Comparison of requirements concerning exits for small and large buses/coaches

| Requirements | Class I | Class II | Class III | A | B | Comments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 7.6.1.1 <br> The minimum number of doors in a vehicle shall be two, either two service doors or one service door and one emergency door. ... | mandatory |  |  |  |  |  |
|  | Questions: <br> 1. Need for at least 2 doors? At least 1 service door and 1 emergency door. <br> 2. need for a relation between the number of service doors and emergency doors? <br> 3. need for a relation between the number of occupants and the number of exits? <br> 4. do we focus on exits vs. emergency exits vs. doors? |  |  |  |  |  |
| 7.6.1.2. The minimum number of service doors in each rigid section of an articulated vehicle shall be one except that this minimum number shall be two in the case of front section of an articulated vehicle of Class I. | 2 |  |  |  |  | What justification? <br> Need for harmonization. Conclusion: Need for harmonization |
| 7.6.1.3. For the purpose of this requirement, service doors equipped with a poweroperated control system shall not be deemed to be emergency doors unless they can be readily opened by hand, once the control prescribed in paragraph 7.6.5.1. has been actuated, if necessary. | UK: anomaly, as 7.6.5.1. refers to several controls, rather than one control. In case of emergency what is the purpose of having several controls. <br> FMVSS 217: EE have always 2 movements, 1 with small force, 1 with high force, push or pull. Mrs. Pascale Reyntjens ready to provide info. <br> UK ready to provide info about plug door. |  |  |  |  |  |


| Requirements | Class I | Class II | Clas |  | A | B | Comments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 7.6.1.4. The minimum number of emergency exits shall be such that the total number of exits in a separate compartment is as follows <br> The number of exits for each separate deck (in the case of a double-deck vehicle) and each separate compartment must be determined separately. Toilet compartments or galleys are not considered to be separate compartments for the purposes of defining the number of emergency exits. Escape hatches can only count as one of the above-mentioned number of emergency exits. |  | Number of passengers and <br> crew to be accommodated in <br> each compartment or deck <br> $1-8$ <br> $9-16$ <br> $17-30$ <br> $31-45$ <br> $46-60$ <br> $61-75$ <br> $76-90$ <br> $91-110$ <br> $111-130$ <br> $>130$ |  | $\qquad$ |  |  | need for clarification: <br> - discrepancy between introductor y sentence and table. <br> - Number of emergency exits per side of the vehicle. |
| 7.6.1.5. Each rigid | OICA: need to re-arrange the para. |  |  |  |  |  | Conclusion: |



| Requirements | Class I | Class II | Class III | A | B | Comments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | door and emergency doors/exits. |  |  |  |  |  |
| 7.6.1.7. If the driver's compartment does not provide | mandatory |  |  |  |  | Not of $1^{\text {st }}$ priority, with its sub-paragraphs. However, need to address the 5 additional seats. Alan Davis (F) volunteers to address paragraph 7.6.1.7. for next meeting |
| access to the passenger compartment by means of a passageway complying with one of the conditions described in paragraph 7.7.5.1.1., the following conditions shall be met: | UK: "Up to five additional seats may be fitted..." implies that this para does not address driver's compartment only, hence need to revise this. <br> UK: notices that definitions of exits do not mention "exit from the vehicle". |  |  |  |  |  |
| 7.6.1.7.1. $\quad$ The driver's compartment shall have two exits, which shall not both be in the same lateral wall; when one of the exits is a window, it shall comply with the requirements set out in paragraphs 7.6.3.1. and 7.6.8. for emergency windows. | mandatory |  |  |  |  |  |
|  |  |  |  |  |  |  |
| 7.6.1.7.2. One or two seats are permitted alongside the | mandatory |  |  |  |  |  |
| driver for additional people, in which case both of the exits referred to in paragraph 7.6.1.7.1. shall be doors. | "Up to five additional seats may be fitted in a compartment incorporating the driver's compartment, provided that the additional..." <br> - Contradictory to driver's compartment definition <br> - Wrong place in the text: should be in "passenger compartment" <br> - Driver is not considered as a crew member. |  |  |  |  |  |


| Requirements | Class I | Class II | Class III | A | B |
| :--- | :--- | :--- | :--- | :--- | :--- |
| The driver's door shall be <br> accepted as the emergency door <br> for the occupants of those seats, <br> provided that it is possible to <br> move a test gauge from the <br> occupants' seats to the exterior <br> of the vehicle through the <br> driver's door (see Annex 4, <br> figure 27). |  |  | Comments |  |  |
| Verification of the access to the |  |  |  |  |  |


