (AFS) means a lighting device, providing beams with differing characteristics for automatic adaptation to varying conditions.

Class C (Basic) Class E (Town Road) Class V (Motorways) Class W (Wet Road)



















ARAI

Special Purpose Vehicles





- ✓ Standard AIS 125 (Part 1) Constructional and Functional Requirements for Road Ambulances
- ✓ Implementation : 1st April 2018
- Scope: Category M and L vehicles used for transport and / or emergent care of patients (Road Ambulance).

Double Deck Buses



- ✓ Standard AIS 139 Specific Requirements for Double Deck Buses
- ✓ Implementation: 14th September 2017
- Scope: Category N used for transport vehicles with equivalent seating capacity of 13 passengers and above excluding driver.

School Bus



- ✓ Standard AIS 063 Requirements for School Buses
- √ Implementation: 2005
- ✓ Scope: Category M and N vehicles used for transporting of school children.

Sleeper Coaches

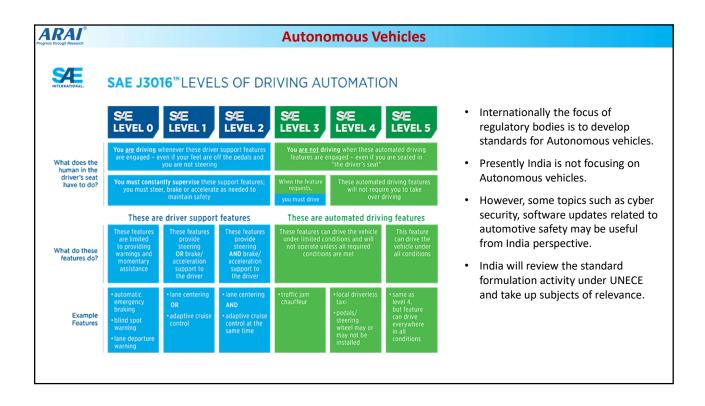


- ✓ Standard AIS 119 (Rev.1) Specific Constructional Requirements for Sleeper Coaches
- ✓ Implementation : 23rd March 2017
- Scope: Category M and N vehicles used for specific needs related to transportation of sleeping passengers.

Motor Caravan



- Standard AIS 124 Procedure for Type Approval and Certification of Motor Caravans for compliance to Central Motor Vehicles Rules
- ✓ Implementation : 1st April 2018
- Scope: Type Approval requirements applicable to motor caravans of category M.



Whole Vehicle Safety Conformity of Procedure

> India Unique Standard.

- This standard has been developed ground-up from fundamentals.
- There is no parallel international standard which is based on *supervised* vehicle level safety CoP.

> Benefits to the government

- Greater assurance on produced vehicles meeting safety standards.
- An India developed WVSCoP standard can be showcased to the world at UN WP-29.
- Implementation of Section 110B Subsection (4) of the MVA Amendment 2017.
- Affirmation of implementation of AIS 037 on the road.
- · Data to respond to any judicial scrutiny.

> Benefits to the Test Agencies

- · Increased insight into vehicle performance
- Data to respond to any judicial scrutiny.

Benefits to the Vehicle Manufacturers:

- Public certification of product compliance.
- Improved product quality with better quality management systems.
- Better systems to address Vehicle Recall & I&C when they are implemented fully.
- · Significant Impact for the Brand.

Benefits to the Vehicle Users:

• Greater assurance on produced vehicles meeting safety standards.

