RVAR 2010 and PRM TSI Compliance

Class	156 417
Operator	NXEA
Date	19-Oct-10
ROSCO	Porterbrook

Note: The DfT conducted the Class 156 targeted compliance survey on the unit detailed above. However, the targeted compliance requirements detailed in column 'M' are generic across all Class 156 units.

Compliance achieved	Compliance achieved
Non-compliance accepted	Non-compliance accepted
Compliance expected	Compliance expected
Compliance expected & within existing scope of works	Compliance expected & within existing scope of works
Some non-compliance accepted but not all	Some non-compliance accepted but not all
Some compliance achieved already but more expected	Some compliance achieved already but more expected
N/A	Not applicable
?	Unclear - to be checked

Accessibility Standards

Class : 156 415
Operator : NXEA

RVAR 2010 Paragraph No.	RVAR 2010 Requirement(s)	PRM TSI Clause No.	PRM TSI Requirement(s)	RVAR Compliant	PRM Compliant	Comments	DfT expectations of compliance by 1 Jan 2020	Proposed Modification	Dispensation Requirements Yes/No	Dispensation Requirements Actions
Doors										
3(1)	Subject to **sub-paragraph (2)**, each passenger doorway in the side of a rail vehicle must be indicated clearly by doors which on their exterior contrast with the exterior of the vehicle to each side of the doors (excluding any contrast resulting from a window or control device	4.2.2.4.2.1 para 3	External doors shall be painted or marked on the outside in a way that gives a contrast to the rest of the vehicle body-side.	Y	Y	Ensure any future livery is compliant	Compliance achieved	No modification required.	No	
3(2)	**Sub-paragraph (1)** does not apply to a rail vehicle operated exclusively on a network where, at all stations or stops, passengers waiting on platforms are separated from the track or way by screens or other barriers which—	N/A	No equivalent requirement	N/A	N/A		N/A			
3(2)(a)	obstruct the view of the doors of rail vehicles; or	N/A	No equivalent requirement	N/A	N/A		N/A			
3(2)(b)	indicate clearly where the doors of rail vehicles will be once they have stopped for boarding.	N/A	No equivalent requirement	N/A	N/A		N/A			
3(3)	Subject to **sub-paragraph (4)**, each passenger doorway in the side of a rail vehicle must be fitted with an audible warning device which must emit warning sounds in accordance with **sub-paragraph (6)** inside and outside the vehicle in the proximity of each control device for the doorway or, if there is no such control device, adjacent to the doorway.	4.2.2.4.2.1 paras 7-10	When a door is enabled for opening a signal shall be given that is clearly audible to persons inside and outside the train. This alert signal shall sound for a minimum of five seconds unless the door is operated, in which case it may cease after 3 seconds. This requirement is not applicable for external audible signals on high speed Class 1 and Class 2 trains. When a door is automatically or remotely opened by the driver or other member of the traincrew, the alert signal shall sound for a minimum 3 seconds from the moment that the door starts to open. When a door that is automatically or remotely closed, is about to operate, an audible alarm shall be given to persons inside and outside the train. The alarm shall sound for a minimum of 2 seconds before the door starts to close and shall be different in tone to that used when the door is released. The alarm shall continue to sound while the door is closing. The sound source for door warnings shall be located in the area local to the control device or, if there is no such control device, adjacent to the doorway.	Y/N	Y/N	No external sounders fitted No release sound. Audible door closure warning given.	Some compliance achieved already but more expected	An EAO supplier sounder is incorporated within the external door control panel. The sounder emits a compliant audible warning for five seconds once the door control had been enabled.	No	
3(4)	**Sub-paragraph (3)** does not apply–									
3(4)(a)	to a passenger doorway which is, at all times when it is capable of being used by a passenger, under the direct supervision of a member of the operator's staff who is standing adjacent to the doorway;	N/A	No equivalent requirement	N/A	N/A		N/A			
3(4)(b)	to a rail vehicle when it is not being used for carriage; or	N/A	No equivalent requirement	N/A	N/A		N/A			
3(4)(c)	where a rail vehicle is operated exclusively on a network where, at all stations or stops, passengers waiting on platforms are separated from the track or way by screens or other barriers, if audible warnings of the operation of those screens or barriers, equivalent to those required by **sub-paragraph (6)**, are given at those stations or stops.	N/A	No equivalent requirement	N/A	N/A		N/A			
3(5)	Subject to **sub-paragraph (8)**, the audible warning device must—									
3(5)(a)	where the unlocking of all the passenger doors in the side of a rail vehicle is activated by a member of the operator's staff, emit a distinct sound for a period of not less than 3 seconds commencing when the doors become openable by passengers; and	4.2.2.4.2.1 paras 7	When a door is enabled for opening a signal shall be given that is clearly audible to persons inside and outside the train. This alert signal shall sound for a minimum of five seconds unless the door is operated, in which case it may cease after 3 seconds. This requirement is not applicable for external audible signals on high speed Class 1 and Class 2 trains.	N	N	No sound on release	Compliance expected	An EAO supplier sounder is incorporated within the external door control panel. The sounder emits a compliant audible warning for five seconds once the door control had been enabled.	No	
Part 2, Para 1	Where the opening of all the passenger doors in the side of a rail vehicle is activated by a member of the operator's staff, or activated automatically, the audible warning device required by **paragraph 3(3) of Part 1** of this Schedule must emit a distinct sound for a period of not less than 3 seconds commencing when the doors begin to open.	4.2.2.4.2.1 paras 8	When a door is automatically or remotely opened by the driver or other member of the traincrew, the alert signal shall sound for a minimum 3 seconds from the moment that the door starts to open.	N/A	N/A		N/A			
3(5)(b)	emit a different distinct sound to that required by **paragraph (a)** and, where applicable, **paragraph 1 of Part 2 of this Schedule**, commencing not less than 3 seconds before the door starts to close.	4.2.2.4.2.1 para 9	When a door that is automatically or remotely closed, is about to operate, an audible alarm shall be given to persons inside and outside the train. The alarm shall sound for a minimum of 2 seconds before the door starts to close and shall be different in tone to that used when the door is released. The alarm shall continue to sound while the door is closing.	Y	N	Hustle alarm fitted, (but does not continue to sound while doors close).	Compliance achieved	Internally mounted EAO sounder to provide a compliant tone for a minimum period of 3 seconds (see ESG-R-R062(01)). Door close tone ceases once door starts to move. The installation of a timer relay at each door would be required to enable the signal to continue whilst the doors close.	No	
3(6)	**Sub-paragraph (5)(a)** need not be complied with if **paragraph 1 of Part 2 of this Schedule** is complied with instead.	N/A	No equivalent requirement	Noted	N/A					
3(7)	In this paragraph "sound" includes the spoken word.	4.2.2.4.2.1	Passenger door audible warnings - Door enabled for opening • Characteristic - A slow pulse multi tone (0-2 pulses per second) of 2 combined tones • Frequencies - 3000Hz+/-500Hz - and: - 1750Hz +/-500Hz • Sound Pressure level 70 dB LAeq,T +/-2 measured on the centre point of the vestibule at a height of 1.5m above the floor level. (T = total duration of the sound event) Passenger door audible warnings - Door close warning • Characteristic - A fast pulsed tone (6-10 pulses per second) • Frequency - 1900Hz +/-500Hz • Sound Pressure level 70 dB LAeq,T +/-2 measured outside the vehicle, 1.5m away from the bodyside door centreline at 1.5m above the platform level. Internal measurement as open alarm. (T = total duration of the sound event)	Noted	N		Non-compliance accepted	An EAO ambient sensing MTSM sounder compliant to the PRM 2015 to be fitted.	No	
N/A	No equivalent requirement	4.2.2.4.2.1 para 1	External passenger access, automatic and semi-automatic, doors shall incorporate devices that detect if they close on a passenger where a passenger is detected the doors shall automatically stop and remain free for a limited period of time.	N/A	N		Non-compliance accepted	An EAO ambient sensing MTSM sounder compliant to the PRM 2015 to be fitted.	No	
N/A	No equivalent requirement	4.2.2.4.2.1 para 2	All exterior passenger doorways shall have a minimum clear useable width of 800mm when open.	N/A	N	780mm	Non-compliance accepted	It is not practical to modify the doorway to achieve compliance and this is accepted by the DFT.	Yes	
4(1)	Subject to **sub-paragraph (8)**, no control device to enable a passenger to open or close a power operated door, other than a device to which **sub-paragraph (3)** applies, may be fitted to a rail vehicle unless—									
4(1)(a)	the centre of the control device is not less than 700 millimetres and not more than 1200 millimetres vertically above an imaginary horizontal line extended from the door sill of the relevant doorway;	4.2.2.4.2.1 last para	The centre of exterior door controls, operable from the platform, shall be not less than 800 mm and not more than 1200 mm measured vertically above platforms, for all platforms at which the train will stop. The centre of internal door controls for the exterior door shall be not less than 800mm and not more than 1200mm measured vertically above the vehicle floor level.	N	N	Internal Close 1380mm Internal Open 1240mm External Open 950mm	Non-compliance accepted	The internal controls at the No.1 end are to be relocated at a compliant height (see supporting figure). The controls at the No.2 have been accepted by the Targeted compliance.	Yes	Dispensation sought for non-compliance of internal controls.
4(1)(b)	the control device is operable by the palm of the hand exerting a force not exceeding 15 Newtons;	4.2.2.4.2.2 1st para	If pushbuttons are provided for operation of doors then each pushbutton shall have visual indication, on or around the push button, when enabled and shall be operable by a force not greater than 15 Newtons.	Y	Y	EAO Series 56 (external is without bezel)	Compliance achieved	No modification required.	No	
4(1)(c)	the control device, or its immediate surround, is illuminated continuously, or flashes at no greater frequency than 2 hertz or 2 flashes per second, whenever it is operable;	4.2.2.4.2.2 1st para	If pushbuttons are provided for operation of doors then each pushbutton shall have visual indication, on or around the push button, when enabled and shall be operable by a force not greater than 15 Newtons.	Y	Y	Illuminated while operable	Compliance achieved	No modification required.	No	
4(1)(d)	the control device contrasts with the surface on which it is mounted; and	4.2.2.4.1 2nd para	Door controls, whether manual or pushbuttons, shall contrast with the surface on which they are mounted.	Y	Y	Yellow bezels on internal controls. Contrasting vinyl on exterior	Compliance achieved	No modification required.	No	
4(1)(e)	the control device is identifiable by touch.	4.2.2.4.2.2 2nd para	Such pushbuttons shall be identifiable by touch (for example:- tactile markings) and shall indicate the functionality.	Y	Y		Compliance achieved	No modification required.	No	
4(2)	When power operated doors are closed by a member of the operator's staff the illumination of each such control device must cease not less than 3 seconds before the doors start to close.	4.2.2.4.2.2 1st para	If the door closure is remotely activated by traincrew, the visual indication shall cease not less than 2 seconds before the door starts to close.	N	N	Illumination ceases at start of door closure	Non-compliance accepted	An additional timer relay would be necessary to enable the illumination to cease 2 seconds before the doors start to close.	Yes	Dispensation sought for non-compliance.
