

Appendix A - Class 317 PRM TSI Dispensation Matrix

Revision History

Rev	Section	Change	Date
Draft	All	First issue - initial dispensation request submission to DfT with compliance arguments.	2019-08-22
1.0	All	Minor adjustments to table. Picture catalogue references added.	2019-09-05
1.1	Table 4.2.2.4.2.1 para 7 & 8	Wording amended for clarity	2019-09-16

Introduction

Due to late delivery of new trains certain legacy fleets require to be operated for a far longer period than planned, including beyond the Dec 2019 PRM compliance deadline. For ARL this affects the West Anglia fleets with delays to 710 delivery, related to multiple unit functionality, meaning we will need to operate 315 and 317 fleets into 2020.

We anticipate undertaking an element of minor modifications (e.g. new signage, colour contrast stickers, etc.). Without a significant reduction in our service delivery to customers, there is no capacity or time to develop and deliver more significant modification work e.g. partition wall alterations, new door control systems, new wheelchair space installations, etc.

The 317 fleet represents the biggest area of work relating to achieving PRM compliance. The 317 units are listed in Appendix C.

London Overground (LO) services, operated by ARL, offer a metro style service with frequent stops and a very short end-to-end route journey time (maximum of 35 minutes). The 315s do not have toilets fitted and all toilets on 317s have been permanently decommissioned since introduction on LO routes. This is aligned with the 378s and 710s, which likewise do not have on-board toilets.

Supporting Evidence

Appendix B - Picture Catalogue

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Dispensation Requests

Items marked in green are engineering changes in progress to address non-compliances

Clause ID	Clause Text	Compliance Argument	Notes	Dispensation Request	CL317/7	CL317/8
Seats						
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.	Some compliance achieved already but more expected	317/*: ARL engineering change.	-	Existing handholds will be repositioned to be aisle-side.	Additional seat back handholds will be fitted (2 per 317/8).
4.2.2.2.1 para 2 (Figure 1)	Handholds or other items that can be used for personal stability shall be positioned at a height of between 800 and 1 200 mm above the floor, shall not protrude into the clearway and shall contrast with the seat.	317/7: The handholds do not protrude into the clearway and do contrast with the seat.	317/7: The top of the 1st Class seat handholds are 1,245 mm above the floor.	317/7: ARL would like to apply for a formal dispensation for the 45 mm deviation.	There is no option to lower the handhold and remain compliant with other clauses.	-
4.2.2.2.1 para 3 (Figure 2)	In seating areas with fixed longitudinal seats, handrails shall be used for personal stability. These handrails shall be at a maximum distance of 2 000 mm apart, shall be positioned at a height of between 800 mm and 1 200 mm above the floor and shall contrast with the vehicle interior surroundings.	317/8: There is a longitudinal handrail on the edge of the luggage rack in the 1 saloon area with longitudinal seats.	317/8: ARL engineering change, if required. The area with longitudinal seating does not contain any priority seats and is not a walkthrough area (stops at cab back wall). The total number of longitudinal seats in this area is 14 of the 277 total seats per 4-car unit).	317/8: ARL would like to apply for a formal dispensation for a distance greater than 2,000 mm deviation.	-	Seats could be removed to avoid dispensation.

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Priority seats						
4.2.2.4.3.1 paras 1-5		317/*: Priority seats will be designated to be compliant in accordance with the required proportion, signage and type.	317/8: ARL engineering change.	-	Priority seats will be re-designated and new signage added in accordance with requirements. Tables will be removed where necessary to meet dimensional requirements but minimal numbers: 317/7 PMS x 1 table per unit 317/7 DTS x 1 table per unit	
4.2.2.4.3.1 paras 6 (Figure 3)	Each priority seat and the space available to its user shall comply with the diagrams shown in the figures 1 to 4.	317/8 Seat cushion height is non-compliant at between 400-415mm.	-	317/8: ARL would like to apply for a formal dispensation for the 15-30 mm deviation.	-	There is no option to increase the seat cushion height without modification, comparable in impact to complete seat replacement.

