United Nations ECE/TRANS/WP.29/GRSG/2025/30

Economic and Social Council

Distr.: General
18 July 2025

Original: English

Economic Commission for Europe

Inland Transport Committee

World Forum for Harmonization of Vehicle Regulations

Working Party on General Safety Provisions

130th session
Geneva, 6–9 October 2025
Item 14(b) of the provisional agenda
Exchange of views on vehicle automation:
Categorization of automated vehicles and autonomous vehicle regulation screening

Proposal for supplement 1 to the 10 Series of Amendments to UN Regulation No. 107 (General Construction of Buses)

Submitted by the expert from the Kingdom of the Netherlands on behalf of the Task Force on Automated Vehicles Regulatory Screening*

The text reproduced below was prepared by the experts from the International Organization of Motor Vehicle Manufacturers (OICA) and France on behalf of the Task Force on Automated Vehicles Regulatory Screening (TF-AVRS). The modifications to the current text of the UN Regulation are marked in bold for new or strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2025 as outlined in proposed programme budget for 2025 (A/79/6 (Sect. 20), table 20.6), the World Forum will develop, harmonize and update UN Regulations to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

Proposal

Insert new paragraphs 0. and 0.1. to 0.1.5., to read:

"0. Introduction

0.1. Supplement 1 to the 10 series of amendments is introduced to take into account vehicles of category X, as well as vehicles with a manual mode operating at speeds above 6 km/h which are equipped with an Automated Driving System Feature of Type 2 (ADSF-2).

0.1.1. It was noticed by GRSG experts, that for the provisions related to these buses, it is often not an issue whether an Automated Driving System (ADS) is performing the Dynamic Driving Task (DDT), but the situation that there is no longer a driver, sitting in the driver's seat who is responsible for several non-DDT tasks in the vehicle.

0.1.2. Depending on the type of vehicle, there may or may not be a driver's compartment. There could be a driver's compartment, but no driver. A crew member could be part of the ADS concept, such that the DDT task is taken over by ADS, while the crew member takes responsibility for non-DDT tasks like opening doors, etc.

0.1.3. A distinction is made between ADSF-1 and ADSF-2: for ADSF-1, no special arrangements need to be made, since it is clear that even when the driver is not performing DDT within a certain Operational Driving Domain (ODD), the driver is still present in the driver's seat as fall-back user and needs to be able to take over control at any time. It is assumed such fall-back user can be held responsible for non-DDT tasks, even though the driver is temporarily not performing DDT.

0.1.4. The definitions for mass in running order and number of passengers have been aligned with Rev. 8 of R.E.3.

0.1.5. Annex 1 – Part 1 – Appendix 1 and 2, paragraphs 2.7 have been aligned. "Bonneted" is considered more clear than "normal"."

Paragraph 1.1., footnote 1, amend to read:

"[1] As defined in the Consolidated Resolution on the Construction of Vehicles (R.E.3.), document ECE/TRANS/WP.29/78/Rev.~~6~~**8**, para. 2 - ~~https://unece.org/transport/standards/transport/vehicle-regulations-wp29/resolutions~~ https://unece.org/transport/vehicle-regulations/wp29/resolutions"

Paragraph 2.1.1., amend to read:

"2.1.1. For vehicles having a capacity exceeding 2~~2~~**3 occupants** ~~passengers in addition to the driver~~, there are three classes of vehicles:"

Paragraph 2.1.2., amend to read:

"2.1.2. For vehicles having a capacity not exceeding 2~~2~~**3 occupants** ~~passengers in addition to the driver~~, there are two classes of vehicles:

Paragraph 2.2.1., amend to read:

"2.2.1. "*Vehicle type*" means vehicles, which do not differ in the following essential aspects:

(a) Bodywork manufacturer;

(b) Chassis manufacturer;

(c) Vehicle concept (> 2~~2~~**3 occupants** ~~passengers~~ or ≤ 2~~2~~**3 occupants** ~~passengers~~);

(d) Bodywork concept (single / double-deck, articulated, low-floor);

(e) Bodywork type if the bodywork has been approved as a separate technical unit."

Paragraph 2.2.2., amend to read:

"2.2.2. "*Bodywork type*" for the purposes of type-approval as a separate technical unit means a category of bodywork which does not essentially differ in the following aspects:

(a) Bodywork manufacturer;

(b) Vehicle concept (> 2~~2~~**3 occupants** ~~passengers~~ or ≤ 2~~2~~**3 occupants** ~~passengers~~);

(c) Bodywork concept (single/ double-deck, articulated, low-floor);

(d) Mass of the completely equipped vehicle bodywork, differing by 10 per cent;

(e) Specified types of vehicle on which the type of the bodywork can be installed.