4(3)	Subject to **sub-paragraph (4)**, no control device which causes a door to open automatically as a passenger approaches may be fitted to a rail vehicle unless—									
4(3)(a)	the door starts to open before any part of a passenger reaches a distance of 500 millimetres, measured horizontally, from the vertical centre line of the door surface;	N/A	No equivalent requirement	N/A	N/A		N/A			
4(3)(b)	the door, once opened, remains open for a period of not less than 5 seconds before it starts to close; and	N/A	No equivalent requirement	N/A	N/A		N/A			
4(3)(c)	if, after the door starts to close, the edge of the door comes into contact with any part of a passenger, or other obstruction, the door opens again.	N/A	No equivalent requirement	N/A	N/A		N/A			
4(4)	If a control device to which **sub-paragraph (3)** applies incorporates a photocell device positioned above the door, the requirement imposed by **sub-paragraph (3)(a)** is complied with if the distance from the vertical centre line of the door surface is measured horizontally from any single point on that line not less than 300 millimetres above the floor.	N/A	No equivalent requirement	N/A	N/A		N/A			
N/A	No equivalent requirement	4.2.2.4.1 1st para	To latch or unlatch a manually operated door, for use by the public, the control device shall be operable by the palm of the hand exerting a force not exceeding 20 Newtons.	N/A	N/A		N/A			
N/A	No equivalent requirement	4.2.2.4.1 4th para	If both open and closed pushbuttons are fitted one above the other, the top button shall always be the open control.	N/A	N	Open is lower	Non-compliance accepted	Compliance with this clause would raise the 'open' button further from a compliant height.	Yes	Dispensation sought for non-compliance.
4(5)	For the purposes of this paragraph the requirement for a door control device or, as the case may be, its immediate surround, to be illuminated means that that device must incorporate a dedicated source of illumination which is additional to any illumination provided in the rest of the vehicle.	N/A	No equivalent requirement	Noted	N/A					
4(6)	This paragraph does not apply to a door control device relating to a toilet door.	N/A	No equivalent requirement	Noted	N/A					
Steps										
14(1)	Subject to **sub-paragraph (2)**, steps for the use of passengers at any passenger doorway in the side of a rail vehicle must comply with the following requirements—									
14(1)(a)	the surface of each tread must be covered in slip-resistant material;	4.2.2.12.2 1st para	All steps for access and egress shall be slip resistant...	Y	Y	Treadplate design	Compliance achieved	No modification required.	No	
14(1)(b)	along the front edge of each tread there must be a band of single colour, not less than 45 millimetres and not more than 50 millimetres deep, which must contrast with the remainder of the tread;	4.2.2.12.2 2nd para	The first and the last step shall be indicated by a contrasting band with a depth of 45mm to 50mm extending the full width of the steps on both the front and the top surfaces of the step nosing.	Y/N	Y/N	Foot step wholly contrasting - though needs cleaning. Colour band required across step edge only.	Some compliance achieved already but more expected	The inner and outer treadplates are finished to provide a contrast strip with a width of 50 mm on the leading edge.	No	
14(1)(c)	subject to **paragraph (d)**, the rear of each tread must be closed by a riser fixed from the rear of the tread to the front edge of the tread above or, where there is no tread above, to the front edge of the floor of the vehicle;	N/A	No equivalent requirement	N/A	N/A		N/A			
14(1)(d)	the riser described in **paragraph (c)** may incorporate a gap which must be no larger than necessary to provide the minimum space required to enable any door opening mechanism to operate;	N/A	No equivalent requirement	Noted	N/A					
14(1)(e)	each step must be illuminated by a light placed within or immediately adjacent to the step;	4.2.2.5	Vehicle access steps shall be illuminated to a minimum of 75 Lux, measured across 80% of the width of the step by a light placed within or immediately adjacent to it.	N	N		Non-compliance accepted	Non-compliance accepted (since August 2010)	Yes	Dispensation sought for non-compliance.

RVAR 2010		PRM TSI		RVAR	PRM		DfT expectations of compliance by 1 Jan 2020	Proposed Modification	Dispensation Requirements	
Paragraph No.	Requirement(s)	Clause No.	Requirement(s)	Compliant	Compliant	Comments			Yes/No	Actions
14(1)(f) & (g)	each step must be not more than 200 millimetres high measured vertically from the surface of the tread to an imaginary line extended horizontally from the surface of the next tread or floor of the vehicle and each step must be not less than 300 millimetres deep measured from the front edge of the tread to its rear	4.2.2.12.2 paras 2 - 4	Internal steps for external access shall have a maximum height of 200mm and a minimum depth of 240mm (going) between the vertical edges of the step. The rising height of each step shall be equal. The first and the last step shall be indicated by a contrasting band with a depth of 45mm to 50mm extending the full width of the steps on both the front and the top surfaces of the step nosing. The height of each step may be increased to a maximum of 230mm if it can be demonstrated that this achieves a reduction of one in the total number of steps required. (For example, if a vertical distance of 460mm is to be traversed, it can be demonstrated that using steps of up to 230mm reduces the number of steps required from 3 to 2.) An external access step, fixed or moveable, shall have a maximum height of 230 mm between steps and a minimum depth of 150 mm. If a step board is fitted and it is an extension of a door sill outside the vehicle, and there is no change in level between the step board and the floor of the vehicle, this shall not be considered to be a step for the purposes of this specification. A minimal drop in level, with a maximum of 60 mm, between the floor surface of the vestibule and that of the exterior of the vehicle, used to guide and seal the door is also permissible and shall not be considered as a step.	N/A	N/A	No internal steps	N/A			
14(1)(h)	the surface of each tread must be not less than 455 millimetres wide.	4.2.2.12.2 para 1	All steps for access and egress shall ..... have an effective clear width as large as the doorway width.	N/A	N/A		N/A			
14(2)	**Paragraphs (f) to (h)** do not apply if there is not more than one step outside an external doorway.	4.2.2.12.2 para 4	If a step board is fitted and it is an extension of a door sill outside the vehicle, and there is no change in level between the step board and the floor of the vehicle, this shall not be considered to be a step for the purposes of this specification. A minimal drop in level, with a maximum of 60 mm, between the floor surface of the vestibule and that of the exterior of the vehicle, used to guide and seal the door is also permissible and shall not be considered as a step.	N/A	Noted		N/A			
14(3)	Subject to **sub-paragraph (4)**, inside a rail vehicle there must be no step between the passenger doorway in its side and that part of the passenger saloon to one side of that doorway for as far as and including either the vestibule of the next passenger doorway on the same side of that vehicle or the end of that vehicle if there is no other such doorway.	N/A	No equivalent requirement	Y	N/A	No internal steps	Compliance achieved	No modification required.	No	
14(4)	**Sub-paragraph (3)** does not apply to—	N/A	No equivalent requirement							
14(4)(a)	a step situated immediately inside a passenger doorway in the side of a rail vehicle; or	N/A	No equivalent requirement	N/A	N/A		N/A			
14(4)(b)	a flight of stairs inside a rail vehicle leading between a lower and upper passenger saloon.	N/A	No equivalent requirement	N/A	N/A	No upper saloon	N/A			
14(5)	Any step situated immediately inside a passenger doorway in the side of rail vehicle must have its riser between 130 millimetres and 160 millimetres from the external door.	N/A	No equivalent requirement	N/A	N/A		N/A			
N/A	No equivalent requirement	4.2.2.9 para 1	Internal steps (other than those for external access) shall have a maximum height of 200mm and a minimum depth of 280 mm, measured at the central axis of the stairs. The first and the last step shall be indicated by a contrasting band with a depth of 45mm to 50mm extending the full width of the steps on both the front and the top surfaces of the step nosing. For double deck trains it is permitted to reduce this value to 270mm for the stairs accessing the upper deck.	N/A	N/A	No internal steps	N/A			
N/A	No equivalent requirement	4.2.2.12.1 (as amended by GB specific case in 7.4.1.3.2)	7.4.1.3.2 Specific case for Rolling Stock operating in Great Britain "P" As need to be removed when operating on GB lines. Under these circumstances the first useable step on GB lines GB shall comply with the following table: on a straight level track: δh mm 200, δv- mm 230, δv- mm 160 on a track with a curve radius of 300m, standard case: 200, 230, 160 on a track with a curve radius of 300m, Eurostar case: 255, 230, 160	N/A	?	Stepping distances dependent upon platform positions	Non-compliance accepted	Stepping distance is dependent on the infrastructure.	Yes	Dispensation sought for non-compliance.
N/A	No equivalent requirement	4.2.2.12.2 para 5	Access to the vestibule of the vehicle shall be achieved with a maximum of 4 steps of which one may be external.	N/A	Y	No steps therefore less than 4	Compliance achieved	No modification required.	No	
Floors										
8(1)	The floors of all areas used by passengers in a rail vehicle must be slip-resistant.	N/A	No equivalent requirement	Y	N/A		Compliance achieved			
8(2)	Subject to **sub-paragraphs (3)** and **(5)**, the floor of a vestibule to a passenger doorway in the side of a rail vehicle must contrast with the adjoining floor of the passenger saloon of the vehicle.	4.2.4.2.2.1 para 6	From the inside of the vehicle the position of external doorways shall clearly be marked by use of contrast on the flooring adjacent to the doorway, as compared with the rest of the flooring of the vehicle.	N/A	N/A	Doors between saloon and vestibule (see RVAR 10 para 8(5) below)	N/A	Contrast provided by floor covering	No	
8(3)	Subject to **sub-paragraph (5)**, where the passenger doorway in the side of a rail vehicle is not opposite another external doorway, the extent of the floor of the vestibule which must contrast with the floor of the passenger saloon must only be the extent indicated in **sub-paragraph (4)**.	N/A	No equivalent requirement	Noted	N/A					
8(4)	The extent of the floor of the vestibule referred to in **sub-paragraph (3)** is that area of it which extends from the internal edge of the door sill of the external door across the internal width of the rail vehicle for not less than 560 millimetres and not more than one third of that width.	N/A	No equivalent requirement	Noted	N/A					
8(5)	The requirements of **sub-paragraphs (2)** and **(3)** do not apply where the vestibule and adjoining passenger saloon are separated by a doorway.	N/A	No equivalent requirement	Y	N/A		Compliance achieved	No modification required.	No	
8(6)	At a passenger doorway in the side of a rail vehicle the floor must have a band of single colour running parallel with the full width of the entrance—	N/A	No equivalent requirement	Y	N/A	Footplate is extension of floor. Whole footplate is contrasting	Compliance achieved	No modification required.	No	
8(6)(a)	not less than 50 millimetres and not more than 100 millimetres wide;	N/A	No equivalent requirement	N	N/A	Contrast should be reduced to a band at the edge	Compliance expected	Contrast band 50 mm wide provided	No	
8(6)(b)	the edge of which furthest from the entrance must not be more than 100 millimetres from the edge of the floor at the entrance; and	N/A	No equivalent requirement	N	N/A	Contrast should be reduced to a band at the edge	Compliance expected	Contrast band 50 mm wide provided	No	
8(6)(c)	which contrasts with the adjoining floor surface.	N/A	No equivalent requirement	Y	N/A		Compliance achieved	Contrast provided.	No	
Seats										
13(1)	Not less than 10 per cent of the passenger seats in a rail vehicle or 8 passenger seats (whichever is the lesser number) must be designated by signs complying with **sub-paragraph (6)** as priority seats for the use of disabled persons.	4.2.2.2.2.1 para 1	Not less than 10 percent of the seats by fixed trainset or individual vehicle, and by class shall be designated as priority seats for the use of PRM.	N	N		Compliance expected	Seating arrangement revised to provide in excess of 10% of seating designated for priority use.	No	
13(2)	No priority seat may be capable of being tipped up or folded whilst the rail vehicle is used for carriage.	4.2.2.2.2.1 para 5	Priority seats shall not be tip-up seats.	Noted	Noted		N/A			
13(3)	Each priority seat, and the space available to its user, must comply with the specifications shown in **diagram C1** and in either **diagram C2, C3** or **C4** in **Schedule 2**.	4.2.2.2.2.1 para 6	Each priority seat and the space available to its user shall comply with the diagrams shown in the figures 1 to 4.	Y/N	Y/N	Existing Chapman seats could be reused in a revised layout that provided mandated front clearance. Existing seats already have compliant width (450mm), height (430mm) and headroom clearance.	Some non-compliance accepted but not all	Grammer and Ashbourne seat is compliant with the dimensional requirements with a pitch of 940 mm with the adjacent seat. EMT units have Chapman SC1X seats fitted which is the same as that found in the Porterbrook Greater Anglia fleet which has previously been approved.	No	
13(4)	Any armrest fitted to a priority seat must be movable to the extent required to permit unrestricted access by a disabled person to that seat, and any armrest fitted to any other passenger seat must be so moveable if access to a priority seat is gained past it.	4.2.2.2.2.1 para 4	When seats are fitted with armrests, priority seats shall be fitted with movable armrests, this excludes armrests placed along the vehicle bodyside. The movable armrest shall move into a position in line with the seat back cushion to enable unrestricted access to the seat or to any adjacent priority seats.	Y	Y		Compliance achieved	No modification required.	No	
