Consultation comments and responses

Document Title: Defective On-Train Equipment and Rule Book module TW5 Preparation and movement of trains: Defective or isolated vehicles and on-train equipment.

Document number: RIS-3437-TOM

Consultation closing date: 26 April 2022

1. Responders to consultation

No	Name	Company
1	Peter Halliwell	
2	Judith Walker	WM Trains
3	Mark Prescott	GWR
4	Paul Philpot	Greater Anglia
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7	Luke Davies	East Midlands Railway
8	Document Controller	GT Railway
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10	Ian Cuthbertson	LNER
11	Benjamin Rule	HS2

2. Summary of comments

Code	Description	Total
-	Consulted	
CE	Critical errors	
ED	Editorial errors	
TY	Typographical errors	
OB	Observations	
-	Total comments returned	

Classification codes for a way forward:

- DC – Document change
- NC – No change

3. Collated consultation comments and responses

No	Page	Clause	Comment	Suggestion	By	Way forward	Page	Clause	Response
1	Thank you for including me in this round of consultation. I respond as chair of the Scotland's Railway System Review Panel, a Network Rail role that I fulfil as an external consultant. In Scotland we have been exercised by the decisions by RUs to present non-Yellow Front End (non-YFE) trains on the network, their lack of consultation and cooperation in reaching the decisions they have. I note in the business case for change document that consideration of requirements in relation to defective headlights has been excluded "due to the lack of conclusive information available". I write to challenge this decision as I believe this project has turned a blind eye to a significant change in the interface between trains and people who rely on the visibility (and audibility) of trains to safely avoid being struck by them. The use of non-YFE trains is proliferating across the network since the initial disapplication of YFE on class 345 units operating Crossrail services on lines with no user worked crossings (UWCs). The latest example I have seen is class 231 units being introduced by TfW. I note GMRT2131 is subject to review and update. Notwithstanding any changes to the requirements therein achieving sufficient visibility in the absence of a YFE depends upon presenting LOC & PAS NTSN compliant headlights and marker lights. Consequently non-YFE trains which are unable to display LOC & PAS NTSN compliant headlights and marker lights are accepted as less visible than those with them. RIS-3437-TOM gives no regard to whether a train has a YFE or not in the mitigations to be employed arising from reduced visibility owing to defective headlights and marker lights. The only mitigation imposed is a reduction of speed to 75mph. Given that the dependent use on UWCs will be predominantly on lines with permissible speeds of 75mph or less this effectively negates the GMRT2131 requirement in those circumstances. Therefore RIS-3437-TOM and GMRT2131 are incompatible in achieving visibility for those at risk where trains are non-YFE. I suggest RIS-3437-TOM should differentiate between the mitigations needed for YFE and non-YFE trains with additional mitigations required to be identified by RUs and consulted with the IM on a line by line basis as part of contingency plans associated with operating non-YFE trains with defective headlights and marker lights. This could include, for example, further reductions in speed or additional use of the horn. The need to consider this could then assist RUs in their livery decisions and their choice to present less visible trains to those at risk. I shall be grateful if you will consider and respond on my points as part of this consultation.				1	NC			The 'Headlights' section was de-scoped from the current project on the basis that a new proposal for change would be submitted to continue the revision of defective on-train equipment sections that were proving lengthier to finalise. The paper submitted to the Traffic and Operation Management Standards Committee contained details of the issues encountered. These included differences between the OPE and LOC & PAS NTSNs and current rules and specifications affecting marker lights and headlights' function, and luminosity specifications and sighting requirements of headlamps and portable headlamps. The de-scoping of the section was approved at the meeting that took place on 9th July 2021. Record of decision: TOM/09072021/12.4. A new project to incorporate the 'Headlights' section, among other topics, is already undergoing the set-up process and is estimated to be presented to committee for approval for work to proceed in the coming months. In addition, a new project to incorporate the outcomes of the 60-month review of GMRT2131 Audibility and visibility of trains is currently being scoped; its findings will feed into the amendments to the 'Headlights' section.
2	40	4.18.1 & 1.18.4	Say the same thing?		2	NC			4.18.1 is the requirement for a defective OTDR and G 4.18.4 is the associated guidance, which gives extra background or information to the requirement.