Paragraph 2.5., amend to read:

"2.5. "*Service door*" means a door intended for use by passengers in normal circumstances**,** with the driver seated **(if applicable)**."

Paragraph 2.18., amend to read:

"2.18. "*Mass of the vehicle in running order*" means the mass of the unladen vehicle with bodywork, and with coupling device in the case of a towing vehicle, in running order, or the mass of the chassis with cab if the manufacturer does not fit the bodywork and/or coupling device (including coolant, oils, 90 per cent fuel, 100 per cent other liquids except used waters, tools, spare wheel and driver (75 kg) **except in the case of vehicles of category X,** and, for buses and coaches, the mass of the crew member (75 kg) if there is a crew seat in the vehicle."

Paragraph 2.20., amend to read:

"2.20. "*Passenger*" means a person, other than the driver **(if applicable)** or a member of the crew."

Paragraph 2.23., amend to read:

"2.23. "*Member of the crew*" **i.e. crew member** means a person assigned to operate as a co-driver, or the possible assistant. **In case an ADS feature uses an on-board operator/user in charge of responsibility for the tasks other than DDT, such person is considered a crew member.**"

Paragraph 2.26., amend to read:

"2.26. "*Automatically-operated service-door*" means a power-operated service door which can be opened (other than by means of emergency controls) only after a control is operated by a passenger and after activation of the controls by the driver **or by an ADS**, and which closes again automatically."

Insert new paragraphs 2.49. and 2.50., to read:

"2.49. "*ADS feature of type 1 (ADSF-1)*" means an ADS feature which includes an ADS fallback response requiring a fallback user

2.50. *"ADS feature of type 2 (ADSF-2)"* means an ADS feature which does not include an ADS fallback response requiring a fallback user."

Insert new paragraph 5.7., to read:

"5.7. Vehicles equipped with an ADSF-2, shall comply with the technical requirements of UN Regulation No [XXX]."

Annex 1 – Part 1 – Appendix 1, paragraph 2.7., amend to read:

"2.7. Driving cab **(if fitted)** (forward, ~~or normal~~ **bonneted or not applicable**) (z): ."

Annex 1 – Part 1 – Appendix 1, paragraph 3.4., amend to read:

"3.4. Mass of the vehicle with bodywork, and in the case of a towing vehicle of a category other than M_1, with coupling device, if fitted by the manufacturer, in running order, or the mass of the chassis or chassis with cab, without bodywork and/or coupling device if the manufacturer does not fit the bodywork and/or coupling device (including liquids, tools, spare wheel and driver, **except in the case of vehicles of category X,** and, for buses and coaches, a crew member if there is a crew seat in the vehicle) (o) (maximum and minimum for each variant):....."

Annex 1 – Part 1 – Appendix 1, paragraph 5., amend to read:

"5. Special provisions for vehicles used for the carriage of ~~passengers~~ **occupants** comprising more than ~~eight~~ **nine** seats ~~in addition to the driver's seat~~"

Annex 1 – Part 1 – Appendix 1, paragraph 5.10., amend to read:

"5.10. Technical devices facilitating the access to vehicles (e.g. ramp, lifting platform, kneeling system), if fitted: .....

~~(b) If the means of identification of type contains characters not relevant to describe the vehicle, component or separate technical unit types covered by this information document, such characters shall be represented in the documentation by the symbol "?" (e.g. ABC??123??).~~

~~(c) As defined in the Consolidated Resolution on the Construction of Vehicles (R.E.3), document ECE/TRANS/WP.29/78/Rev.6.~~

~~(d) If possible, designation according to Euro norm, otherwise give:~~

~~(i) Description of the material;~~

~~(ii) Yield point;~~

~~(iii) Ultimate tensile stress;~~

~~(iv) Elongation (in per cent);~~

~~(v) Brinell hardness.~~

~~(e) Where there is one version with a normal cab and another with a sleeper cab, both sets of masses and dimensions are to be stated.~~

~~(f) ISO Standard 612 – 1978, term No. 6.4.~~

~~(j) Annex 11, paragraph 2.2.1.~~

~~(k) Annex 11, paragraph 2.2.2.~~

~~(l) Annex 11, paragraph 2.2.3.~~

~~(m) ISO Standard 612 – 1978, Term No. 6.6.~~

~~(n) ISO Standard 612 – 1978, Term No. 6.7.~~

~~(o) The mass of the driver and, if applicable, of the crew member is assessed at 75 kg (subdivided into 68 kg occupant mass and 7 kg luggage mass according to ISO Standard 2416 – 1992), the fuel tank is filled to 90 per cent and the other liquid-containing systems (except those for used water) to 100 per cent of the capacity specified by the manufacturer.~~

~~(y) For trailer or a semi trailer, which exert a significant vertical load on the coupling device or the fifth wheel, this load, divided by standard acceleration of gravity, is included in the maximum technically permissible mass.~~

~~(z) Forward control means a configuration in which more than half of the engine length is rearward of the foremost point of the windshield base and the steering wheel hub in the forward quarter of the vehicle length~~."