| Requirements | Class I | Class II | Class III | A | B | Comments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| driver's door shall be subject to the requirements of paragraph 7.7.3.2., by using the test gauge having a dimension of $600 \times 400 \mathrm{~mm}$, as described in paragraph 7.7.3.3. |  |  |  |  |  |  |
| The door provided for the passengers shall be in the side of the vehicle opposite to that containing the driver's door and shall be accepted as the emergency door for the driver. |  |  |  |  |  |  |
| Up to five additional seats may be fitted in a compartment incorporating the driver's compartment, provided that the additional seats and the space for these seats comply with all requirements of this Regulation and at least one door giving access to the passenger compartment complies with the requirements of paragraph 7.6.3. for emergency doors. |  |  |  |  |  |  |
| 7.6.1.7.3. In the circumstances described in paragraphs 7.6.1.7.1. and 7.6.1.7.2., the exits provided for the driver's compartment shall | mandatory | mandatory | mandatory | mandatory | mandatory |  |


| Requirements | Class I | Class II | Class III | A | B | Comments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| not count as one of the doors required by paragraphs 7.6.1.1. to 7.6.1.2., nor as one of the exits required by paragraph 7.6.1.4., except in the case mentioned in paragraphs 7.6.1.7.1. and 7.6.1.7.2. <br> Paragraphs from 7.6.3. to 7.6.7., 7.7.1., 7.7.2. and 7.7.7. shall not apply to such exits. |  |  |  |  |  |  |
| 7.6.1.8. If the driver's compartment and any seats adjacent to it are accessible from the main passenger compartment by means of a passageway complying with one of the conditions described in paragraph 7.7.5.1.1., no external exit is required from the driver's compartment. | mandatory |  |  |  |  | Need to correct 7.7.5.1.1. <br> (punctuation or ending) <br> Same for 7.6.1.9. <br> Provision is accepted |
| 7.6.1.9. If a driver's door or other exit from the compartment is provided in the circumstances described in paragraph 7.6.1.8. it may only count as an exit for passengers provided: |  |  | mandatory |  |  | Need for some punctuation. |
| 7.6.1.9.1. it satisfies the requirements relating to the dimensions of emergency door indicated in paragraph 7.6.3.1.; |  |  | mandatory |  |  |  |



| Requirements | Class I | Class II | Class III | A | B | Comments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| driver's seat and the passenger compartment provided that this barrier can be released quickly by the driver in an emergency. A driver's door in a compartment protected by such a barrier shall not be counted as an exit for passengers. |  |  |  |  |  |  |
| 7.6.1.11 <br> Escape hatches up to 50 passengers: 1 more than 50 passengers: 2 | applicable |  | mandatory | applicable | mandatory | Paragraph open for discussion. 1 escape hatch considered too low for 49 passengers. UK question about roof hatches usage of double deck Class 1 vehicles. UK commits to find out the quantity of accidents in the UK during last 10 years. |
| 7.6.1.12. Each <br> intercommunication staircase shall be considered to be an exit from the upper deck of a double-deck vehicle. |  |  |  |  |  | OK |


| Requirements | Class I | Class II | Class III | A | B |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 7.6.1.13. All persons <br> accommodated in the lower <br> deck of a double-deck vehicle <br> must in an emergency situation, <br> have access to the exterior of <br> the vehicle without having to <br> enter the upper deck. |  | About 200 double <br> deck coaches are <br> produced per year <br> in EU. Questions <br> the necessity of <br> addressing escape <br> of passengers from <br> lower deck when <br> the vehicle is on its <br> service door side. |  | Comments <br> parragraph <br> seems OK <br> despite the <br> comment. |  |
| 7.6.1.14. The upper deck <br> gangway of a double-deck <br> vehicle shall be connected by <br> one or more <br> intercommunication staircases <br> to the access passageway of a <br> service door or to the lower <br> deck gangway within 3 m of a <br> service door: |  |  |  | English native <br> speakers to <br> improve the <br> grammar. |  |
| 7.6.1.14.1. two, or at least <br> one and-one-half staircase, shall <br> be provided in Class I and <br> Class II vehicles if more <br> than 50 passengers are carried <br> on the upper deck; |  |  |  |  |  |
| 7.6.1.14.2. Two, or at least <br> one and-one-half, staircases are <br> to be provided in Class III <br> vehicles if more than 30 |  |  |  |  |  |