13(5)	If tables or trays (whether fixed, adjustable or folding) are fitted for the use of passengers at not less than 10 per cent of the seats (other than priority seats) in a rail vehicle, a similar table or tray must be fitted for the use of persons in each priority seat.	N/A	No equivalent requirement	Y	N/A	Seat back trays and tables in bays fitted	Compliance achieved	No modification required.	No	
13(6)	There must be a sign on or near to a priority seat indicating that disabled persons have priority for the use of that seat.	4.2.2.2.2.1 para 2	The priority seats and vehicles containing them shall be identified by signs complying with Annex N Clauses N.3 and N.8 and shall state that other passengers should make such seats available to those who are eligible to use them.	N	N	No signs fitted	Compliance expected	Compliant diagram to be fitted	No	
Podcars - Para 13(7) - N/A										
Request-stop Controls - Reg 12 - N/A										
17(1)	Subject to **sub-paragraph (3)**, any transparent surface forming part of a rail vehicle which is located in that part of the interior of the vehicle which is accessible for passengers must—									
17(1)(a)	be separated from where a passenger can walk or go in a wheelchair by a seat, table, handrail compliant with **paragraph 10(4)** or other fitting; or	N/A	No equivalent requirement	N/A	N/A	No applicable transparent surfaces	N/A			
17(1)(b)	bear a coloured marking which must— (i) be not less than 140 millimetres and not more than 160 millimetres wide; (ii) extend horizontally across the whole width of the transparent surface; and (iii) be situated so that the bottom edge of that marking is at a height of between 1485 and 1515 millimetres measured vertically from the floor; or	N/A	No equivalent requirement	N/A	N/A	No applicable transparent surfaces	N/A			
17(1)(c)	be bounded on any edge which is not attached to the floor, wall or ceiling of the vehicle by a handrail which complies with **paragraph 10(4)**.	N/A	No equivalent requirement	N/A	N/A	No applicable transparent surfaces	N/A			
17(2)	For the purposes of this paragraph "transparent surface" means a transparent surface which is vertical and, if it forms part of a larger vertical surface, comprises more than 75% of the total vertical surface area of which it forms part (and "vertical" for this purpose means vertical or thereabouts).	4.2.2.4.3.1 para 8	If more than 75% of a door's surface is made of a transparent material, it shall be marked with a minimum of two prominent bands made of signs, logos, emblems or decorative features. They shall be at a height between 1500mm and 2000mm for the upper band, and between 850mm and 1000mm for the lower band, contrasting with the background over the entire width of the door. These bands shall be a minimum of 100mm high.	Noted	N/A		N/A			
17(3)	This paragraph does not apply to any windows fitted in doors at the side of a rail vehicle or to any other external windows fitted in the side of a rail vehicle.	N/A	No equivalent requirement	Noted	N/A		N/A			
Handrails and Handholds										
10(1)	Subject to **sub-paragraphs (2)** and **(3)**, a handrail must be fitted in the following positions—									
10(1)(a)	in every rail vehicle, on the inside as close as practicable to, and on either side of, the passenger doorways in the side of the vehicle, extending vertically from a point not more than 700 millimetres above the floor to a point not less than 1200 millimetres above the floor; and	4.2.2.10 para 4	A vertical handrail shall also be provided for stepping on and off the train. Doorways with up to two entrance steps shall be provided with vertical handrails on both sides of the doorway, fitted internally as close as practicable to the vehicle outer wall. They shall extend from 700mm to 1200mm above the threshold of the first step.	N	N	**Internal doorway handrails between 500 and 1000mm useable height (with horizontal handrail at 995mm at cab ends of unit). Little room to raise on one side as conflicts with pod for door controls. However, some improvement on other side is expected. Non-compliant external handrails are not for passenger use but may mitigate full compliance on interior fittings.**	Some non-compliance accepted but not all	It is not possible to achieve compliance without relocating the door controls. Handrails on the opposite side of the doorway to the controls have been made complaint.	Yes	Dispensation sought for non-compliance.
10(1)(b)	in a rail vehicle which is also a tramcar, at intervals of not more than 1050 millimetres in its longitudinal plane.	N/A	No equivalent requirement.	N/A	N/A		N/A			
Podcars - Para 10(2) - N/A										
Double-deck tramcars - Para 10(3) - N/A										
10(4)	Subject to **sub-paragraphs (5)** and **(6)**, any passenger handrail fitted in or to a rail vehicle must comply with the following requirements—									
10(4)(a)	it must have a circular cross section with a diameter of not less than 30 millimetres and not more than 40 millimetres;	4.2.2.10 para 1	All handrails fitted to a vehicle shall be round in section with an outside diameter of 30mm to 40mm	Y/N	Y/N	35mm in toilet. Only 25mm in external doorways.	Non-compliance accepted	New handrails to be installed with 31.7 mm diameter.	No	
N/A	No equivalent requirement.	4.2.2.10 para 1	If a handrail is curved, the radius to the inside face of the curve shall be a minimum of 50mm.	N/A	Y			New Compliant handrails fitted.	No	
10(4)(b)	there must be not less than 45 millimetres clearance for a passenger's hand between any part of the handrail and any other part of the rail vehicle, excluding the mountings of the handrail to the vehicle;	4.2.2.10 para 1	All handrails fitted to a vehicle ..... shall have a minimum clear distance of 45mm to any adjacent surface.	Y/N	Y/N	55mm clearance at external doorways. Only 40mm clearance in toilet but these are due to be replaced.	Compliance expected & within existing scope of works	New Compliant handrails fitted.	No	
10(4)(c)	it must have a slip-resistant surface; and	N/A	No equivalent requirement.	N	N/A	Stainless steel at external doorway	Compliance expected	New Compliant handrails fitted.	No	
10(4)(d)	it must contrast with the parts of the rail vehicle adjacent to that handrail.	4.2.2.10 para 2	All handrails shall contrast with their background.	N	N	Stainless steel at external doorway	Compliance expected	New Compliant handrails fitted.	No	
Narrow width vehicles - Paras 10(5) & (6) - N/A										

RVAR 2010		PRM TSI		RVAR	PRM		DfT expectations of compliance by 1 Jan 2020	Proposed Modification	Dispensation Requirements	
Paragraph No.	Requirement(s)	Clause No.	Requirement(s)	Compliant	Compliant	Comments			Yes/No	Actions
9(1)	Subject to **sub-paragraph (2)**, a handhold must be fitted to the top of the back of each passenger seat which faces towards an end of a rail vehicle and is next to a gangway in a passenger saloon, and must comply with the following requirements—	4.2.2.2.1 para 1	Handholds or vertical handrails or other items that can be used for personal stability, whilst using the aisle, shall be provided on seat backs of all aisle-side seats unless the seat touches the back of another seat facing in the opposite direction which is fitted with a handhold or touches a partition.	Y	Y		Compliance achieved	No modification required.	No	
9(1)(c)	any edges or corners in its surface (including those in its mountings with the seat) must be rounded off;	4.2.2.2.1 para 4	The handholds or other items shall not have sharp edges.	Y	Y		Compliance achieved	No modification required.	No	
9(1)(a)	it must contrast with the seat to which it is attached;	4.2.2.2.1 para 2	Handholds or other items that can be used for personal stability shall .....contrast with the seat.	N	N	Inadequate contrast to seat mochette	Compliance expected	Handholds provide a compliant contrast.	No	
9(1)(b)	it must have a slip-resistant surface;	N/A	No equivalent requirement.	Y	N/A		Compliance achieved	No modification required.	No	
9(1)(d)	its exterior design must not incorporate any empty space or gap, including any between it and the seat to which it is attached, having less than 45 millimetres clearance for a passenger's hand	N/A	No equivalent requirement.	Y	N/A		Compliance achieved	No modification required.	No	
9(1)(e)	if its exterior design incorporates any empty space or gap, the cross section of the handhold, excluding any mountings, must have a width of not more than 40 millimetres at its widest point and not less than 20 millimetres at its narrowest point.	N/A	No equivalent requirement	Y	N/A		Compliance achieved	No modification required.	No	
9(2)	**Sub-paragraph (1)** does not apply to a seat—	4.2.2.2.1 para 1	Handholds or vertical handrails or other items that can be used for personal stability, whilst using the aisle, shall be provided on seat backs of all aisle-side seats unless the seat touches the back of another seat facing in the opposite direction which is fitted with a handhold or touches a partition.	Noted	Noted					
9(2)(a)	the back of which touches a partition;			Noted						
9(2)(b)	the back of which touches the back of another seat which faces in the opposite direction and is fitted with a handhold;			Noted						
9(2)(c)	which reclines and which, in the reclined position, touches the back of another reclining seat in the reclined position which faces in the opposite direction and is fitted with a handhold;			Noted						
9(2)(d)	to which a handrail is attached; or			Noted						
9(2)(e)	which is situated no more than 50 millimetres from a handrail, handhold or partition measured from the top of the back of that seat in both the fixed and, as the case may be, reclined position.			Noted						
N/A	No equivalent requirement	4.2.2.2.1 para 2	Handholds or other items that can be used for personal stability shall be positioned at a height of between 800 mm and 1200 mm above the floor, shall not protrude into the clearway and shall contrast with the seat.	N/A	Y	Top of handhold is 1200mm from floor	Compliance achieved	No modification required.	No	
N/A	No equivalent requirement	4.2.2.2.1 para 4	In seating areas with fixed longitudinal seats, handrails shall be used for personal stability. These handrails shall be at a maximum distance of 2000 mm apart, shall be positioned at a height of between 800 mm and 1200 mm above the floor and shall contrast with the vehicle interior surroundings.	N/A	N/A					
Door Handles										
5(1)	Subject to **sub-paragraph (3)**, a door handle fitted for the use of passengers in a rail vehicle must be operable by the exertion of a force not exceeding 15 Newtons.	4.2.2.4.1 para 1	To latch or unlatch a manually operated door, for use by the public, the control device shall be operable by the palm of the hand exerting a force not exceeding 20 Newtons.	N	Y	Latches range from 13 - 17N	Compliance achieved	No modification required.	No	
5(2)	Subject to **sub-paragraph (3)**, where a door handle fitted to a door for the use of passengers in a rail vehicle has no moving parts, the door must be capable of being opened and closed by the exertion of a force not exceeding 15 Newtons.	4.2.2.4.3.1 para 5	The force required to open or close a manual door shall not exceed 60 Newtons (applies to interior doors only.	N/A	Y	Up to 46N to move	Compliance achieved	No modification required.	No	
5(3)	**Sub-paragraphs (1)** and **(2)** do not apply to a door handle of a refrigerator provided for the use of passengers within a catering or retail area on a rail vehicle where a member of the operator's staff is, at all times when that catering or retail area is open for service or for the sale of goods, available to provide assistance to a person who is disabled to operate that handle.	N/A	No equivalent requirement.	N/A	N/A		N/A			
N/A	No equivalent requirement	4.2.2.4.3.1 para 6	The centre of interior door controls shall be not less than 800mm and not more than 1200mm measured vertically above the vehicle floor level.	N/A	Y	885mm from floor	Compliance achieved	No modification required.	No	
Passenger Information										
11(1)	The interior of a rail vehicle must be fitted with a public address system for audible and visual announcements.	4.2.2.8.3 para 13	The train shall be fitted with a public address system which shall be used either for routine or emergency announcements by the driver or by another crewmember who has specific responsibility for passengers.	N	Y	Audible PA fitted, but not audio-visual PIS	Compliance expected	New visual information system (Train FX) to be installed.	No	
11(3)	Subject to **sub-paragraph (4)**, if a rail vehicle is not hauled by a locomotive, and is not a podcar, it must be fitted with a public address system for visual announcements on its exterior where it—	4.2.2.8.3 para 1	The final destination or route shall be displayed outside of the train on the platform side adjacent to at least one of the passenger access doors on a minimum of alternate vehicles of the train.	Y	N	No bodyside displays fitted	Compliance achieved	No bodyside displays fitted	No	
11(3)(a)	operates as a single vehicle, in which case the display must be fitted on its front;	4.2.2.8.3 para 1	The final destination or route shall be displayed outside of the train on the platform side adjacent to at least one of the passenger access doors on a minimum of alternate vehicles of the train.	Y	N	No bodyside displays fitted	Compliance achieved	No bodyside displays fitted	No	
11(3)(b)	is the lead vehicle of two or more coupled together which, including itself, do not all have displays on both sides of their exterior, in which case the display must be fitted on its front; or	4.2.2.8.3 para 1	The final destination or route shall be displayed outside of the train on the platform side adjacent to at least one of the passenger access doors on a minimum of alternate vehicles of the train.	N/A	N	No bodyside displays fitted	Non-compliance accepted	No bodyside displays fitted	Yes	Dispensation sought for non-compliance.