Annex 1 – Part 1 – Appendix 2, paragraph 2.7., amend to read:

"2.7. Driving cab **(if fitted)** (forward ~~control~~, ~~or~~ bonneted **or not applicable**) (z): ."

Annex 1 – Part 1 – Appendix 2, paragraph 5., amend to read:

"5. Special provisions for vehicles used for the carriage of ~~passengers~~ **occupants** comprising more than ~~eight~~ **nine** seats ~~in addition to the driver's seat~~"

Annex 1 – Part 1 – Appendix 3, paragraph 3.3., amend to read:

"3.3. Mass of the vehicle with bodywork and, in the case of a towing vehicle of a category other than M_1, with coupling device, if fitted by the manufacturer, in running order, or the mass of the chassis or chassis with cab, without bodywork and/or coupling device if the manufacturer does not fit the bodywork and/or coupling device (including liquids, tools, spare wheel and driver, **except in the case of vehicles of category X,** and, for buses and coaches, a crew member if there is a crew seat in the vehicle): (o) (maximum and minimum for each variant):.....

....."

Annex 3, paragraph 7.1.1., amend to read:

"7.1.1. If the driver's compartment **(if fitted)** is without a roof, the driver should have some special protection against strong wind, sudden dust, heavy rain, etc."

Annex 3, paragraph 7.2.2.1.1., amend to read:

"7.2.2.1.1. The area of the driver's compartment **(if fitted)**"

Annex 3, paragraph 7.2.2.2.4., amend to read:

"7.2.2.2.4. **If a driver's compartment is fitted, t**~~T~~he area forward of a transverse vertical plane passing through the centre of the seating surface of the driver's seat (in its rearmost position)."

Annex 3, paragraph 7.2.3.1., amend to read:

"7.2.3.1. Space shall be provided ~~in the driver's area~~ **in the frontal area of the passenger compartment**, in a position clearly visible to the driver **or a crew member** in his seating position, for the markings provided for in paragraph 3.3. of Annex 11. **For vehicles of category X, this space shall be provided in the frontal area of the passenger compartment, for the markings provided for in paragraph 3.3. of Annex 11.**"

Annex 3, paragraph 7.5.1.5., amend to read:

"7.5.1.5. In the case of vehicles having an internal combustion engine or a combustion heater located to the rear of the driver's compartment, the compartment shall be equipped with an alarm system providing the driver with both an acoustic and a visual signal, and activating the hazard warning signal, in the event of excess temperature in the engine compartment and in each compartment where a combustion heater is located.

In addition to the alarm system, vehicles of Classes I, II and III shall be equipped with a fire suppression system in the engine compartment and each compartment where a combustion heater is located. Vehicles of Classes A and B, may be equipped with a fire suppression system in the engine compartment and in each compartment where a combustion heater is located. **In the case of vehicles equipped with an ADSF-2, vehicles having an internal combustion engine or a combustion heater, all compartments where an internal combustion engine, or a combustion heater are located, shall be equipped with an alarm system transmitting a logic signal to ADS, and**

activating the hazard warning signal, in the event of excess temperatures in those compartments."

Annex 3, paragraph 7.5.2.5., amend to read:

"7.5.2.5. Where the voltage exceeds 100 V RMS (Root Mean Square) in one or more electrical circuits in a vehicle, a manually-operated isolating switch which is capable of disconnecting all such circuits from the main electrical supply shall be connected in each pole of that supply which is not electrically connected to earth, and shall be located inside the vehicle in a position readily accessible to the driver, provided that no such isolating switch shall be capable of disconnecting any electrical circuit supplying the mandatory external vehicle lights. This paragraph does not apply to high tension ignition circuits nor to self-contained circuits within a unit of equipment in the vehicle. **In case of vehicles equipped with an ADSF-2, such manually operated isolating switch shall be readily accessible to a crew member. In case of an ADS feature without crew member, the ADS safety concept shall include an alternative solution providing an equivalent level of safety, in agreement with the Technical Service Type and Approval Authority.**"

Annex 3, paragraph 7.5.3.2., amend to read:

"7.5.3.2. The battery compartment shall be separated from the passenger compartment and driver's compartment **(if fitted)** and ventilated to outside air."