| Requirements | Class I | Class II | Class III | A | B | Comments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| passengers are carried on the upper deck. |  |  |  |  |  |  |
| 7.6.1.15. In the case of a vehicle without a roof, the exits on the deck without a roof shall be such as to fulfil those prescriptions that are not incompatible with the absence of the roof. |  |  |  |  |  | OK |
| 7.6.2 <br> Siting of exits Vehicles having a capacity exceeding 22 passenger seats shall meet the requirements shown below. Vehicles having a capacity not exceeding 22 passengers may meet either the requirements shown below or those contained in Annex 7, paragraph 1.2. | mandatory |  |  | either those those in An suggestion Annex into perform th 1.2. Pos <br> 1.2.1. The situated on that is nea road corre direction of country in be register the vehicle <br> 1.2.2. The such a way one exit on | 1.2.1. The service door(s) shall be situated on the side of the vehicle that is nearer to the side of the road corresponding to the direction of the traffic in the country in which the vehicle is to be registered, or in the rear face of the vehicle. | Proposed amendment: <br> "Positioning of exits" throughout the text. <br> Annex 7, para.1.b): need to address the question of whether one door is enough for vehicles of 22 passengers, or even more (Class I). |


| Requirements | Class I | Class II | Class III | A | B |
| :--- | :--- | :--- | :--- | :--- | :--- |


| Requirements | Class I | Class II | Class III | A | B |
| :--- | :--- | :--- | :--- | :--- | :--- |
| principally for <br> loading/unloading of goods or <br> lugage, but which could be <br> used by passengers where <br> circumstances so require, or |  |  | Comments <br> about "service <br> door": need to <br> investigate how <br> did it appear <br> with R10.02. <br> See also 7.6.2.6. |  |  |
| 7.6.2.1.3. the provision of <br> one or more additional service <br> doors on the opposite side of <br> the vehicles in the case of <br> vehicles designed for use in <br> circumstances which require <br> loading/unloading on both <br> sides. Examples of such <br> circumstances include vehicles <br> for airside use at airports, <br> vehicles for use on multimodal <br> transport systems using island <br> platforms, or vehicles which <br> cross borders to countries which <br> do not drive on the same side of <br> the road as the country in which <br> the vehicle is to be licensed for <br> operation. Vehicles so <br> equipped shall be provided with <br> control(s) which allow the <br> driver to inhibit normal <br> operation of the doors which <br> are not currently in use, or |  | mandatory |  |  |  |


| Requirements | Class I | Class II | Class III | A | B | Comments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Class A or B vehicle. |  |  |  |  |  | extend to all vehicle classes. |
| 7.6.2.2. Two of the doors referred to in paragraph 7.6.1.1. shall be separated such that the distance between transverse vertical planes through their centres of area is not less than: |  |  |  |  |  | Provisions are OK, subject to decision about GRSG-97-23 (restriction to vehicles > $10 \mathrm{~m}^{2}$ ). Spain ready to let SDWEE informal group address the issue. |
| 7.6.2.2.1. In the case of a single deck vehicle, 40 per cent of the overall length of the passenger compartment measured parallel to the longitudinal axis of the vehicle. <br> In the case of an articulated vehicle, this requirement shall be fulfilled if two doors of the different sections are separated such that the distance between the doors is not less than 40 per cent of the overall length of the combined passenger compartment (all sections). |  |  |  |  |  | OK |


| Requirements | Class I | Class II | Class III | A | B | Comments |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| If one of these two doors <br> forms part of a double door this <br> distance shall be measured <br> between the two doors which <br> are furthest apart. |  |  |  |  |  |  |
| 7.6.2.2.2. In the case of a <br> double-deck vehicle, two of the <br> doors referred to in <br> paragraph 7.6.1.1. shall be <br> separated such that the distance <br> between transverse vertical <br> planes through their centres of <br> area is not less than <br> either 25 per cent of the overall <br> length of the vehicle or 40 per <br> cent of the overall length of the <br> passenger compartment on the <br> lower deck; this shall not apply <br> if the two doors are on different <br> sides of the vehicle. If one of <br> these two doors forms part of a <br> double door, this distance shall <br> be measured between the two <br> doors which are furthest apart. |  |  |  |  | OK |  |
| 7.6.2.3. |  |  |  |  |  |  |
| The exits (on <br> each deck in the case of a <br> double-deck vehicle) shall be <br> placed in such a way that their |  |  |  |  |  |  |