11(3)(c)	is one of two or more coupled together, but is not the lead vehicle, and the lead vehicle does not have a display fitted on its front, in which case a display must be fitted on both sides of the exterior.	4.2.2.8.3 para 1	The final destination or route shall be displayed outside of the train on the platform side adjacent to at least one of the passenger access doors on a minimum of alternate vehicles of the train.	N/A?	N	No bodyside displays fitted	Non-compliance accepted	No bodyside displays fitted	Yes	Dispensation sought for non-compliance.
11(2)	Subject to **sub-paragraph (4)**, if rail vehicles are hauled by one or more locomotives, the lead locomotive must be fitted with a public address system for visual announcements on its exterior, which includes a display fitted on its front, unless all the rail vehicles hauled have such a system with a display fitted on both sides of their exterior instead of on their front.	4.2.2.8.3 para 1	The final destination or route shall be displayed outside of the train on the platform side adjacent to at least one of the passenger access doors on a minimum of alternate vehicles of the train.	N/A	N/A	Not loco hauled	N/A	N/A	N/A	N/A
Prescribed systems - Para 11(4) - N/A										
11(5)	Whilst a rail vehicle is stationary at a station or stop any public address systems required to be fitted inside the vehicle, and on its exterior, must be used to announce the destination of the vehicle or, if it is following a circular route, the name or number of the route and, in the case of systems inside the vehicle only, to announce the next stop.	4.2.2.8.1 para 7 4.2.2.8.3 paras 3 & 14	It shall be possible to give information (both audible and visual) in more than one language. (The choice and number of languages shall be the responsibility of the Railway Undertaking having regard to the clientele of an individual train service.) The following information shall be provided: • Information concerning the route of the train The final destination or route of the train shall be displayed inside each vehicle. The system shall be used to announce the destination and next stop of the train, or on departure from, each stop.	N	N	No internal visual PIS fitted	Compliance expected	New visual information system (Train FX) to be installed.	No	
11(6)	Subject to **sub-paragraph (7)**, the public address systems inside the rail vehicle must be used—									
11(6)(a)	to announce the next station, or stop, at which the vehicle will be stopping, not less than once during the period beginning five minutes before the vehicle is expected by the operator's staff to stop at that station or stop;	4.2.2.8.3 paras 4 & 16	The next stop of the train shall be displayed such that it can be read from a minimum of 51% of passenger seats inside each vehicle. This information shall be displayed at least two minutes before arrival at the station concerned. If the next station is less than two minutes planned journey time away, the next station shall be displayed immediately following departure from the previous station. The (audible public address) system shall be used to announce the next stop of the train at least two minutes before the arrival of the train at that stop. If the next station is less than two minutes planned journey time away, the next station shall be announced immediately following departure from the previous station.	N	N	Audible PA fitted, but not audio-visual PIS	Some compliance achieved already but more expected	New system installed (Train FX) that will provide automated announcements.	No	
11(6)(b)	to announce any delay exceeding ten minutes to the scheduled timing for that journey;	N/A	No equivalent requirement.	N	N/A	Relies on Driver using PA system	Some compliance achieved already but more expected	New system installed (Train FX) that will provide automated announcements.	No	
11(6)(c)	to announce any diversions from the route shown in the published timetable for that journey; and	N/A	No equivalent requirement.	N	N/A	Relies on Driver using PA system	Some compliance achieved already but more expected	New system installed (Train FX) that will provide automated announcements.	No	
11(6)(d)	to make emergency announcements.	4.2.2.8.1 para 7	It shall be possible to give information (both audible and visual) in more than one language. (The choice and number of languages shall be the responsibility of the Railway Undertaking having regard to the clientele of an individual train service.) The following information shall be provided: • Safety information and Safety instructions in accordance with European or National Rules • Audible safety instructions in case of emergency	N	Y	Relies on Driver using PA system.	Some compliance achieved already but more expected	New system installed (Train FX) that will provide automated announcements.	No	
11(7)	**Sub-paragraph (6)(a)** does not apply if the timetabled journey time between stations or stops is less than two minutes.	4.2.2.8.3 paras 4 & 16	The next stop of the train shall be displayed such that it can be read from a minimum of 51% of passenger seats inside each vehicle. This information shall be displayed at least two minutes before arrival at the station concerned. If the next station is less than two minutes planned journey time away, the next station shall be displayed immediately following departure from the previous station. The (audible public address) system shall be used to announce the next stop of the train at least two minutes before the arrival of the train at that stop. If the next station is less than two minutes planned journey time away, the next station shall be announced immediately following departure from the previous station.	Noted	N		Compliance expected	New visual information system (Train FX) to be installed.	No	
11(12)	A letter or number used in a display inside a rail vehicle must—									
11(12)(a)	contrast with its background; and	4.2.2.8.1 para 4	Visual information shall contrast with its background.	N	N	Internal visual PIS not fitted.	Compliance expected	New visual information system (Train FX) to be installed.	No	
11(12)(b)	in dimension, not have a height which is less than the minimum height ascertained in accordance with **sub-paragraph (13)**.	4.2.2.8.1 para 3	Inside trains the font size shall be not less then 35mm for a reading distance in excess of 5000mm.	N	N	Internal visual PIS not fitted.	Compliance expected	New visual information system (Train FX) to be installed.	No	
11(13)	The minimum height referred to in **sub-paragraph (12)(b)** is—									
11(13)(a)	for a reading distance of 6 metres or less, the height on the vertical axis of the following graph which is opposite the point on the line shown on the graph which intersects with the reading distance on the horizontal axis (e.g. for a reading distance of 6 metres the minimum height is 35 millimetres); and	N/A	No equivalent requirement.	N	N/A	Internal visual PIS not fitted.	Compliance expected	New visual information system (Train FX) to be installed.	No	
11(13)(b)	for a reading distance of more than 6 metres, 35 millimetres.	N/A	No equivalent requirement.	N	N/A	Internal visual PIS not fitted.	Compliance expected	New visual information system (Train FX) to be installed.	No	
11(14)	In **sub-paragraph (13)**—									
11(14)(a)	"reading distance" means the distance between a display and the furthest passenger space in a rail vehicle for which that display is the nearest readable display;	N/A	No equivalent requirement.	Noted	N/A					
11(14)(b)	"passenger space" means a space provided for a passenger in the passenger saloon, or vestibule adjoining an exterior doorway, of a rail vehicle, whether sitting or standing, (the distance between the display and that space to be measured from the eye level of a passenger occupying that space, assuming the passenger to be a 95th percentile man or a 5th percentile woman); and	N/A	No equivalent requirement.	Noted	N/A					
11(14)(c)	"readable display" means a display which is not positioned at such an acute angle from the line of vision of the passenger space as to be unreadable.	N/A	No equivalent requirement.	Noted	N/A					
11(8)	Subject to **sub-paragraph (9)**, in displays on the exterior of a rail vehicle the first letter of, and numbers used in, visual announcements must not be less than 70 millimetres high on displays mounted on the front of the vehicle and not less than 35 millimetres high on displays mounted on the side of a rail vehicle, and all letters and numbers must contrast with their background.	4.2.2.8.1 para 4, 4.2.2.8.4 paras 2	Visual information shall contrast with its background. Upper Case Letters and numbers used in front external displays shall have a minimum height of 70mm and on side displays 35mm on bodyside and internal indicators.	Y	Y	External PIS generally 80mm high	Compliance achieved	New visual information system (Train FX) to be installed.	No	
11(15)	A word on a display must not be written in capital letters only.	N/A	No equivalent requirement.	Y/N	N/A	Internal visual PIS not fitted. External PIS compliant	Some compliance achieved already but more expected	New visual information system (Train FX) to be installed.	No	
11(10)	Subject to **sub-paragraph (11)**, displays inside a rail vehicle must, when all passengers are seated, be viewable from at least 51 per cent of passenger seats, (including priority seats), and from at least 51 per cent of priority seats.	4.2.2.8.3 para 4, 1st sentence	The next stop of the train shall be displayed such that it can be read from a minimum of 51% of passenger seats inside each vehicle.	N	N	Internal visual PIS not fitted.	Compliance expected	New visual information system (Train FX) to be installed.	No	
Narrow width vehicles - Para 11(9) - N/A										
Podcars - Para 11(11) - N/A										
N/A	No equivalent requirement	4.2.2.8.1. para 1	All information shall be of a consistent nature and in accordance with European or National Rules.	N/A	Noted	Depends on corporate compliance between train and stations and rules	N/A			
N/A	No equivalent requirement	4.2.2.8.1. para 2	All information shall be coherent with the general routeing and information system especially colour and contrast in trains, platforms and entrances.	N/A	Noted	Depends on corporate compliance between train and stations and rules	N/A			
N/A	No equivalent requirement	4.2.2.8.1. para 3	Visual information shall be legible in all lighting conditions when the vehicle or station is operational.	N	N	No internal visual PIS fitted	Compliance expected	New visual information system (Train FX) to be installed.	No	
Part 2, Para 4(2)	In displays, ascenders and descenders must have a minimum size ratio of 20% to upper case characters.	4.2.2.8.1. para 5	Descenders in Roman script shall be clearly recognisable and have a minimum size ratio of 20% to the upper case characters.	Y/N	Y/N	No internal visual PIS fitted. External roller blind uses true text	Some compliance achieved already but more expected	New visual information system (Train FX) to be installed.	No	
N/A	No equivalent requirement	4.2.2.8.1. para 6	Compressed descenders and ascenders shall not be used.	N/A	Y/N	No internal visual PIS fitted. External roller blind uses true text	Some compliance achieved already but more expected	New visual information system (Train FX) to be installed.	No	

RVAR 2010		PRM TSI		RVAR	PRM		DfT expectations of compliance by 1 Jan 2020	Proposed Modification	Dispensation Requirements	
Paragraph No.	Requirement(s)	Clause No.	Requirement(s)	Compliant	Compliant	Comments			Yes/No	Actions
N/A	No equivalent requirement	4.2.2.8.1. para 7	It shall be possible to give information (both audible and visual) in more than one language. (The choice and number of languages shall be the responsibility of the Railway Undertaking having regard to the clientele of an individual train service.) It shall be possible to give the following information: • Safety information and Safety instructions in accordance with European or National Rules • Audible safety instructions in case of emergency • Warning, prohibition and mandatory actions signs in accordance with European or National Rules. • Information concerning the route of the train • Information concerning the location of on-board facilities	N	N	No internal visual PIS fitted	Compliance expected	New visual information system (Train FX) to be installed.	No	
N/A	No equivalent requirement	4.2.2.8.2.1 para 1	All safety, warning, mandatory action and prohibition signs shall include pictograms and shall be designed according to ISO 3864-1.	N/A	N	DfT accept non-compliance can remain, provided ORR/HMRI happy. No need to fit green TSI signs	Non-compliance accepted		Yes	Dispensation sought for non-compliance.