Annex 3, paragraph 7.5.4.1., amend to read:

"7.5.4.1. Space shall be provided for the fitting of one or more fire extinguishers**. ~~,~~ ~~o~~O**ne being near the driver's seat **(if fitted)**. **In case of absence of a driver's compartment, space shall be provided close to the crew member seat, if fitted, or in the frontal area of the passenger compartment.** In vehicles of Class A or B the space for each required extinguisher shall be not less than 8 dm^3 and for in Class I, II or III not less than 15 dm^3. In the case of a double-deck vehicle, an additional extinguisher space shall be provided on the upper deck."

Annex 3, paragraphs 7.5.6.1. and 7.5.6.2., amend to read:

"7.5.6.1. Vehicles shall be equipped with an alarm system detecting either an excess temperature or smoke in toilet compartments, driver's sleeping compartments and other separate compartments. **In the case of vehicles equipped with an ADSF-2, such vehicles shall be equipped with an alarm system detecting either an excess temperature or smoke in toilet compartments, sleeping compartments, passenger compartment(s) and other separate compartments.**

7.5.6.2. Upon detection, the system given in paragraph 7.5.6.1. shall provide the driver with both an acoustic and a visual signal in the driver's compartment and shall activate the hazard warning signal. **In the case of vehicles equipped with an ADSF-2, the system shall transmit a logic signal to ADS and shall activate the hazard warning signal.**"

Annex 3, paragraph 7.5.7.1., amend to read:

"7.5.7.1. In the case of vehicles of Classes I, II, III and B, having the engine located to the rear of the driver's compartment, in the event of activation of an alarm system:

(a) The emergency lighting system according to paragraph 7.8.3., if fitted, shall automatically activate and,

(b) After a single positive action of the driver on any of the door controls in the driver's compartment, all power-operated doors situated on the side of the vehicle that is nearer of the side of the road corresponding

to the direction of traffic for which the vehicle is designed shall open and shall remain in the opened position.

This is applicable when the vehicle is stationary or driving at a speed less than or equal to 3 km/h.

A repeated use of the opening control shall not reverse the opening movement of the door, in order to avoid unintended re-closing in an emergency situation.

In the case of vehicles of Classes I, II, III, A and B equipped with an ADSF-2, in the event of activation of an alarm system:

(a) The emergency lighting system according to paragraph 7.8.3., if fitted, shall automatically activate; and

(b) a logic signal shall be transmitted to ADS."

Annex 3, paragraph 7.6.1.7., amend to read:

"7.6.1.7. If the driver's compartment **(if applicable)** does not provide access to a passenger compartment by means of a passageway that permits:

(a) The front edge of the cylindrical gauge referred to in Annex 4, Figure 6 to reach at least the transverse vertical plane tangential to the foremost point of the driver's seat back in its rearmost longitudinal position, and

(b) From this plane, to move the panel shown in Annex 4, Figure 7 forwards from the contact position, with the cylindrical gauge until it reaches at least the vertical plane tangential to the foremost point of the driver's seat cushion,

then the requirements of the following paragraphs 7.6.1.7.1. to 7.6.1.7.5. below shall be met:"

Annex 3, paragraphs 7.6.1.8. to 7.6.1.9., amend to read:

"7.6.1.8. If the driver's compartment **(if fitted)** is accessible from a passenger compartment by means of a passageway complying with the requirements of subparagraphs (a) and (b) of paragraph 7.6.1.7. above, and any seats adjacent to this driver's compartment, are accessible from that same passenger compartment by means of a passageway complying with one of the conditions described in paragraph 7.7.5.1.1. of this annex, no external exit is required from the driver's compartment."

Annex 3, paragraph 7.6.1.10., amend to read:

"7.6.1.10. Paragraphs 7.6.1.8. and 7.6.1.9. above do not preclude there being a door or other barrier between the driver's seat **(if fitted)** and the passenger compartment provided that this barrier can be released quickly by the driver **(if applicable)** in an emergency. A driver's door **(if applicable)** in a compartment protected by such a barrier shall not be counted as an exit for passengers."

Annex 3, paragraphs 7.6.1.17. and 7.6.1.17.1., amend to read:

"7.6.1.17. In the case of vehicles of Class A or B, if there is a door opposite the driver's door **(if fitted)** it may count as one of the required exits for passengers provided:

7.6.1.17.1. There is not more than one passenger's seat beside the driver's compartment **(if fitted)**, and"

Annex 3, paragraph 7.6.2.1.1.3., amend to read:

"7.6.2.1.1.3. The provision of one or more additional service door(s) on the opposite side of the vehicle in the case of vehicles designed for use in circumstances which require boarding / alighting of passengers on both sides of the vehicle. Vehicles so equipped shall be provided with control(s) that allow the driver to inhibit normal operation of the doors that are not currently in use. **Alternatively, ADS shall inhibit normal operation of such doors.**"

Annex 3, paragraph 7.6.4.2., amend to read:

"7.6.4.2. Every control or device for opening a door from the outside shall be between 1,000 mm and 1,500 mm from the ground and not more than 500 mm from the door. In vehicles of Classes I, II and III every control or device for opening a door from the inside shall be between 1,000 mm and 1,500 mm from the upper surface of the floor or step nearest the control and be not more than 500 mm from the door. This shall not apply to controls located within the driver's area **(if fitted)**."