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Wheelchair spaces																									
4.2.2.3 para 1	<p>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:</p> <table border="1"> <thead> <tr> <th>Train length</th> <th>Number of wheelchair spaces by train</th> </tr> </thead> <tbody> <tr> <td>Less than 205 metres</td> <td>2 wheelchair spaces</td> </tr> <tr> <td>205 to 300 metres</td> <td>3 wheelchair spaces</td> </tr> <tr> <td>More than 300 metres</td> <td>4 wheelchair spaces</td> </tr> </tbody> </table>	Train length	Number of wheelchair spaces by train	Less than 205 metres	2 wheelchair spaces	205 to 300 metres	3 wheelchair spaces	More than 300 metres	4 wheelchair spaces	<p>317/7: There is 1 wheelchair space per 4-car unit. 317/8: There are no wheelchair spaces per 4-car unit.</p>	<p>Class 317 units are diagrammed to operate as 8-car trains (2 x 4-car units). The approximate train length is 160 m, hence requirement is interpreted as 2 wheelchair spaces per train.</p>	<p>317/*: ARL would like to apply for a formal dispensation against this clause for deviation to 1 wheelchair space per train.</p>	<p>Operational controls will be introduced in the December 2019 timetable to require 317/8 units to only be operated with 317/7 units (multiple only), hence provide 1 wheelchair space per train. 317/7 and 317/8 units will not be operated in single, 4-car, formations.</p> <table border="1"> <thead> <tr> <th>Unit 1</th> <th>Unit 2</th> <th>Comment</th> </tr> </thead> <tbody> <tr> <td>317/7</td> <td>317/7</td> <td>2 spaces Compliant</td> </tr> <tr> <td>317/7</td> <td>317/8</td> <td>1 space Dispensation</td> </tr> <tr> <td>317/8</td> <td>317/8</td> <td>0 spaces Will not be operated</td> </tr> </tbody> </table> <p>Current ARL services: 315s 7 x 4-car & 10 x 8-car trains 317s 6 x 8-car trains 378s 53 trains 710s 6 trains Current worst case: 5 x 317 trains/82 train services = 6% operated under 1 wheelchair space dispensation. In the event that the number of PRM requests to travel exceeded the number of spaces available, ARL/RfL commit to provide a taxi as mitigation to cover the requirement.</p>	Unit 1	Unit 2	Comment	317/7	317/7	2 spaces Compliant	317/7	317/8	1 space Dispensation	317/8	317/8	0 spaces Will not be operated
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4.2.2.3 paras 12-15	Call for Aid CFA	317/7: The CFA pushbutton has been non-operational for an extended period to avoid misuse by non-PRM passengers. Work is continuing to confirm if viable to reinstate. 317/8: N/A (0 spaces)	317/8 has no CFA. Fleet Check underway: 2 units completed: 1 unit light but no sound, and 1 unit sound but no light. Potential arising issues with material availability, obsolescence issues, etc.	317/7: ARL would like to apply for formal dispensation against this clause in the event the CFA button cannot be reinstated. In this event ARL will provide a dedicated helpline number for PRM passengers. This would be complimentary to "turn up and go" policy and VIP MIP management combined in a single contact point solution.	Return 317/7 fleet to working condition, if technically possible.	-
Doors						
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	317/8: Some compliance achieved already but more expected	317/8: ARL Engineering change.	-	-	The door handles fitted to the end of the vehicles are of an old design that requires significant finger dexterity. These will be replaced in accordance with the 317/7 design. Other than vehicle end doors, all other internal doors to be permanently

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Clause ID	Clause Text	Compliance Argument	Notes	Dispensation Request	CL317/7	CL317/8
						decommissioned or removed.
4.2.2.4.1 para 2 (Figure 4 & 5)	Door controls, whether manual or pushbuttons, shall contrast with the surface on which they are mounted.	317/7: Dark grey buttons on stainless steel surround. 318/8: Black buttons on stainless steel surround.	(317/*: ARL Engineering change.)	317/*: ARL would like to apply for a formal dispensation against this clause for door control pushbuttons. (Linked to 4.2.2.4.2.2 para 1 & 2)	(ARL are investigating the fitment of stickers around the door control pushbuttons to improve contrast.)	
4.2.2.4.1 para 3	If pushbuttons or other remote control devices are provided for operation of doors then each pushbutton or device shall be operable by a force not greater than 15 Newtons.	-	(317/7: ARL Engineering change.)	317/*: ARL would like to apply for a formal dispensation against this clause for external doors see 4.2.2.4.2.2 para 2.	(All other pushbuttons (non-external doors) to be permanently decommissioned and doors removed. Plan to remove internal doors therefore removing internal door control. This would leave the external door pneumatic controls the only ones requiring greater than 15N of force to activate).	
Exterior doors						
4.2.2.4.2.1 para 6 (Figure 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.	317/7: Non-compliant	317/7: Floor covering is the same colour throughout the vehicles, except between the wheelchair space and adjacent vestibule. The floor covering is attached to the wooden subfloor with extremely strong contact adhesive.	317/7: ARL would like to apply for a formal dispensation against this clause.	Compliance would require new flooring in all vestibules. The time required to replace the flooring is limited (3-4 months before the PRM TSI deadline). This is a challenging timescale to procure and install suitable material, and a considerable burden on	-