Whole Vehicle Safety Conformity of Procedure

- > Salient Features of the Standard.
 - This standard is applicable to L1, L2, L5, L7, M1, M2, M3, N1, N2, N3, e-rickshaw & e-kart category vehicles.
 - · The standard is not applicable to trailers, agricultural tractors, power tillers, combine harvesters and CEV's.
 - Vehicles which are exempt from CMVR Type Approval and/or CoP are also exempt from this standard.
 - The period of the CoP is set at 2 years. This is in line with ECE specifications for CoP for Brakes, Steering, Noise, Speedometer/Odometer & SLD/SLF. AIS 037 safety component CoP also has a CoP period of two years.
 - The mainstay of this standard is randomness. The three levels of randomness are:
 - a. Random model from manufacturer's portfolio
 - b. Random plant of manufacture
 - c. Random sample from a population
 - To address large number of vehicle models & variants and the large current & future volumes the manufacturer's portfolios are divided into families and random samples are selected from these families
 - Every selected sample is subjected to 15-20 different checks which include Marking Checks, Installation Checks & Physical Road Tests
 - When a sample fails even a single test in the specified list of tests a progressive 20-sample statistical procedure is taken
 up for the performance in the test to decide whether it has passed or failed. This method has been adopted from ECE R83
 In-Service Conformity Emissions Testing Procedure.
 - When the vehicle fails even the statistical evaluation procedure then it is declared as having failed CoP requirements. In
 that case the consequences of failure are brought into force on the manufacturer. These consequences are similar to the
 consequences applied for CoP failure in the emissions TAP 115 document. They include failure root cause identification,
 failure correction, re-testing, re-type approval where necessary and above all recall & rectification of faulty field vehicles.

ARAI

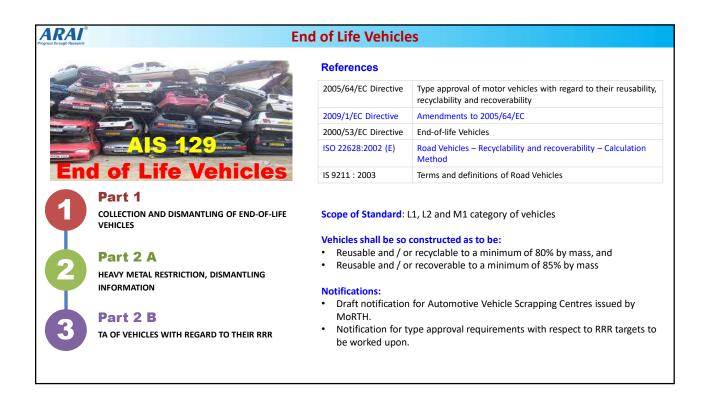
Whole Vehicle Safety Conformity of Procedure

Implementation Plan

• Because of new and unfamiliar provisions of standard, it is recommended to precede the actual implementation with a Preparatory Phase as follows to avoid production disruptions caused by unanticipated problems:

Preparatory Phase: Oct 2020 to Mar 2022 Final Implementation: Apr 2022 onwards

- The preparatory phase will help to correct implementation issues and errors in the AIS noticed in the phase without production or import disruptions.
- Manufacturers and tests agencies will be able to better estimate the work load to be expected in the final phase starting in April 2021.
- Manufacturers will be able to better orient their quality systems for the final phase.
- · Test Agencies will be able better orient their administrative and technical systems for the final phase.
- Government will get an advance estimate of likely performance of the manufacturers in the final phase.
- Notification is in process.



RAI® Summary County Research					
Si No		AISC	CMVR-TSC	Ministry	
1. Brakes for other than M1/N1 AlS 150 is published. IS 1185: category vehicles 2019 is published.		AIS 150 is published. IS 11852: 2019 is published.	To be discussed for implementation.	-	
2	. ABS	AIS and IS standards are published	To be reviewed for including N1 and N2 category vehicles.	g N1 -	
3	. ESC and BAS	AIS 133 and AIS 152 are published.	Presently notified for implementation on if fitted basis. To be reviewed for mandatory implementation.	-	
4	. AEBS	Standard under formulation	To review if Forward Collision Warning System can be introduced independently.	-	
5	. Electric Agricultural Tractor	March 2021	-	-	
6	. Electro Magnetic Compatibility	AIS 004 (Part3) (Rev. 1) is published.	Standard is adopted	Notification is in process	
7	. Tyre Rolling Resistance, Wet Grip, Rolling Sound	AIS 142 is published.	Adopted.	Notification is in process	
8	. Super Single Tyres	Recommendations to be finalized by March 2021.	To be reviewed for including N1 and N2 category vehicles.	-	
9	. 2 W Pass by Noise Standards	IS 3028 (Part 1) is published.	Adopted.	Notification is in process	