Annex 3, paragraph 7.6.4.6., renumber as 7.6.4.6.1.

Annex 3, insert new paragraph 7.6.4.6.2., to read:

"7.6.4.6.2. Vehicles equipped with an ADSF-2 shall be equipped with automatically-operated service doors unless the safety concept of the ADS provides for an equivalent level of safety in agreement with the Technical Service and Type Approval Authority."

Annex 3, paragraph 7.6.4.2., amend to read:

"7.6.4.11.2. A warning shall be provided to the driver **(if applicable)** indicating that the overnight locking system remains in operation at one or more door(s) when the ignition is in the "ON" position. One signal may be used for more than one door.

or:"

Annex 3, insert new paragraph 7.6.4.11.3., to read:

"7.6.4.11.3. the warning is sent as a logic signal to the ADS."

Annex 3, paragraph 7.6.5.1.7., amend to read:

"7.6.5.1.7. May be protected by a device which can be easily removed or broken to gain access to the emergency control; the operation of the emergency control, or the removal of a protective cover over the control, shall be indicated to the driver both audibly and visually **and/or sent as a logic signal to ADS**, and"

Annex 3, paragraph 7.6.5.1.8., amend to read:

"7.6.5.1.8. In the case of a driver-operated door which does not comply with the requirements of paragraph 7.6.5.6.2. ~~above~~, shall be such that after they have been operated to open the door and returned to their normal position, the door will not close again until the driver subsequently operates a closing control."

Annex 3, paragraph 7.6.5.2., amend to read:

"7.6.5.2. A device may be provided which is operated by the driver from the driving seat**, or controlled by an ADS,** to deactivate the outside emergency controls in order to lock the service doors from outside. In this case, the outside emergency controls shall be reactivated automatically either by the starting of the engine or before the vehicle reaches a speed of 20 km/h. Subsequently, deactivation of the outside emergency controls shall not occur automatically, but shall require a further action by the driver **or shall be controlled by ADS**."

Annex 3, insert new paragraph 7.6.5.10., to read:

"7.6.5.10. For vehicles equipped with an ADSF-2, every door shall be so constructed that its opening movement is not likely to cause injury to passengers in normal conditions of use. Where necessary, appropriate protection devices shall be fitted."

Annex 3, insert new paragraph 7.6.5.6.1.2.4., to read:

"7.6.5.6.1.2.4. In case of vehicles equipped with an ADSF-2, a logic signal shall be transmitted to the ADS."

Annex 3, paragraph 7.6.5.9., amend to read:

"7.6.5.9. **Vehicles equipped with an ADSF-2 shall be fitted with a starting prevention device.** If the vehicle is not fitted with a starting prevention device, an audible warning to the driver shall be activated if the vehicle is driven away from rest when any power-operated service door is not fully closed. This audible warning shall be activated at a speed exceeding 5 km/h for doors complying with the requirements of paragraph 7.6.5.6.1.2.3. above."

Annex 3, paragraph 7.6.6.1.1., amend to read:

"7.6.6.1.1. Except as provided in paragraph 7.6.5.1. above, the opening controls of every automatically-operated service door shall be capable of being activated and deactivated only by the driver from his seat. **In case of vehicles equipped with an ADSF-2, every automatically operated service door shall be controlled by ADS, unless the ADS safety concept delegates this task to a crew member.**"

Annex 3, paragraphs 7.6.6.1.3. and 7.6.6.1.4., amend to read:

"7.6.6.1.3. Activation of the opening controls ~~by the driver~~ shall be indicated inside and, where a door is to be opened from outside, also on the outside of the vehicle; the indicator (e.g. illuminated push-button, illuminated sign) shall be on or adjacent to the door to which it relates.

7.6.6.1.4. In the case of direct actuation by means of a switch the functional state of the system shall be clearly indicated to the driver, by, for example, the position of the switch or an indicator lamp or an illuminated switch. The switch shall be specially marked and arranged in such a way that it cannot be confused with other controls. **In case of vehicles equipped with an ADSF-2, the actuation shall be controlled by ADS, unless the ADS safety concept delegates this task to a crew member.**"

Annex 3, paragraph 7.6.6.2.1., amend to read:

"7.6.6.2.1. After activation of the opening controls ~~by the driver~~ it shall be possible for passengers to open the door as follows:"

Annex 3, paragraph 7.6.6.2.2., amend to read:

"7.6.6.2.2. The pressing of the push-buttons mentioned in paragraph 7.6.6.2.1.1. above, and the use of the means of communication ~~with the driver~~ mentioned in paragraph 7.7.9.1. below, may send a signal which is stored and which, after the activation of the opening controls ~~by the driver~~, effects the opening of the door."