N/A	No equivalent requirement	4.2.2.8.2.1 para 2	There shall be no more than five pictograms, together with a directional arrow, indicating a single direction placed adjacent to each other at a single location.	N/A	Y		Compliance achieved	Compliance achieved	No	
N/A	No equivalent requirement	4.2.2.8.2.1 para 3	Tactile information signage shall be fitted in: • Toilets, for functional information and emergency call if appropriate • Trains, for door open/close button and emergency call Advertisements shall not be combined with the routeing and information systems. The following specific PRM graphic symbols and pictograms shall be fitted: • Wheelchair symbol in accordance with Annex N Clauses N.3 and N.4 • Directional information for wheelchair accessible amenities • Indication of the wheelchair accessible door location outside the train • Indication of the wheelchair space inside the train • Indication of the universal toilets The symbols in can be combined with other symbols (for example: lift, toilet, etc.).	N/A	N		Compliance expected	Compliance achieved	No	
N/A	No equivalent requirement	4.2.2.8.2.2 para 1	Where inductive loops are fitted these shall be indicated by a sign complying with Annex N Clauses N.3 and N.5.	N/A	N/A	Noted	N/A			
N/A	No equivalent requirement	4.2.2.8.2.2 para 2	Where the facility is provided, a graphic symbol shall indicate a storage place for heavy luggage and bulky goods.	N/A	N		Compliance expected	Compliance achieved	No	
N/A	No equivalent requirement	4.2.2.8.2.2 para 3	If there is a call for assistance or call for information facility, this shall be indicated by a sign complying with Annex N Clauses N.3 and N.6. and shall have: • A visual and audible indication that the device has been operated; • Additional operating information if necessary	N/A	N	No call for aid system fitted.	Compliance expected	Train FX Call for Assistance device to be installed.	No	
N/A	No equivalent requirement	4.2.2.8.2.2 para 4	If there is an Emergency call device it shall comply with Annex N Clauses N.3 and N.7. And shall have: • visual and tactile symbols, • A visual and audible indication that the device has been operated • Additional operating information if necessary.	N/A	N		Compliance expected	Train FX Call for Assistance device to be installed.	No	
N/A	No equivalent requirement	4.2.2.8.3 para 2	Where trains operate in a system, in which dynamic visual information is given on the station platforms within a distance of 50 meters, and destination or route information is also provided on the front of the train, it is not mandatory to provide information on the sides of each vehicle.	N/A	N/A		N/A			
N/A	No equivalent requirement	4.2.2.8.3 para 5	The requirement to make the destination and 'next stop' displays visible to 51% from passenger seats need not be met if the train is partly or wholly divided into compartments of not more than 8 seats, which are serviced by a corridor. However, a display shall be visible to a person standing in a corridor outside a compartment and shall be visible to a passenger occupying a wheelchair space.	N/A	N/A		N/A			
N/A	No equivalent requirement	4.2.2.8.3 para 6	Details of the Route or Network on which the train operates shall be available (the Railway Undertaking shall decide the manner in which this information is provided).	N/A	N/A		N/A			
N/A	No equivalent requirement	4.2.2.8.3 para 7	The information about the next stop may be shown on the same display as the final destination. However, it shall revert to show the final destination as soon as the train has stopped.	N/A	N	No visual PIS fitted	Compliance expected	New visual information system (Train FX) to be installed.	No	
N/A	No equivalent requirement	4.2.2.8.3 para 8	The (visual passenger information) system shall be capable of giving announcements in more than one language. (The choice and number of languages shall be the responsibility of the Railway Undertaking having regard to the clientele of an individual train service.)	N/A	N	No visual PIS fitted	Compliance expected	New visual information system (Train FX) to be installed.	No	
N/A	No equivalent requirement	4.2.2.8.3 para 9	If the (visual passenger information) system is automated, it shall be possible to suppress, or correct, incorrect or misleading information.	N/A	N	No visual PIS fitted	Compliance expected	New visual information system (Train FX) to be installed.	No	
N/A	No equivalent requirement	4.2.2.8.3 para 10	If the vehicle provides reserved seats then the number or letter of the vehicle (as used in the reservation system) shall be displayed on or adjacent to every door in characters not less than 70mm high.	N/A	N/A	No reserved seats	N/A			
N/A	No equivalent requirement	4.2.2.8.3 para 11	If seats are identified by numbers or letters, the number or letter of the seat shall be displayed on or adjacent to every seat in characters not less than 12 mm high. Such numbers and letters shall contrast with their background.	N/A	N/A	No seat numbers	N/A			
N/A	No equivalent requirement	4.2.2.8.3 para 13	The (audible public address) system may operate on a manual, an automated or pre-programmed basis. If the system is automated, it shall be possible to suppress, or correct, incorrect or misleading information.	N/A	Y	Driver can modify by giving out PA announcement	Compliance achieved	New visual information system (Train FX) to be installed.	No	
N/A	No equivalent requirement	4.2.2.8.3 para 16	The spoken information shall have a minimum RASTI level of 0,5, in accordance with IEC 60268-16 part 16, in all areas. The system shall meet the requirement at each seat location and wheelchair space.	N/A	?		Non-compliance accepted		Yes	Dispensation sought for non-compliance.
N/A	No equivalent requirement	4.2.2.8.3 para 17	The (audible public address) system shall be capable of giving announcements in more than one language. (The choice and number of languages shall be the responsibility of the Railway Undertaking having regard to the clientele of an individual train service.)	N/A	Y	Relies on Driver using PA system.	Compliance achieved	TRAIN FX system provides this functionality.	No	
N/A	No equivalent requirement	4.2.2.8.3 para 18	If the (audible public address) system is automated, it shall be possible to suppress, or correct, incorrect or misleading information.	N/A	N	Compliance necessary once fitted	Compliance expected	TRAIN FX system provides this functionality.	No	
Part 2, Para 4(1)	If horizontal or vertical scrolling displays are used—	4.2.2.8.4 para 1	Each station name (which may be abbreviated), or words of messages, shall be displayed for a minimum of 2 seconds. If a scrolling display is used (either horizontal or vertical), each complete word shall be displayed for a minimum of 2 seconds and the horizontal scrolling speed shall not exceed 6 characters per second. Sans Serif fonts, in mixed case, shall be used for all written information. (i.e. not in capital letters only).		N	Compliance necessary once fitted	Compliance expected	New visual information system (Train FX) to be installed.	No	
Part 2, Para 4(1)(a)	any station names (which may be abbreviated) and any other complete words or messages must be displayed for a minimum of 2 seconds; and			N		Compliance necessary once fitted	Compliance expected	New visual information system (Train FX) to be installed.	No	
Part 2, Para 4(1)(b)	horizontal scrolling displays must have a scrolling speed not exceeding 5 characters per second.			N		Compliance necessary once fitted	Compliance expected	New visual information system (Train FX) to be installed.	No	
Toilets										
15(1)	If a toilet is fitted in a rail vehicle the following requirements must be complied with—									
15(1)(a)	the centre of any door control device to the toilet door must be not less than 800 millimetres and not more than 1200 millimetres in height above the floor;	4.2.2.6.2 para 3	The centre of any door handle, lock or door control device on the exterior or interior of the toilet compartment shall be located at a minimum of 800mm and a maximum of 1200mm above the floor.	Y	Y	External controls 1050 - 1160 high, two sets of internal controls are 955 - 1150 high	Compliance achieved	The toilet module is the 'Comfort Zone' manufactured by PCC.eu and has an ISV demonstrating compliance.	No	
15(1)(b)	subject to **sub-paragraph (2)**, any door control device to the toilet door, or equipment inside the toilet cubicle which is for the use of a passenger, must be operable by the exertion of a force not exceeding 15 Newtons;	4.2.2.6.2 para 5	Any control device, and other equipment inside the toilet compartment (except the baby change facilities) shall be operable by exerting a force not exceeding 20 Newtons.	Y	Y	EAO Series 56	Compliance achieved	The toilet module is the 'Comfort Zone' manufactured by PCC.eu and has an ISV demonstrating compliance.	No	
15(2)	**Sub-paragraph (1)(b)** does not apply to a nappy-changing table, save in relation to the stowing of it.	N/A	No equivalent requirement.	Noted	N/A					
15(1)(c)	the seat and any lid of the toilet, and any handholds in the toilet cubicle, must contrast with the adjacent parts of the toilet cubicle;	4.2.2.6.2 para 10	The toilet seat and lid, and any handrails shall be in a contrasting colour and/or tone to the background.	N	N	Entire toilet cubicle expected to be replaced	Compliance expected	The toilet module is the 'Comfort Zone' manufactured by PCC.eu and has an ISV demonstrating compliance.	No	
15(1)(d)	the immediate surround of a door control device to the toilet door must contrast with— (i) the door control device; and (ii) that part of the toilet cubicle, or toilet exterior, on which it is mounted; and	4.2.2.6.2 paras 6 & 7	Any control device, including flushing system, shall be provided in a contrasting colour and/or tone to the background surface, and shall be identifiable by touch. Clear, precise information for the operation of any control device shall be provided, making use of pictograms and shall be tactile.	Y/N	Y/N	Door controls contrast but flush does not	Some compliance achieved already but more expected	The toilet module is the 'Comfort Zone' manufactured by PCC.eu and has an ISV demonstrating compliance.	No	
15(1)(e)	a door control device to the toilet door, and any equipment inside a toilet cubicle which is for the use of a passenger, must— (i) be identifiable by touch; or (ii) include the provision of tactile signage where that device or equipment is sensor operated.	4.2.2.6.2 paras 6 & 7	Any control device, including flushing system, shall be ..... identifiable by touch. Clear, precise information for the operation of any control device shall be provided, making use of pictograms and shall be tactile.	Y/N	Y/N	Door controls are tactile but flush is not	Some compliance achieved already but more expected	The toilet module is the 'Comfort Zone' manufactured by PCC.eu and has an ISV demonstrating compliance.	No	
15(3)	For the purposes of this paragraph "door control device" includes door handles and locks on the interior and door handles on the exterior of the toilet cubicle.	N/A	No equivalent requirement.	Noted	N/A					
15(4)	A toilet fitted in a rail vehicle must be operational when the vehicle is being used for the carriage of passengers.	N/A	No equivalent requirement.	Noted	N/A		Compliance expected	The toilet module is the 'Comfort Zone' manufactured by PCC.eu and has an ISV demonstrating compliance.	No	
N/A	No equivalent requirement	4.2.2.6.2 para 2	The minimum door useable width shall be 500mm	N/A	Y	745mm doorway	Compliance achieved	The toilet module is the 'Comfort Zone' manufactured by PCC.eu and has an ISV demonstrating compliance.	No	
N/A	No equivalent requirement	4.2.2.6.2 para 8	A fixed vertical and/or horizontal handrail shall be provided adjacent to the toilet pan and the wash basin.	N/A	Y		Compliance achieved	The toilet module is the 'Comfort Zone' manufactured by PCC.eu and has an ISV demonstrating compliance.	No	
Wheelchair Spaces										
18(1)	Subject to **sub-paragraph (2)**, a rail vehicle which does not form part of a train must have at least one wheelchair space.	4.2.2.3 para 1	See below.	N/A	N/A					