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			Removal has additional risk of damage and remedial work (subfloor replacement is time consuming and complex).		limited maintenance downtime available. There are complementary accessibility improvements proposed by ARL to highlight the position of external doorways: Contrasting/wider threshold strip and yellow doorway strip.	
4.2.2.4.2.1 para 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.	317: Non-compliant	There are no external sound sources fitted. There is nothing within the door system that could enable the control or operation of this function due to the original design of the system.	317/*: ARL would like to apply for a formal dispensation against this clause.	Compliance would involve significant re-engineering of the vehicles e.g. development and fitment of new electronic door control units, sound sources, wiring, etc. The units have a short remaining service life after the PRM TSI deadline. This limits the opportunity to realise more than marginal improvements in accessibility and makes the modification prohibitive.	
4.2.2.4.2.1 para 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.	317: Non-compliant	There is nothing within the door system that could enable the control or operation of this function due to the original design of the system.	317/*: ARL would like to apply for a formal dispensation against this clause.		

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4.2.2.4.2.1 para 10	The sound source for door warnings shall be in the area local to the control device or, if there is no such control device, adjacent to the doorway	317: The hustle alarms are located adjacent to the doorway.	There is no sound source for door warnings related to the functionality of 4.2.2.4.2.1 para 7 & 8.	317/*: ARL would like to apply for a formal dispensation against this clause.		
4.2.2.4.2.1 last para (15) (Figure 6)	The centre of exterior door controls, operable from the platform, shall be not less than 800 mm and not more than 1 200 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 800 mm and not more than 1 200 mm measured vertically above the vehicle floor level.	External 'Open' pushbutton height is compliant.	Internal 'Close' button is 1255 mm above floor level, internal 'open' button is 1375 mm above floor level. (DfT noted that the height of the open button is most important therefore the open/closed positions should at least be reversed leaving a 55mm non-compliant gap which would be acceptable).	317/*: ARL would like to apply for a formal dispensation for the 175 mm deviation.	To change the door pushbutton position would require removal and replacement of all pushbutton backplates on the fleet (unable to reverse as engraved with "Open" and "Close". This modification would be intrusive, carries reliability risk, and would require considerable downtime to complete.	The units have a short remaining service life after the PRM TSI deadline. This limits the opportunity to realise more than marginal improvements in accessibility and makes the modification prohibitive.
4.2.2.4.2.2 para 1	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. 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.	Pushbutton operating force is in the range 25-52 N. Pushbuttons are not illuminated.		317/*: ARL would like to apply for a formal dispensation against this clause.	Compliance would involve significant re-engineering of the vehicles e.g. development and fitment of new door pushbuttons, wiring, etc.	The units have a short remaining service life after the PRM TSI deadline. This limits the opportunity to realise more than marginal improvements in accessibility and makes the modification prohibitive.
4.2.2.4.2.2 para 2	Such pushbuttons shall be identifiable by touch (for example:- tactile markings) and shall indicate the functionality.	317/8: Have tactile markings.	317/7: Do not have tactile markings.	317/7: ARL would like to apply for a formal		

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				dispensation against this clause.		
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.	-	317/*: Do not have step lights.	317/*: ARL would like to apply for a formal dispensation against this clause (equivalent to 315 and other fleets).	There is no practicable option to fit door step lights.	There are complementary accessibility improvements proposed by ARL to highlight the position of external doorways: Contrasting/wider threshold strip and yellow doorway strip.
Interior doors						
4.2.2.4.3.1 paras 1-8		Some compliance achieved but more expected	317/*: ARL Engineering change.		Other than vehicle end doors, all other internal doors to be permanently decommissioned or removed. For vehicle end doors see 4.2.2.4.1 para 1.	
4.2.2.4.3.2 para 1-3		Some compliance achieved but more expected	317/*: ARL Engineering change.		Other than vehicle end doors, all other internal doors to be permanently decommissioned or removed. For vehicle end doors see 4.2.2.4.1 para 1.	
Handrails						
4.2.2.10 para 4 (Figure 6)	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.	Doorway handrail height range is 550-910mm above floor level.	-	317/7: ARL would like to apply for a formal dispensation for the deviation.	Full compliance with 1200mm is not possible due to conflict with door controls.	