Annex 3, paragraphs 7.6.6.3.3. and 7.6.6.3.4., amend to read:

"7.6.6.3.3. A door that has closed automatically in accordance with paragraph 7.6.6.3.1. above shall be capable of being opened again by a passenger in accordance with paragraph 7.6.6.2. ~~below~~; this shall not apply if ~~the driver has deactivated~~ **opening controls have been deactivated (e.g. by the driver, an ADS, etc.)**

7.6.6.3.4. After deactivation of the opening controls of the automatically operated service doors ~~by the driver~~, open doors shall close in accordance with paragraphs 7.6.6.3.1. and 7.6.6.3.2. above."

Annex 3, paragraphs 7.6.6.4.1. to 7.6.6.4.3., amend to read:

"7.6.6.4.1. The driver **(if applicable),** shall be able to inhibit the automatic closing process by actuation of a special control. A passenger shall also be able to inhibit the automatic closing process directly by pressing a special push-button. **For vehicles equipped with an ADSF-2, that ADS shall be able to inhibit the automatic closing process, unless the ADS safety concept delegates this task to a crew member.**

7.6.6.4.2. The inhibition of the automatic closing process shall be indicated to the driver, e.g. by a visual tell-tale**, or sent as a logic signal to ADS**.

7.6.6.4.3. Re-establishment of the automatic closing process shall in any case be capable of being done by the driver. **In case of vehicles equipped with an ADSF-2, ADS shall be able to perform this task, unless the ADS safety concept delegates this task to a crew member.**"

Annex 3, paragraph 7.6.7.2., amend to read:

"7.6.7.2. Emergency doors, during their use as such, shall not be of the power-operated type unless, once either a service door control prescribed in paragraph 7.6.5.1. above, or a control for a dedicated emergency door complying with the provisions of paragraph 7.6.5.1. has been actuated and returned to its normal position, the doors do not close again until ~~the driver subsequently operates~~ a closing control **has been operated**. Activation of one of the controls prescribed in paragraph 7.6.5.1. above shall cause the door to open to a width that the gauge as defined in paragraph 7.7.2.1. below can pass through within a maximum of 8 seconds after the operation of the control, or enable the door to be easily opened by hand to a width that the gauge can pass through within a maximum of 8 seconds after the operation of the control. In addition emergency doors shall not be of the sliding type except in the case of vehicles having a capacity not exceeding 22 passengers **(23 passengers in case an ADS feature is active)**. For these vehicles a sliding door, which has been shown to be capable of being opened without the use of tools after a frontal barrier collision test in accordance with Regulation No. 33, can be accepted as an emergency door."

Annex 3, paragraph 7.6.7.6., amend to read:

"7.6.7.6. All emergency doors shall be provided with an audible device to warn the driver when they are not securely closed. The warning device shall be operated by movement of the door catch or handle and not by movement of the door itself. **In case of vehicles with an ADSF-2, a logic signal shall be transmitted to the ADS.**"

Annex 3, paragraph 7.6.7.7.2., amend to read:

"7.6.7.7.2. A warning shall be provided to the driver indicating that the overnight locking system remains in operation at one or more door(s) when the ignition is in the "ON" position. One signal may be used for more than one door. **In case of vehicles with an ADSF-2, the warning shall be transmitted as a logic signal to ADS.**"

Annex 3, paragraph 7.6.8.2.2.3., amend to read:

"7.6.8.2.2.3. The device shall be readily available at all times. In case of electronic devices such device shall be operational in the event of a failure of the vehicle's power supply, and its operational status shall be easily verifiable at the driver's seat position**, or provided as a logic signal to ADS**. The device shall be designed to prevent misuse. At least one of the following mitigating measures at the manufacturer's choice shall be available. The device shall:

(a) be permanently fixed adjacent to or on each emergency window; or

(b) engage a warning signal being audible or visible at the driver's seating position**, or provided as a logic signal to ADS**. when the device is temporarily removed from its designated location."

Annex 3, paragraph 7.6.8.6., amend to read:

"7.6.8.6. Every hinged emergency window which is not clearly visible from the driver's seat shall be fitted with an audible warning device to warn the driver when it is not completely closed. The window lock, and not the movement of the window itself, shall actuate this device.

Vehicles equipped with an ADSF-2 shall transmit a logic signal to ADS when a hinged emergency window is not completely closed."