| Requirements | Class I | Class II | Class III | A $\quad$ B | Comments |
| :---: | :---: | :---: | :---: | :---: | :---: |
| number on each of the two sides of the vehicle is substantially the same. (This shall not imply the need to provide additional exits over and above the number specified in paragraph 7.6.1.). Any exits in excess of the required minimum number need not be substantially balanced on each of the two sides. |  |  |  | such a way that there is at least one exit on each side of the vehicle. |  |
| 7.6.2.4. At least one exit shall be situated either in the rear face or in the front face of the vehicle respectively. For Class I vehicles and for vehicles with a rear part permanently closed off from the passenger compartment, this provision is fulfilled if an escape hatch is fitted. For double-deck vehicles, this requirement shall apply only to the upper deck. |  | mandatory |  | Annex 3 applicable Annex 7 <br> 1.2.4. At least one exit shall be situated either in the rear face or in the front face of the vehicle unless an escape hatch is fitted. | Need for clarification: <br> - Inquiry on origin <br> - "rear part permanently closed off from the passenger compartment" unclear <br> - See also R36 |
| 7.6.2.5. The exits on the same side of the vehicle shall be suitably spaced out along the length of the vehicle. |  | mandatory |  | Annex 3 applicable <br> Annex 7 <br> 1.2.3. The forward half and the rearward half of the passenger space shall each contain at least one exit. | OK, but how to test "suitable". |


| Requirements | Class I | Class II | Class III | A | B | Comments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 7.6.2.6. A door shall, provided that it is not a service door, be permitted in the rear face of the vehicle. |  |  |  |  |  | Contradictory to para. 7.6.2.1.2. |
| 7.6.2.7. If escape hatches are fitted, they shall be positioned as follows: if there is only one hatch, it shall be situated in the middle third of the passenger compartment the vehicle; if there are two hatches, they shall be separated by a distance of at least 2 m measured between the nearest edges of the apertures in a line parallel to the longitudinal axis of the vehicle. | applicable | mandatory | mandatory | applicable | mandatory | OK! |
| 7.6.3 <br> Dimensions of exits | mandatory | mandatory | mandatory | either those of Annex 3 or those in Annex 7 | either those of Annex 3 or those in Annex 7 |  |
| Service door <br> 7.6.3.1. Vehicles of Class <br> I, II or III shall meet the following requirements: <br> 7.6.3.1.1. A service door shall have an aperture creating an access in accordance with | mandatory <br> Annex 3 <br> 1800 mm x <br> 550 mm <br> (single door) | mandatory <br> Annex 3 <br> $1650 \mathrm{~mm} \times 550$ <br> mm or <br> $1800 \mathrm{~mm} \times 550$ <br> mm (single door) | mandatory <br> Annex 3 <br> $1550 \mathrm{~mm} \times 550$ <br> mm or <br> $1800 \mathrm{~mm} \times 550$ <br> mm (single door) | Annex 3 <br> $1650 \mathrm{~mm} \times 550$ <br> mm (single door) <br> Annex 7 <br> $1650 \mathrm{~mm} \times 650$ <br> mm (single door) | Annex 3 <br> $1400 \mathrm{~mm} \times 550$ <br> mm or <br> $1650 \mathrm{~mm} \times 550$ <br> mm or <br> Annex 7 <br> $1500 \mathrm{~mm} \times 650$ <br> mm (single | OK |


| Requirements | Class I | Class II | Class III | A | B | Comments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| the requirements shown in paragraph 7.7.1. of this annex |  |  |  |  | door) <br> Class B with less than $3,5 \mathrm{t}$ and 12 passengers: $1100 \mathrm{~mm} \times 650$ mm single door |  |
| Emergency door | Annex 3 <br> 1250 mm x <br> 550 mm | Annex 3 <br> $1250 \mathrm{~mm} \times 550$ mm | Annex 3 <br> $1250 \mathrm{~mm} \times 550$ mm | Annex 3 <br> $1250 \mathrm{~mm} \times 550$ <br> mm <br> or <br> Annex 7 <br> Width of 550 mm may be reduced to 300 mm | Annex 3 <br> $1250 \mathrm{~mm} \times 550$ <br> mm <br> or <br> Annex 7 <br> Width of 550 <br> mm may be reduced to 300 mm <br> Class B with less than $3,5 \mathrm{t}$ and 12 passengers: $1100 \mathrm{~mm} \times 550$ mm (single door) <br> Width of 550 mm may be reduced to 300 mm | Class I, II, III : <br> OK <br> Class A\&B: real scale tests at 300 mm : un feasible for some experts. Need to have a look at the dimensions, whole table of Annex 7 Harmonization to be reviewed as well |