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3		1.3.2	Is the intention of the RIS that the operator of a train that may be formed of a different type of stock than booked, needs to ask permission from Network Rail before it departs the origin location? I can understand if a train is running with a defect that may mean it cannot proceed at its normal speed, but in the example of a stock substitution (eg a 75-mph class 150 operating on the Devon metro vice a 90-mph 158 or 165/166), do we really need to speak to Network Rail for each journey made? In such circumstances where the line speed is low enough for this not to have an effect, or where the characteristics of the train means that any delays are negated (in the example above of a 150 running vice a 158, often the 150 will make up time at stations stops due to its quicker door operation), I don't see this being an issue. I've looked at GOGN3615, and my interpretation is that so long as the train is allocated correctly such that the infrastructure operator can see this information (on Trust/Integrale for example), then the train operator has done what is necessary?		3	DC		1.3.2	The clause has now been redrafted in order to improve clarity (see comment 4). In terms of clarification of the query – when stock substitution takes place, although the requirement is for the infrastructure to be informed, the agreement, in practice, may happen at the beginning of the train's workings and remain in place for the rest of the day.
4		1.3.2	The way the current paragraph is written after 'all vehicles in a train must be fit to run…' is not easy for me to interpret, I think it is trying to say (see suggestion)	A train with a speed restriction (whether that be applied to the full unit or a vehicle within the unit) cannot be swapped to another train with a known fault without NR authorisation.	4	DC		1.3.2	Although the only amendment implemented to clause 1.3.2 was the change to terminology – from TSI to NTSN, it is noted that clause 1.3.2 in issue 2 was open to misinterpretation. The text has now been amended. As background clause 1.2.1 already talks about the duty of cooperation between the RU and the IM, clause 1.3.2 has been changed to the below: "The OPE NTSN requires the infrastructure manager and railway undertaking to have processes in place to immediately inform each other of any situation that will impede the normal running of a train. See GOGN3615 'Rail Industry Guidance Note for the Operation and Traffic Management Technical Specification for Interoperability'."
5		4.2.9.7	Another clause that I think is overly complicated I propose this could be simplified significantly to aid readability, something like:	AWS and TPWS rely on Driver alertness to be effective, requiring positive acknowledgement to specific in cab events. If these systems are to provide the expected safety benefits, then an assurance of Driver consciousness is required. Therefore, if DSD equipment is defective or isolated then the restrictions in Table 2 shall be applied, unless a competent person is available.	4	DC		G 4.9.2.7	It is assumed the clause referred to in the comment is 4.9.2.7. Clause amended: "AWS and TPWS are passive systems and will only intervene if the driver fails to acknowledge associated in-cab warnings or fails to control the speed of the train within set parameters. For these systems to provide the expected safety benefits, an assurance of driver consciousness is required. Therefore, in the absence of a competent person, any train movement with the DSD or vigilance device equipment defective or isolated is to be restricted as set out in Table 2."

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6		4.18.1	Propose changing "...without an operative OTDR that records the activity in the leading cab..." This is to be clearer that it is the activity within that cab that you are recording, as distinct from where the data itself is held. (I.e the physical recorder may not be located in the leading cab.)	to "...without an operative OTDR that records the activity of the leading cab..."	4	DC		4.18.1	RIS-3437-TOM issue 3 clause 4.18.1 amended to incorporate the suggestion. GERT8000-TW5 clause 17.1 also changed to align.
7		G.5.4.8	Why not combine the requirement with the note?	e.g. "If a fire suppression system is fitted to conventionally-powered rolling stock and this becomes defective during a journey, as long as there is a fully operational fire detection system, the train may continue its journey for the rest of the day. It is good practice for its final journey to be to a maintenance depot."	4	NC			The current clause is more specific than the suggestion, since “conventionally-powered rolling stock” may need explanation. No change deemed necessary.
8		Part 4	n/a	No references to Indusi magnetic track brakes as fitted to the Tyne and Wear Metro Car class 599 Fleet - Runs on Network Rail infrastructure from Pelaw to South Hylton. This equipment is the main protection against SPADs in a similar way as AWS/TPWS.	5	NC			Where the systems are not standard or applicable to a wide range, the railway undertaking should compile their own contingency plans in order to continue to safely operate in case of a defect.
9	24	4.7	The move to using evacuation time as the basis for determining if a vehicle or vehicles can remain in use with a door or doors locked out of use is noted; however this is likely to result in a blanket outcome that any vehicle with a defective door/s will be placed out of use as the evacuation times quoted and the methodologies set out in RIS-2730-RST would not achieve a successful evacuation within the timescales specified.	Retain the existing guidance on defective bodyside doors, as an alternative where such vehicles conform to the ‘normal’ arrangement of body-end or mid-body doors.	6	NC			The current requirements in issue 2 were based on the content of GMRT2130 issue 4, which contained restrictions for the maximum distances from a door a passenger seat should be located. These measurements apply to vehicle design. Having a seat located the required metres away from a door does not guarantee a passenger will be able to safely evacuate the train in an emergency and, as such, the railway undertaking requires to have their own contingency plans that would take other elements into account (like, for example, passenger loadings). The 90-seconds evacuation time would be applicable to non-LOC & PAS NTSN compliant vehicles, and this measure was already mentioned in RIS-3437-TOM issue 2. It is the standard time that a vehicle would require to be evacuated in normal loading conditions. Where this is not the case (degraded mode), a contingency plan needs to be put in place to provide alternative solutions to safely evacuate that vehicle. GMRT2130 issue 4 was superseded in 2020 by RIS-2730-RST Issue 1 and GMRT2130 Issue 5, and the design measurements were no longer present due to the different types of train configurations now present (some without internal doors) and the update of some European standards. RIS-3437-TOM issue 3 now includes the 90-seconds requirement already in issue 2, and, in addition, a 180-second requirement for LOC & PAS NTSN compliant trains (due to the fact that these trains have a wider range of fire retardant and protection systems, and there will be extra time for passengers to evacuate in case of a fire on board). The measures in the proposed RIS-3437-TOM issue 3 work in parallel with those in RIS-2730-RST, and assist railway undertakings in producing their own contingency plans.