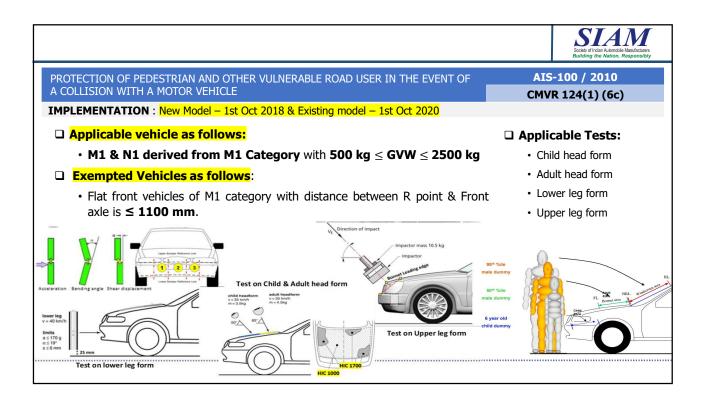
Summary Summary						
Sr. No.	Subject	AISC	CMVR-TSC	Ministry		
10.	4 W Pass by Noise Standards	IS 3028 (Part 3) is under discussion. Expected to finish by March 2021.	-	-		
11.	Lighting Standards	Revised Standards under discussion. Expected to finish by March 2021.	-	-		
12.	Special Purpose Vehicles	Standard for SPV such as Reefer Van, Food Truck, Cash Van and 2 W fire tender under discussion.	-	-		
13.	Wheel chair access for the Divyanjan in M1 category - Adapted Vehicles	Draft Standard is under discussion. Expected to finish by January 2021.	-	-		
14.	Construction Equipment Vehicles Safety Regulations	AIS 160 is published.	Adopted.	Draft Notification issued.		
15.	Hydrogen Fuel Cell vehicles	AIS 157 is formulated. Pending for Publication.	Adopted.	Draft Notification issued.		
16.	Whole Vehicle Safety Conformity of Procedure	AIS 017 (Part 6) is published.	Adopted.	Notification is in process.		
17.	End of Life Vehicles	AIS 129 is published.	Adopted.	Ministry has issued a draft notification w.r.t setting up of scrapping and dismantling centers. Notification for TA of vehicles to be issued.		



Reconsideration of Pedestrian Protection Existing Models Timeline

1st Oct 2020 → 1st April 2021

						Socie Build	y of Indian Automobile Manufacturers ling the Nation, Responsibly					
SAFETY NORMS IMPLEMENTATION IN INDIA												
2017	20	18	2019			2020						
OCTOBER (BS-IV)	APRIL (BS-IV)	OCTOBER (BS-IV)	APRIL (BS-IV)	JULY : AIS 145 (BS-IV)	OCTOBER (BS-IV)	APRIL (BS-VI)	OCTOBER (BS-VI)					
NEW MODELS	NEW MODELS	NEW MODELS	ALL MODELS	ALL MODELS	ALL MODELS	ALL MODELS	ALL MODELS					
Als 096 Full Frontal Als 096 Full Frontal Als 098 Offset Frontal Als 098 Offset Frontal	(ABS)	Pedestrian Protection	(ABS)	Seat Belt Reminder Driver & Co-driver Driver Airbag Speed alert system Reverse Parking alert System Manual Override Child Safety lock ban (Taxi)	AIS 096 Full Frontal AIS 098 Offset Frontal AIS 098 Offset Frontal							
✓	✓	✓	✓	✓	✓	✓	Under Development					



SIAM Submission



- For Pedestrian protection compliance, most of the models are developed to meet the requirements in given the
 timeline, except for few models where manufacturers are facing difficulties due to impact of
 COVID-19.
- Due to global outbreak of COVID-19 Automobile Industry growth is impacted. It also created a huge **impact** on vehicle development for compliance to notified norms due to following facts:
 - **a) Disruption in supply chain & logistics –** Affected tooling support outside from India which is required for compliance to pedestrian protection.
 - b) No development work during the lock down period.
 - c) R&D centres can function only upto 30% efficiency Lead to loss of precious development time.
- Lead time to complete validation and durability trials would be required on prototype which is delayed due to pandemic.
- ACMA has agreed with this proposal and has no issue with 6 months deferment.