| Emergency window | $400000 \mathrm{~mm}^{2}$ <br> $500 \mathrm{~mm} \times 700$ <br> mm <br> (rear face: <br> $350 \mathrm{~mm} \times 1550$ <br> mm ) <br> However, national law in $D$ required $500 \times 700 \mathrm{~mm}$, hence all vehicles complied. But EURO VI requires more space in engine compartment, hence manufacturers complied with 350x1550. | $\begin{aligned} & 400000 \mathrm{~mm}^{2} \\ & 500 \mathrm{~mm} \times 700 \\ & \mathrm{~mm} \\ & \text { (rear face: } \\ & 350 \mathrm{~mm} \times 1550 \\ & \mathrm{~mm} \text { ) } \end{aligned}$ | $\begin{array}{\|l} \hline 400000 \mathrm{~mm}^{2} \\ 500 \mathrm{~mm} \times 700 \mathrm{~mm} \\ \text { (rear face: } \\ 350 \mathrm{~mm} \times 1550 \\ \mathrm{~mm} \text { ) } \end{array}$ | $400000 \mathrm{~mm}^{2}$ <br> ( $5 \%$ tolerance) <br> $500 \mathrm{~mm} \times 700$ <br> mm <br> (rear face: <br> $350 \mathrm{~mm} \times 1550$ <br> mm ) | $400000 \mathrm{~mm}^{2}$ <br> ( $5 \%$ tolerance) <br> $500 \mathrm{~mm} \times 700$ <br> mm <br> (rear face: <br> $350 \mathrm{~mm} \times 1550$ <br> mm ) | Group keen to get info about the use of EE in case of accident. Sure they are used, but no research. No data. <br> CEESAR to be approached by F (Alan Davis). Rear face reduced dimension to be reviewed. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Emergency hatch | $\begin{gathered} \left(400000 \mathrm{~mm}^{2}\right. \\ 500 \mathrm{~mm} \times 700 \mathrm{~mm}) \end{gathered}$ |  |  |  |  |  |
| 7.6.5. Additional technical requirements for poweroperated service doors |  |  |  |  |  | Paragraph recently amended after D proposal following D research. |


|  |  |  |  |  |  | Overnight locks to be considered by SDWEE (paras 7.6.5. and 7.6.7.1.). |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 7.6.6. |  |  |  |  |  | To be reviewed at home |
| 7.6.7. Technical requirements for emergency doors |  |  |  |  |  |  |
| 7.6.7.1. Emergency doors shall be capable of being easily opened from inside and from outside when the vehicle is stationary. However, this requirement shall not be construed as precluding the possibility of locking the door from the outside, provided that the door can always be opened from the inside by the use of the normal opening mechanism |  |  |  |  |  |  |
| 7.7.2. Access to emergency doors (see Annex 4, figure 5) <br> The following requirements shall not apply to driver's doors used as emergency exits in vehicles having a capacity not exceeding 22 passengers. |  |  |  |  |  | Gauges seem smaller than the EE. Dimensions of gauges will be considered at next meeting. |


| 7.7.3. Access to emergency windows |  |  |  |  |  | Access to emergency exits should be harmonized (doors, windows, hatches, etc.) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 7.7.4.1. <br> in the roof <br> 7.7.4.1.1. Except in the case of Class I and A vehicles, at least one escape hatch shall be located such that a foursided truncated pyramid having a side angle of 20 degrees and a height of $1,600 \mathrm{~mm}$ touches part of a seat or equivalent support. The axis of the pyramid shall be vertical and its smaller section shall contact the aperture area of the escape hatch. Supports may be foldable or movable provided they can be locked in their position of use. This position shall be taken for verification. |  |  |  |  |  | Question about necessity of using roof hatch when the vehicle is on its wheels. However, case in PL where roof hatches were useful but not used. |