18(4)	Where a train consists of the number of rail vehicles shown in a row of **column** A of the following table that train must have at least the number of wheelchair spaces shown in the opposite row of **column** B; A — B 2 to 7 vehicles — 2 wheelchair spaces 8 to 11 vehicles — 3 wheelchair spaces 12 or more vehicles — 4 wheelchair spaces	4.2.2.3 para 1	According to the length of the train, excluding the locomotive or power head, there shall be in that train not less than the number of wheelchair spaces shown in the following table: Train length — Number of wheelchair spaces by train Less than 205 m — 2 wheelchair spaces 205 - 300 m — 3 wheelchair spaces More than 300 m — 4 wheelchair spaces	N	N	Single, non-compliant wheelchair space currently provided. 2 required	Compliance expected	The revised interior layout provide two compliant wheelchair spaces in the DMS(A) vehicle.	No	
18(3)	Subject to **sub-paragraph (4)**, where one or more rail vehicles in a train provide a different class of passenger accommodation from another rail vehicle in that train there must be at least one wheelchair space for each class of passenger accommodation in that train.	N/A	No equivalent requirement.	Noted	N/A					
Wheelchair Space Specifications										
20(1)	A wheelchair space must not be less than—									
20(1)(a) & (b)	1300 millimetres long measured parallel to the length of the rail vehicle; and 750 millimetres wide measured parallel to the width of the rail vehicle.	4.2.2.3 paras 2, 6, 7 & 8	To ensure stability, the wheelchair space shall be designed for the wheelchair to be positioned either facing or back to the direction of travel. The minimum distance in the longitudinal plane between the wheelchair space and a front surface 2 shall be in accordance with figure 5. Surface 1 may be a closed tip-up or foldable seat, or a partition. If surface 2 is the front edge of a passenger seat cushion in a facing arrangement and if this seat can be occupied by a passenger, the minimum distance shall be not less than 300mm. If surface 2 is a passenger seat back in a uni-directional arrangement, or a partition or a closed tip-up or foldable seat in front of wheelchair space , the minimum distance shall be not less than 200mm (see Figure 6)	N	N		Compliance expected	Two wheelchair spaces provided facing opposite directions to each other.	No	
20(2)	Subject to **sub-paragraphs (3)** and **(12)**, no fittings for the use of passengers, other than disabled persons in wheelchairs, may be installed within a wheelchair space.	4.2.2.3 para 5	There shall be no obstruction of the designated space between the floor and the ceiling of the vehicle other than an overhead luggage rack, a horizontal handrail attached to the wall or ceiling of the vehicle or a table in accordance with the requirements of clause 4.2.2.10.	Y	Y		Compliance achieved	The revised interior layout provide two compliant wheelchair spaces in the DMS(A) vehicle.	No	
20(3)	**Sub-paragraph (2)** does not restrict the installation of—									
20(3)(a)	an overhead luggage rack;	N/A	No equivalent requirement.	Noted	N/A					
20(3)(b)	an openable window;	N/A	No equivalent requirement.	Noted	N/A					
20(3)(c)	a handrail that conforms with **paragraph 10(4)** and with **sub-paragraph (9)** or **(10)**; or	N/A	No equivalent requirement.	Noted	N/A					
20(3)(d)	a table or tray that conforms with **paragraph 21**.	N/A	No equivalent requirement.	Noted	N/A					
20(4)	The wheelchair space must incorporate, at one end, a fitting with a minimum width of 700 millimetres capable of preventing a reference wheelchair, with its back against the fitting, from moving or tipping towards the fitting.	4.2.2.3 para 10	There shall be a structure or other acceptable fitting 700mm wide (as shown in figure 6) at one end of the wheelchair space. The height of the structure, or fitting, shall be capable of preventing a wheelchair that has been positioned with its back against the structure or fitting, from tipping over backwards.	Y	Y	Single wheelchair space backs on to two seats	Compliance achieved	The toilet cubicle wall provides a structure at the end of the primary wheelchair space. A purpose built structure is located at one end of the secondary space.	No	

RVAR 2010		PRM TSI		RVAR	PRM		DfT expectations of compliance by 1 Jan 2020	Proposed Modification	Dispensation Requirements	
Paragraph No.	Requirement(s)	Clause No.	Requirement(s)	Compliant	Compliant	Comments			Yes/No	Actions
20(5)	The wheelchair space must be fitted with a device which—									
20(5)(a)	enables a disabled person in a wheelchair to communicate with a person who is in a position to take appropriate action in an emergency, to the same extent as any passenger who is not in a wheelchair can communicate with such a person by the use of an emergency alarm fitted elsewhere than in the wheelchair space;	4.2.2.3 para 12, 1st sentence	The wheelchair space shall be fitted with an alarm device that shall, in the event of danger, enable a wheelchair user to inform a person who can take appropriate action.	N	N	No call for aid fitted	Compliance expected	Each wheelchair space is equipped with a Train FX call for aid device.	No	
20(5)(b)	is placed within reach of a person in a reference wheelchair; and	4.2.2.3 para 12, 2nd sentence	It shall be placed within reach of a person seated in a reference wheelchair.	N	N	No call for aid fitted	Compliance expected	The alarm control is positioned within the zone of convenient reach for a wheelchair occupant.	No	
20(5)(c)	is operable by the palm of the hand exerting a force not exceeding 30 Newtons.	4.2.2.3 para 14 5.4.2	The alarm device shall not be placed within a narrow recess or any other form of shielding which prevents immediate palm operation. The alarm devices shall be operable by the palm of a person's hand and shall not require a force exceeding 30N to operate.	N	N	No call for aid fitted	Compliance expected	The alarm control is positioned within the zone of convenient reach for a wheelchair occupant.	No	
20(6)	A device fitted in accordance with **sub-paragraph (5)** may include a protective cover to prevent accidental operation, provided that such a cover does not affect compliance with the operational requirements of that sub-paragraph.	N/A	No equivalent requirement.	Noted	N/A	No call for aid fitted		Each wheelchair space is equipped with a Train FX call for aid device which provides easy access and required a force less than 30 N to operate.	No	
N/A	No equivalent requirement	4.2.2.3 para 13	When the alarm device has been activated a visual and audible indication that the alarm system is working shall be provided.	N/A	N	No call for aid fitted	Compliance expected	Each wheelchair space is equipped with a Train FX call for aid device which has been approved previously.	No	
20(7)	Subject to **sub-paragraph (8)**, a sign to identify a wheelchair space must be placed immediately next to, or in, the wheelchair space and the sign must conform with either **diagram B or E** in **Schedule 2**.	4.2.2.3 para 16	A sign conforming to Annex N Clauses N.3 and N.4 shall be placed immediately next to, or in, the wheelchair space so as to identify the space as the wheelchair space.	Y	N		Compliance achieved	Signage fitted will be compliant.	No	
20(8)	Where a **diagram E** sign is to be placed other than on a wall against which the back of a wheelchair should be placed, alternative wording to that shown in **diagram E** may be used on the sign to the extent necessary to advise users where to position their wheelchairs.	N/A	No equivalent requirement.	Noted	N/A					
20(9)	If a wheelchair space is to have a horizontal handrail, excluding a handrail fitted in accordance with **sub-paragraph (10)**, the handrail must—	N/A	No equivalent requirement.	Noted	N/A					
20(9)(a)	be fitted onto, and parallel with, the side of the rail vehicle;	N/A	No equivalent requirement.	Noted	N/A					
20(9)(b)	be not less than 650 millimetres and not more than 1000 millimetres in height measured vertically from the floor; and	N/A	No equivalent requirement.	Noted	N/A					
20(9)(c)	not protrude into the wheelchair space by more than 90 millimetres.	N/A	No equivalent requirement.	Noted	N/A					
20(10)	If a handrail is to be fitted to the ceiling of a rail vehicle, it may protrude into a wheelchair space provided that—	N/A	No equivalent requirement.	Noted	N/A					
20(10)(a)	subject to sub-paragraph (11), it must not do so by more than 250 millimetres measured from the passenger gangway side of that space; and	N/A	No equivalent requirement.	Noted	N/A					
20(10)(b)	its height must be not less than 1500 millimetres measured vertically from the floor.	N/A	No equivalent requirement.	Noted	N/A					
20(11)	In its application to a narrow width vehicle, **sub-paragraph (10)(a)** has effect as if for 250 millimetres there were substituted 400 millimetres.	N/A	No equivalent requirement.	Noted	N/A					
20(12)	Folding or tip-up seats may be installed in a wheelchair space for the use of passengers where the space is not needed by a disabled person in a wheelchair provided the seats, when folded or tipped up, do not protrude into the minimum space required by **sub-paragraph (1)**.	4.2.2.3 para 9	Tip-up or folding seats may be installed in the wheelchair space but, when in the stowed position, shall not encroach on the dimensional requirements of the wheelchair space.	Noted	Noted					
N/A	No equivalent requirement	4.2.2.3 para 11	At least one seat shall be available either adjacent to or facing to the wheelchair spaces for a companion to travel with the wheelchair user. This seat shall offer the same level of comfort as other seats, and may also be situated on the opposing side of the clearway.	N/A	N		Compliance expected	The two seats facing the primary wheelchair space are designated as companion seats.	No	
Tables										
21(1)	If tables or trays (whether fixed, adjustable or folding) are fitted for the use of passengers at not less than ten per cent of the seats (other than priority seats) in a rail vehicle, a similar table or tray must be fitted for use in any wheelchair space in that vehicle by a disabled person in a wheelchair.	N/A	No equivalent requirement.	N	N/A		Compliance expected	Trinket tables to be fitted in both wheelchair spaces.	No	
21(2)	The operator of a rail vehicle must provide assistance to erect a removable or folding table or tray, or to alter the height of an adjustable table, in a wheelchair space upon request made by or on behalf of a disabled person in a wheelchair.	N/A	No equivalent requirement.	Noted	N/A					
21(3)	There must be no obstruction in the space under a table in a wheelchair space other than a table-leg, but any table-leg must be positioned so that unobstructed clearance of not less than 700 millimetres in width is given under the table.	N/A	No equivalent requirement.	Noted	N/A					
21(4)	Subject to **sub-paragraph (5)**, the lowest point on the underside of a table or tray top in a wheelchair space must be not less than 720 millimetres in height measured vertically from the floor.	N/A	No equivalent requirement.	Noted	N/A					
21(5)	Where an adjustable table is fitted in a wheelchair space—	N/A	No equivalent requirement.	Noted	N/A					
21(5)(a)	it must be capable of being adjusted to meet the requirement of **sub-paragraph (4)**; and	N/A	No equivalent requirement.	Noted	N/A					
21(5)(b)	there must be adjacent to the table a sign clearly visible from the position of an occupant of a wheelchair in the wheelchair space indicating that the height of the table can be adjusted on request made to a member of the operator's staff.	N/A	No equivalent requirement.	Noted	N/A					
Wheelchair Compatible Doorways										
6(1)	If a rail vehicle has a wheelchair space then each side of the vehicle which is used for the access and egress of passengers must have at least one passenger doorway which is a wheelchair-compatible doorway.	4.2.2.4.2 para 4	The designated wheelchair exterior accessible doorways shall be the closest doorways to the designated wheelchair spaces.	Y	Y		Compliance achieved	No modification required.	No	
6(2)	The width of the opening of a wheelchair-compatible doorway must be not less than 850mm.	4.2.2.4.2 para 2	All exterior passenger doorways shall have a minimum clear useable width of 800mm when open. U	N	N	Doorway is maximum of 780mm only. External doorways cannot reasonably be made wider	Non-compliance accepted	It is not physically possible to comply with this requirement due to the constraints of the vehicle structure.	No	Dispensation sought for non-compliance.