Annex 3, paragraph 7.6.9.2., amend to read:

"7.6.9.2. Roof escape hatches shall be ejectable, hinged or made of readily breakable safety glass. Floor hatches shall be either hinged or ejectable and shall be fitted with an audible warning device to warn the driver when it is not securely closed. The floor escape hatch lock, and not the movement of the hatch itself, shall actuate this device. Floor escape hatches shall be proofed against unintentional operation. However this requirement shall not apply if the floor hatch is locked automatically when the vehicle is moving at a speed exceeding 5 km/h.

Vehicles equipped with an ADSF-2 shall provide a logic signal to ADS when the floor escape hatch is not securely closed."

Annex 3, insert new paragraph 7.6.9.6., to read:

"7.6.9.6. For vehicles equipped with an ADSF-2, a logic signal shall be transmitted to the ADS when a roof and/or floor escape hatch has been opened or removed."

Annex 3, paragraph 7.6.10.6., amend to read:

"7.6.10.6. When a passenger is standing on a power-operated retractable step, the corresponding door shall be incapable of being closed. Compliance with this requirement shall be checked by placing a mass of 15 kg, representing a small child, at the centre of the step. This requirement ~~shall~~ **does** not apply to any door within the driver's direct field of view **or a door which is controlled by an ADS**."

Annex 3, paragraph 7.6.12.1., amend to read:

"7.6.12.1. Service-door lighting may be provided to illuminate the flat, horizontal portion of the ground defined in paragraph 7.6.12.2.2. below so as to aid passengers boarding and alighting the vehicle and to enable the presence of a passenger within this portion of the ground to be detected by the driver from his seat, **if applicable**."

Annex 3, paragraph 7.7.1.8.4., amend to read:

"7.7.1.8.4. When the seat is in the position of use, and when it is in the folded position, no part of it shall be:

(a) Forward of a vertical plane passing through the centre of the seating surface of the driver's seat in its rearmost and lowest position and through the centre of the exterior rear-view mirror mounted on the opposite side of the vehicle or through the centre of any monitor used as device for indirect vision, whatever applicable,

and

(b) Above a horizontal plane which is located 300 mm above the centre of the seating surface of the driver's seat in its rearmost and lowest position.

This paragraph does not apply to vehicles of category X."

Annex 3, paragraph 7.7.2., amend to read:

"7.7.2. Access to emergency doors (see Annex 4, Figure 5).

The following requirements ~~shall~~ **do** not apply to driver's doors used as emergency exits in vehicles having a capacity not exceeding 2~~2~~**3** passengers **and to vehicles of category X**."

Annex 3, paragraphs 7.7.9. and 7.7.9.1., amend to read:

"7.7.9. Communication with the driver **and/or an ADS**.

7.7.9.1. On vehicles of Classes I, II and A, a means shall be provided to enable passengers to signal that the ~~driver should stop~~ the vehicle **should be stopped**. The controls for all such communication devices shall be capable of being operated with the palm of the hand. There shall be appropriate communication devices distributed adequately and evenly throughout the vehicle and no more

than 1,500 mm from the floor; this does not exclude the possibility of installing higher additional communication devices. Controls shall contrast visually with their immediate surroundings. Activation of the control shall also be indicated to the passengers by means of one or more illuminated signs. The sign shall display the words "bus stopping" or equivalent, and/or a suitable pictogram and shall remain illuminated until the service door(s) open. Articulated vehicles shall have such signs in each rigid section of the vehicle. Double-deck vehicles shall have them on each deck. The provisions of paragraph 7.6.11.8. of this annex apply to any textual markings used.

The provisions of paragraph 7.6.11.4. apply to any textual markings used."

Annex 3, insert new paragraph 7.7.9.1.1., to read:

"7.7.9.1.1. For vehicles equipped with an ADSF-2, a means shall be provided to enable passengers in case of emergency, to request to bring the vehicle to a safe stop."

Annex 3, paragraph 7.7.13., amend to read:

"7.7.13. Driver's compartment **(if applicable)**"

Annex 3, paragraph 7.7.14., amend to read:

"7.7.14. Driver's seat **(if applicable)**"

Annex 3, paragraph 7.8.3.1., amend to read:

"7.8.3.1. It shall be possible for the driver to activate the emergency lighting system from the driver's seating position. **In case of vehicles equipped with an ADSF-2, such emergency lighting system shall be controlled by ADS.**"

Annex 3, paragraph 7.8.3.3., amend to read:

"7.8.3.3. The emergency lighting system, once activated, shall remain active for at least 30 minutes unless de-activated by the driver. **In case of vehicles equipped with an ADSF-2, such emergency lighting system shall be controlled by ADS.**"

Annex 3, paragraph 7.18., amend to read:

"7.18. Vision and communication aid

In the case of a vehicle without a roof, the driver shall be provided with a visual means, such as a mirror, periscope or video camera/monitor, to enable the behaviour of passengers in the area without a roof to be observed. In addition, an intercommunication system shall be provided to enable the driver to communicate with these passengers.