Proposal: <u>6 months additional time</u> for compliance to AIS100 for Existing models $(1^{st} \text{ Oct } 2020 \rightarrow 1^{st} \text{ April } 2021)$

CMVR-TSC - Agenda 4 (b) (i)

AIS 157 - Hydrogen Fuel Cell Vehicles

- The status of adoption of ISO standards referred in draft AIS 157 is given below:
 - 1. ISO 3864-1 has already been adopted as IS 16449 (part-1): 2018;
 - 2. ISO 12619 (Part-1 to 16) are under wide circulation for public comments for adoption & will be finalized soon;
 - 3. ISO 14687 has already been processed for adoption & is presently under publication;
 - 4. ISO 17268 is under wide circulation for public comments for adoption & will be finalized soon;
 - 5. Regarding proposal of MoRTH to adopt ISO 19881, it is submitted that IS 16735 will be reviewed by the concerned technical committee of BIS vis-à-vis the requirements of IS 19881: 2018 and action will be taken accordingly;
 - 6. ISO 23272 is being taken-up for adoption in the concerned technical committee on top priority; and
 - 7. ISO 23828 is under wide circulation for public comments for adoption & will be finalized soon.
- · All the above mentioned ISO standards will be published by December 2020.

CMVR-TSC - Agenda 4 (b) (ii)



Update on Fire Fighting vehicles – 2W

3rd September,2020

International Centre for Automotive Technolog

Fire fighting Vehicles



Background

▶ Draft standard was circulated for comments to all the panel members on 28th Jan, 2020.

➤ Panel meeting was convened on 23rd July 2020 under convenorship of Shri D P Saste, to discuss the comments received on draft

▶ Based on decision taken in the meeting finalized draft circulated to the panel members.

■Proposal

> It is proposed to adopt the draft AIS 167

International Centre for Automotive Technology

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Proposal Definition-SPV



■Existing: As per CMV rule 2(zd)

(zd) "Special Purpose Vehicle (SPV)" means a vehicle of category L [only in case of Road Ambulance complying to AIS-125 (Part1)-2014], M, N or T having specific technical features in order to perform a function which requires special arrangements and / or equipment.

Proposed

Special Purpose Vehicle (SPV) means a motor vehicle of having specific technical features in order to perform a function which requires special arrangements and / or equipment.

Justification

For inclusion of other vehicle categories which may be added under SPVs in future.

International Centre for Automotive Technology

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CMVR-TSC - Agenda 4.0 (b) (iii)

AIS standard on Special purpose vehicles - Cash vans, Food Trucks (AIS 163)

Background

- > Subject was discussed in 56th meeting of CMVR TSC and 63rd meeting of AISC where in it was decided to formulate a AIS standard for special purpose vehicles such as Cash Van and Food Truck (Mobile Canteen).
- > A draft standard was prepared covering requirements for Cash Van and Mobile Canteen (Food Truck).
- > Cash Van: Taking reference from GSR 755 dated 8th August 2018, issued by Ministry of Home Affairs, requirements for Cash Van are covered in draft standard including the following:
 - Scope: This standard is made applicable for M1 and N1 category of vehicles.
 - **Definition**: Cash Van, Cash Handling Agency, ATM, point to point transport, day-time.
 - Specific Requirements: Lay out, provisions for cash compartment security, cash box security, requirements for fire extinguishers, CCTV and GPS requirements
- ➤ Mobile Canteen (Food Truck)
 - Scope: This standard is made applicable for M and N category of vehicles.
 - Definition : Mobile Canteen.
 - General Requirement viz., Protection of food from risk of contamination, Quality of material of Fittings and equipment, Smooth, impervious and non-slip material floor, etc.

Annexure II

ARAI

CMVR-TSC - Agenda 4.0 (b) (iii)

AIS standard on Special purpose vehicles - Cash vans, Food Trucks (AIS 163)

- The draft standard (AIS-163: Procedure For Type Approval Of Special Purpose Vehicles (Spv's) For Compliance To Central Motor Vehicles Rules) was discussed in two panel meetings held in December 2019 and July 2020.
- Comments received from stakeholders were discussed and the standard was modified suitably. The revised draft was circulated to all panel members vide mail dated 6th August 2020 for review.
- Comments were received from M/s Maruti Suzuki India Ltd. The same were reviewed by Convener and Secretariat and the agreed comments were incorporated in the standard.
- Considering the importance on the subject and urgent need to notify the standard, it is proposed that the standard may be adopted by the Committee.
- Further changes, if any, can be reviewed and incorporated as form of an amendment.
- · Committee may deliberate and adopt the proposed standard.