6(3)	Subject to **sub-paragraph (4)**, a sign conforming with **diagram B in Schedule 2** must be marked on the exterior of the rail vehicle on at least one side of each wheelchair-compatible doorway, or on at least one door of each wheelchair-compatible doorway, in such a position that it will be visible both before and after the doors have opened.	4.2.2.4.2 para 5	The door to be used for wheelchair access shall be clearly labelled with a sign in accordance with Annex N Clauses N.3 and N.4.	Y	N	Acceptable external sign is fitted - though not TSI compliant	Compliance achieved	Signage fitted will be compliant.	No	
6(4)	**Sub-paragraph (3)** does not apply to a rail vehicle operated exclusively on a network where, at all stations or stops, passengers waiting on platforms are separated from the track or way by screens or other barriers, provided a sign conforming with **diagram B in Schedule 2** is marked—	N/A	No equivalent requirement.	Noted	N/A					
6(4)(a)	on those doors of the screens or other barriers which give access to wheelchair-compatible doorways in rail vehicles when ready for boarding, or	N/A	No equivalent requirement.	Noted	N/A					
6(4)(b)	on at least one side of those doors,	N/A	No equivalent requirement.	Noted	N/A					
	and is visible from the platform side both before and after those doors have opened.	N/A	No equivalent requirement.	Noted	N/A					
6(5)	The route between a wheelchair-compatible doorway and a wheelchair space must—									
6(5)(a)	(a) not have a step, or a slope with a gradient exceeding— (i) five per cent; or (ii) provided the slope does not exceed 2000 millimetres in length, eight per cent; as measured when the vehicle is on a straight and level track;	4.2.2.9 paras 2 & 3	No steps are allowed between the vestibule of a wheelchair accessible exterior door, the wheelchair space, a universal sleeping compartment and the universal toilet except for a door threshold strip that shall not exceed 15mm in height. For ramps in the train the maximum slope shall not exceed the following values: Length of ramp / Max gradient (deg) / Maximum gradient (%) > 1000 mm / 4,47 / 8 600mm to 1000mm / 8.,5 / 15 Less than 600mm / 10.2 / 18	Y	Y		Compliance achieved	No modification required.	No	
6(5)(b)	not be less than 850 millimetres wide at any point; and	4.2.2.7 para 3	Access to and from wheelchair spaces, wheelchair accessible areas and wheelchair accessible doors shall have a minimum clearway width of 800mm wide up to a minimum height of 1450mm at any point. The clearway shall be arranged to permit unobstructed movement of the reference wheelchair as detailed in Annex M.	Y/N	Y/N	Doorway from vestibule is 920mm. Doorway into toilet is only 745mm - this will be made compliant when the whole cubicle is replaced.	Some compliance achieved already but more expected	It is not physically possible to comply with this requirement due to the constraints of the vehicle structure. The clearway is in excess of 800 mm above a height of 75 mm above floor level. The minimum clearance provided below this height is 787 mm, which is greater than the throughway provided by the bodyside doorways. This arrangement was previously accepted on the Porterbrook Class 156 units operated by Greater Anglia.	Yes	Dispensation sought for non-compliance.
6(5)(c)	provide a turning space adjacent to, or partly adjacent to and partly within, a wheelchair space for a disabled person in a reference wheelchair to turn the wheelchair around through one hundred and eighty degrees.	N/A	No equivalent requirement.	Y	N/A	Some space currently outside the cubicle	Compliance achieved	Compliance achieved.	No	

RVAR 2010		PRM TSI		RVAR	PRM		DfT expectations of compliance by 1 Jan 2020	Proposed Modification	Dispensation Requirements	
Paragraph No.	Requirement(s)	Clause No.	Requirement(s)	Compliant	Compliant	Comments			Yes/No	Actions
Toilets for Disabled Persons in Wheelchairs										
16(1)	If a rail vehicle operating as a single vehicle, or a train, is fitted with one or more toilets, the toilet, or the nearest one to a wheelchair space as the case may be, must conform with the following requirements (in addition to those of **paragraph 16**)—									
16(1)(a)	the exterior of the toilet door must be marked with a sign conforming with **diagram B** in **Schedule 2**;	4.2.2.6.3.1 para 2	The exterior of the door shall be marked with a sign in accordance with Annex N Clauses N.3 and N.4.	N	N		Compliance expected	The toilet module is the 'Comfort Zone' manufactured by PCC.eu and has an ISV	No	
N/A	No equivalent requirement	4.2.2.6.3.1 para 4	A visual and tactile (or audible) indication shall be given to indicate when a door has been locked.	N/A	Y/N	No tactile/audible indication given	Some compliance achieved already but more expected	The toilet module is the 'Comfort Zone' manufactured by PCC.eu and has an ISV demonstrating compliance.	No	
16(1)(b)	the width of the toilet doorway must be not less than 850 millimetres;	4.2.2.6.3.1 para 1	The toilet access door shall provide a minimum clear useable width of 800mm.	N	N	Doorway into toilet is only 745mm - this will be made compliant when the whole cubicle is replaced.	Compliance expected	The toilet module is the 'Comfort Zone' manufactured by PCC.eu and has an ISV demonstrating compliance.	No	
16(1)(c)	the top surface of the toilet seat when lowered must be such that at least two-thirds of it, measured from its end furthest away from the point at which the toilet is attached to the wall, is between 475 millimetres and 485 millimetres in height from the floor;	4.2.2.6.3.1 para 9	The surface of the toilet seat, when lowered shall be at a height of 450mm to 500mm above the floor level.	N	Y	463mm	Compliance achieved	The toilet module is the 'Comfort Zone' manufactured by PCC.eu and has an ISV demonstrating compliance.	No	
16(1)(d)	the toilet cubicle must be equipped with facilities to enable a disabled person in a wheelchair to wash and dry their hands without moving from the seat of the toilet;	4.2.2.6.3.1 para 10	All amenities (wash basin, soap dispenser, mirror, water dispenser and hand dryer,) shall be readily accessible to a person in a wheelchair.	N	Y		Compliance achieved	The toilet module is the 'Comfort Zone' manufactured by PCC.eu and has an ISV demonstrating compliance.	No	
16(1)(e)	there must be sufficient space inside the toilet cubicle for a reference wheelchair to be positioned in front of the toilet and to be positioned at one side of the toilet so that it is possible for a disabled person to move from a reference wheelchair on to the toilet seat from the front or the side of the toilet;	4.2.2.6.3.1 paras 6 & 7	There shall be sufficient space inside the toilet compartment to enable a wheelchair as defined in Annex M to be manoeuvred to a position adjacent to the toilet seat and to the front of the toilet seat, see figure 8a. In front of the toilet seat there shall be a minimum clear space of 700 mm as shown in figure 8b.	N	N		Compliance expected	The toilet module is the 'Comfort Zone' manufactured by PCC.eu and has an ISV demonstrating compliance.	No	
16(1)(f)	there must be a hinged handrail beside the toilet which must— (i) be on the same side of the toilet as the space for a reference wheelchair; (ii) conform with the requirements of **paragraph 10(4)**; (iii) conform with the specifications in **diagram D1** in **Schedule 2**; and (iv) conform with the specifications in **diagram D2** in **Schedule 2** to such an extent that at least two-thirds of the top-surface of the handrail, when in the deployed position, measured from its end	4.2.2.6.3.1 para 8	A horizontal handrail that complies with the dimensional requirements in the clause above shall be provided at each side of the toilet seat. The handrail on the wheelchair accessible side shall be hinged in such a way so as to enable an unobstructed transfer for the wheelchair user to and from the toilet seat, see figures 9 and 10.	N	Y/N	Handrail on wall side of toilet	Some compliance achieved already but more expected	The toilet module is the 'Comfort Zone' manufactured by PCC.eu and has an ISV demonstrating compliance.	No	
16(1)(g)	there must be a horizontal handrail beside the toilet, on the opposite side to the space for a reference wheelchair, which conforms with the requirements of **paragraph 10(4)**; and			Y			Compliance achieved	The toilet module is the 'Comfort Zone' manufactured by PCC.eu and has an ISV demonstrating compliance.	No	
16(1)(h)	the toilet cubicle must be fitted with not less than two devices which— (i) enable a disabled person in a wheelchair to communicate with a person who is in a position to take appropriate action in an emergency, to the same extent as a passenger who is not in a wheelchair can communicate with such a person by the use of an emergency alarm fitted elsewhere than in the toilet; (ii) are placed so that one is not more than 450 millimetres above the floor, measured to the top of the device, and the other is not less than 800 millimetres and not more than 1200 millimetres above the floor, measured to the top of the device; and (iii) are operable by the palm of the hand exerting a force not exceeding 30 Newtons.	4.2.2.6.3.1 paras 11 - 15	The toilet cubicle shall be fitted with not less than two alarm devices that shall, in the event of danger enable, a PRM to inform a person who can take appropriate action. One shall be placed not more than 450mm above the floor, measured vertically from the surface of the floor to the top of the control. The other shall be not less than 800mm and not more than 1200mm above the floor measured, vertically to the top of the control. The lower alarm device shall be positioned so that the control can be reached by a person lying on the floor. These two devices shall be located on different vertical surfaces of the cubicle so that they can be reached from a range of positions. The alarm control shall be distinct from any other control within the toilet and be coloured differently from other control devices. A sign in accordance with Annex N Clauses N.3 and N.7 shall be placed immediately next to each alarm device. The sign shall describe the function and required actions and shall contrast with the background and give clear visual and tactile information. A visual and audible indication that the alarm system has been operated shall be provided within the toilet.	Y/N	Y/N	Lower alarm is non-compliant at 560mm high. Upper alarm is compliant at 920mm. Both will be replaced in new cubicle	Some compliance achieved already but more expected	The toilet module is the 'Comfort Zone' manufactured by PCC.eu and has an ISV demonstrating compliance.	No	
					Y	Alarms will be replaced in new cubicle	Compliance achieved	The toilet module is the 'Comfort Zone' manufactured by PCC.eu and has an ISV demonstrating compliance.	No	
					Y	Alarms will be replaced in new cubicle	Compliance achieved	The toilet module is the 'Comfort Zone' manufactured by PCC.eu and has an ISV demonstrating compliance.	No	
					N	Alarms will be replaced in new cubicle	Compliance expected	The toilet module is the 'Comfort Zone' manufactured by PCC.eu and has an ISV demonstrating compliance.	No	
					N	Alarms will be replaced in new cubicle	Compliance expected	The toilet module is the 'Comfort Zone' manufactured by PCC.eu and has an ISV demonstrating compliance.	No	
		5.4.2	The alarm devices shall be operable by the palm of a person's hand and shall not require a force exceeding 30N to operate.		N	Not palm operable	Compliance expected	The toilet module is the 'Comfort Zone' manufactured by PCC.eu and has an ISV demonstrating compliance.	No	
16(2)	The devices fitted in accordance with **sub-paragraph (1)(h)** may include a protective cover to prevent accidental operation, provided that such a cover does not affect compliance with the operational requirements of that sub-paragraph.	N/A	No equivalent requirement.	Noted	N/A			The toilet module is the 'Comfort Zone' manufactured by PCC.eu and has an ISV demonstrating compliance.	No	