In case of vehicles equipped with an ADS, the ADS safety concept needs to address this."

Annex 4, figure 6, footnote 4, amend to read:

"[4] In the case of a vehicle with part of its deck directly over the driver's compartment **(if applicable)**, the overall height of the gauging device may be reduced (by reducing the height of the lower cylinder) from 1,900 mm to 1,680 mm in any part of the gangway forward to a transverse vertical plane which coincides with the centre line of the front axle."

Annex 8, paragraph 3.3.4., amend to read:

"3.3.4. If a vehicle is fitted with a ramp or lift, a means of communication with the driver **and/or crew member,** shall be fitted outside, adjacent to the door, and at a height between 850 mm and 1,300 mm from the ground. This requirement shall not apply to a door situated in the direct field of vision of the driver **and/or crew member and to vehicles equipped with an ADSF-2, where ADS takes over control of the ramp or lift to the satisfaction of the Technical Service or Type Approval Authority or both.**"

Annex 8, paragraph 3.11., amend to read:

"3.11. Provisions for boarding devices. **The device(s) described in paragraphs 3.11.1. to 3.11.4. may alternatively be controlled by an ADS**"

Annex 8, paragraph 3.11.1.1., amend to read:

"3.11.1.1. The controls actuating the boarding devices shall be clearly marked as such. The extended or lowered position of the boarding device shall be indicated by a tell-tale to the driver **and/or crew member**."

Annex 8, paragraphs 3.11.2.2. and 3.11.2.3., amend to read:

"3.11.2.2. Any control which initiates the lowering or raising of any part or the whole of the bodywork relative to the road surface shall be clearly identified and be under the direct control of the driver **and/or crew member**.

3.11.2.3. The lowering process shall be capable of being stopped and immediately reversed by a control both within the reach of the driver **and/or crew member**, ~~whilst seated in the cab~~, and also adjacent to any other operating controls provided for the operation of the kneeling system. **For vehicles equipped with an ADSF-2 without human supervision (e.g. crew member), a safety device (e.g. reversing mechanism) shall protect all areas where the movement might trap or crush objects or persons.**"

Annex 8, paragraphs 3.11.3.3.1. and 3.11.3.3.2., amend to read:

"3.11.3.3.1. Where the lift is at a service door situated within the direct field of vision of the driver **and/or crew member** of the vehicle, the lift may be operated by the driver when in the driver's seat **or by the crew member from his dedicated seat.**

3.11.3.3.2. In all others cases, the controls shall be adjacent to the lift. The~~y~~ **controls** shall be capable of being activated and deactivated ~~only~~ by the driver ~~from his seat~~, **and/or the crew member and/or shall be capable of being activated and deactivated by an ADS.**"

Annex 8, paragraphs 3.11.4.4.1. and 3.11.4.4.2., amend to read:

"3.11.4.4.1. Where the driver **and/or crew member** has adequate view of the ramp sufficient to monitor its deployment and use, to ensure the safety of passengers, the ramp may be operated by the driver when in the driver's seat **or the crew member from his dedicated seat**. This requirement may be met by a suitable indirect vision device(s).

3.11.4.4.2. In all others cases, the controls shall be adjacent to the ramp. They shall be capable of being activated and deactivated only by the driver from his seat.

For vehicles equipped with an ADSF-2, the controls shall be capable of being activated and deactivated by ADS, or a crew member from her or his dedicated seat, to the satisfaction of the Technical Service and Type Approval Authority."

Annex 11, paragraph 3.3.1., amend to read:

"3.3.1. The vehicle shall be clearly marked on the inside in a position visible to the driver in his seating position~~:~~**. In case of vehicles equipped with an ADSF-2 including vehicles of category X, it shall be marked in the passenger compartment and visible to a crew member, if any; if the ADS may operate without a crew member, the required information must also be made available to ADS.**"

Annex 12, paragraphs 2.7. and 2.8., amend to read:

"2.7. Current collectors may be equipped with remote control from the driver's compartment **(if fitted)**, at least for retraction**, or may be controlled by an ADS**.

2.8. Provision shall be made to enable the driver **and/or crew member** to replace, if necessary, contact surface inserts while the vehicle is in operation on the road."

Annex 12, paragraph 5.1., amend to read:

"5.1. In the driver's compartment **(if fitted)**, there should not be any high voltage equipment accessible by the driver."