16(3)	The route between a wheelchair space and the nearest wheelchair-compatible toilet must not be less than 850 millimetres wide at any point.	4.2.2.7 para 3	Access to and from wheelchair spaces, wheelchair accessible areas and wheelchair accessible doors shall have a minimum clearway width of 800mm wide up to a minimum height of 1450mm at any point. The clearway shall be arranged to permit unobstructed movement of the reference wheelchair as detailed in Annex M.	N	N	Doorway into toilet is only 745mm - this will be made compliant when the whole cubicle is replaced.	Compliance expected	The toilet module is the 'Comfort Zone' manufactured by PCC.eu and has an ISV demonstrating compliance.	No	
16(4)	Space must be provided adjacent to, or within, the nearest wheelchair-compatible toilet to a wheelchair space for a disabled person in a reference wheelchair to turn the wheelchair round through one hundred and eighty degrees.	N/A	No equivalent requirement.	Y	N/A	Some space currently outside the cubicle	Compliance achieved	The toilet module is the 'Comfort Zone' manufactured by PCC.eu and has an ISV demonstrating compliance.	No	
N/A	No equivalent requirement	4.2.2.6.3.2 para 1	If separate nursery facilities are not provided a facility to enable the changing of babies' nappies shall be incorporated within the universal toilet. In the lowered position, the changing facility shall be between 800mm and 1000mm above floor level. It shall be a minimum of 500mm wide and 700mm long.	N/A	N		Compliance expected	The toilet module is the 'Comfort Zone' manufactured by PCC.eu and has an ISV demonstrating compliance.	No	
N/A	No equivalent requirement	4.2.2.6.3.2 para 2	It shall be designed to prevent a baby from inadvertently sliding off, shall have no sharp edges and shall be able to take a minimum weight of 80 Kg.	N/A	N		Compliance expected	The toilet module is the 'Comfort Zone' manufactured by PCC.eu and has an ISV demonstrating compliance.	No	
N/A	No equivalent requirement	4.2.2.6.3.2 para 3	If the baby-change table protrudes into the accessible toilet space, it shall be possible to put it into the stowed position using a force not exceeding 25 Newtons.	N/A	N		Compliance expected	The toilet module is the 'Comfort Zone' manufactured by PCC.eu and has an ISV demonstrating compliance.	No	
Wheelchair spaces (obstructions)										
19	There must be no obstruction to prevent, or cause unreasonable difficulty to, a reference wheelchair being manoeuvred in a rail vehicle to, from, into or out of any—	N/A	No equivalent requirement.	Y	N/A		Compliance achieved	No modification required.	No	
19(a)	wheelchair-compatible doorway;	N/A	No equivalent requirement.	Y	N/A		Compliance achieved	No modification required.	No	
19(b)	wheelchair space; or	N/A	No equivalent requirement.	Y	N/A		Compliance achieved	No modification required.	No	
19(c)	wheelchair-compatible toilet.	N/A	No equivalent requirement.	Y	N/A		Compliance achieved	No modification required.	No	
Internal Doorways										
7(1)	Subject to **sub-paragraph (2)**, a passenger doorway in a rail vehicle (which is not in the side of the vehicle) through which a disabled person in a wheelchair must pass to reach a—	4.2.2.4.3.1 para 3	Door openings that are made available for wheelchair users shall have a minimum clear useable width of 800mm.		Y/N	Doorway from vestibule is 920mm. Doorway into toilet is only 745mm - this will be made compliant when the whole cubicle is replaced.				
7(1)(a)	wheelchair space; or			Y			Compliance achieved	No modification required.	No	
7(1)(b)	wheelchair-compatible toilet,			N			Compliance expected	The toilet module is the 'Comfort Zone' manufactured by PCC.eu and has an ISV demonstrating compliance.	No	
	must be not less than 850 millimetres wide.									
7(2)	In its application to a passenger doorway at the end of a rail vehicle, **sub-paragraph (1)** has effect as if for 850 millimetres there were substituted 750 millimetres.	4.2.2.4.3.1 para 3	Door openings that are made available for wheelchair users shall have a minimum clear useable width of 800mm.	N/A	N/A	No intervehicle access for wheelchair users is necessary				
N/A	No equivalent requirement	4.2.2.4.3.1 para 7	Automatic inter-vehicle and consecutive connecting doors shall operate either synchronously as a pair, or the second door shall automatically detect the person moving towards it and open.	N/A	Noted					
Boarding Devices										
1(1)	Subject to **sub-paragraph (2)**, when a wheelchair-compatible doorway in a rail vehicle is open at a platform at a station, or at a stop, a boarding device must be fitted by the operator between that doorway and the platform, or the stop, if a disabled person in a wheelchair wishes to use that doorway.	4.2.2.12.3.2 para 1	When a wheelchair-compatible doorway in a train is intended to be open, in normal operation, at a platform at a station that has obstacle free access routes in accordance with 4.1.2.3.1, a boarding aid shall be provided to be used between that doorway and the platform to allow a passenger in a wheelchair to board or alight, unless it is demonstrated that the gap between the edge of the door sill of that doorway and the edge of the platform is not more than 75mm measured horizontally and not more than 50mm measured vertically.	Y	Y	On-board ramp provided	Compliance achieved	A new Portaramp RR1522.800 ramp is to be installed adjacent to the accessible toilet module at the No.1 end of the vehicle.	No	
1(2)	**Sub-paragraph (1)** does not apply where the gap between the edge of the door sill of the wheelchair-compatible doorway and the platform, or stop, is not more than 75 millimetres measured horizontally and not more than 50 millimetres measured vertically.			N/A						
1(5)(h)	its surface must be slip-resistant; and	4.2.2.12.3.3 para 4	The device surface shall be slip resistant and shall have an effective clear width as large as the doorway width.	Y	N	Ramp is only 700mm wide cf external doorway at 780mm wide	Compliance expected	The Portaramp RR1522.800 has a slip resistance surface and has an operation width of 760 mm.	No	
1(3)	No boarding device other than a lift or ramp may be used.	4.2.2.12.3.1 para 1	Boarding aids shall comply with requirements as per the following table: Use of the boarding aid: Not accessible to wheelchair user; Both wheelchair & other user accessible; Only accessible to wheelchair user Boarding aid category: Moveable step/ other devices; Ramp/bridging plate/other devices; Lift/other devices General requirements acc. to: Category A; Category B; Category B	Noted	Noted					
1(4)	If a rail vehicle is fitted with a lift the following requirements must be complied with—									
1(6)	If a rail vehicle is fitted with a power operated ramp the following requirements must be complied with, in addition to those indicated in **sub-paragraph (6)**—									
1(5)(i)	the operator of the rail vehicle must provide assistance to a disabled person in a wheelchair wishing to use the ramp unless the gradient of the ramp above the horizontal plane is eight per cent or less.	4.2.2.12.3.6 para 3	An access ramp shall be either positioned manually by staff whether stored on the station platform or on board, or deployed semi-automatically by mechanical means, operated by staff or by the passenger.	Y	Y		Compliance achieved	The ramp will be positioned manually by traincrew as required to enable wheelchair passengers to board and alight.	No	
1(5)	If the boarding device is a ramp, the following requirements must be complied with—									
1(5)(a)	when in use it must be fixed securely to the rail vehicle;	4.2.2.12.3.6 para 7	When in use for boarding or alighting, the ramp shall be secured in use so that it is not subject to displacement when loading or unloading.	N	N		Compliance expected	The Portaramp 60 PRR will incorporate two location lugs that will interface with two holes in the vehicle footstep.	No	
1(5)(b)	it must be not less than 800 millimetres wide and not wider than the opening of the wheelchair-compatible doorway;	4.2.2.12.3.6 para 4	The ramp surface shall be slip resistant and shall have an effective clear width of a minimum of 760mm.	N	N	Ramp only 700mm wide	Compliance expected	The Portaramp RR1522.800 has a slip resistance surface and has an operation width of 760 mm.	No	
1(5)(c)	it must have along each side which is not to be crossed by the wheelchair a protective rim with a height of not less than 50 millimetres measured from the surface of the ramp to prevent a wheelchair rolling off;	4.2.2.12.3.6 para 5	Ramps shall have raised edges on both sides to prevent mobility aid wheels from slipping off.	Y	Y		Compliance achieved	The Portaramp 60 PRR has raised edges.	No	
1(5)(d)	the protective rims must be coloured on each side with the same colour as that of the strip of colour required under **paragraph (g)**;	N/A	No equivalent requirement.	Y	N/A		Compliance achieved		No	
1(5)(e)	it must be capable of supporting a weight of not less than 300 kilograms (excluding its own weight);	4.2.2.12.3.3 para 1 & 2	The device shall be capable of withstanding a concentrated downward vertical load of 2 kN this shall be applied on an surface area of 100 mm * 200 mm at any position on the exposed step surface without causing permanent deformation; The device shall be capable of withstanding on its exposed surface a distributed downward vertical load of 4 kN per metre of step length without causing significant permanent deformation.	Y	Y		Compliance achieved	The Portaramp 60 PRR has a safe working load of 300 kg.	No	
1(5)(f)	when in use its outer end must rest securely on the surface of the platform or stop;	4.2.2.12.3.6 para 7	When in use for boarding or alighting, the ramp shall be secured in use so that it is not subject to displacement when loading or unloading.	Y	Y		Compliance achieved	The Portaramp 60 PRR will incorporate two location lugs that will interface with two holes in	No	

RVAR 2010		PRM TSI		RVAR	PRM		DfT expectations of compliance by 1 Jan 2020	Proposed Modification	Dispensation Requirements	
Paragraph No.	Requirement(s)	Clause No.	Requirement(s)	Compliant	Compliant	Comments			Yes/No	Actions
1(5)(g)	It must be marked on its upper surface by a strip of colour which must— (i) abut all the edges of its surface; (ii) be not less than 50 millimetres wide; and (iii) contrast with the remainder of its surface;	4.2.2.12.3.6 para 6	The upstands at both ends of the ramp shall be bevelled and shall not be higher than 20mm. They shall have contrasting hazard warning bands.	Y	Y		Compliance achieved	The Portaramp RR1522.800 incorporates upstands at both ends that are of a contrasting colour.	No	
1(7)	A lift or ramp which is carried by a rail vehicle and which is not in use must be fixed securely to the vehicle so that it does not endanger the safety of persons in that vehicle.	4.2.2.12.3.6 para 10	A secure compartment shall be provided to ensure that stowed ramps, including portable ramps, do not impinge on a passenger's wheelchair or mobility aid or pose any hazard to passengers in the event of a sudden stop.	N	N	Ramp was stored in luggage rack	Compliance expected	The ramp is to be stored on the vehicle bodyside adjacent to the wheelchair accessible doorway.	No	
Catering										
2	If catering facilities are provided in a rail vehicle or on a train but there is no passageway for a reference wheelchair from a wheelchair space to those facilities, the operator of the vehicle or train must assist a disabled person in a wheelchair by providing a reasonably equivalent catering service to that person at that wheelchair space.	N/A	No equivalent requirement.	Noted	N/A			No fixed catering facilities provided. Some services may have a trolley service, which would comply with this regulation.	No	