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10	40	4.18	See comments responded for GERT8000-TW5		6	NC			See response for TW5.
11	51	4.29	See comments responded for GERT8000-TW5		6	DC			See response for TW5. Consequent changes implemented to RIS-3437-TOM: 4.29.1.1 now includes “suspected” in order to eliminate the possible misinterpretation that a check is always required pre-departure. G 4.29.1.4 Extra guidance indicating relevant standard now added.
12	24	G 4.7.1.2	“The 90-second evacuation time was validated in trials as the time necessary to evacuate a vehicle with normal passenger loading conditions.”	Further guidance required: In the event that passenger loading is / or is expected to exceed ‘normal passenger loading conditions’.	7	NC			See response to comment 9. The mentioned timings are relevant to trains with normal conditions, when this is not the case, RIS-3437-TOM issue 2 provides guidance to railway undertakings in order for them to compile their own contingency plans in order to be able to safely evacuate the vehicle in case of emergency. The clauses included in the guidance provide information on the factors railway undertaking should consider in their DOTE, including alternative loadings and location of the defects. The actual provisions to be made will need to form part of the railway undertaking’s own contingency plans, due to the different types of train configurations.
13	24	G4.7.1.9	GERT8000 Rule Book Module TW1 clause 17 (Locking of Doors on Passenger Trains) states: *“A door leading to any accommodation or vehicle which is not for public use,* ***unless your train operating company instructions allow another means of preventing public access.”*** The text in bold was a change advocated by EMR recognising that its new Class 810 BMUs (along with many new trains to the network do not have gangway doors such as Class 700s, Class 195, Class 331) do not have gangway doors but EMR has an alternate plan to place temporary barriers in situ if there is a need to prevent access to a vestibule from the adjacent vehicle (there is a saloon/vestibule door in the affected vehicle which can be locked closed).. The draft text in this guidance implies that such arrangement would only be suitable in very limited circumstances whereas EMR expects to operate a service for longer than the examples set out in the guidance (ie the equivalent if there was a gangway door to lock closed). It is recognised that control measures such as just announcements would only be appropriate for the examples given.	Add text to first sentence: “If it is possible to remove passengers from the affected part of the train but not to secure internal doors or partitions ***or place an alternate physical means,*** to prevent passengers re-entering the area….”	7	DC		G 4.7.1.9	Clause amended. “If it is possible to remove passengers from the affected part of the train but not to secure internal doors or partitions, or place an alternative physical means to prevent passengers re-entering the area, the railway undertaking determines if the train can continue in passenger service subject to additional control measures.”

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14	37	4.14.1.2	*Headlight failure* TSI/NTSN-compliant rolling stock must be fitted and display both headlights. In the event of the failure of one of these headlights ("a failed headlight"), the clause as drafted requires a portable headlight and speed restricted to 75mph. On such rolling stock, the luminosity of the headlight still displaying will exceed that of the portable headlight. Therefore, should this clause only refer to where no headlight is displayed on the front of a train (where required)? Similarly, the following clause 4.13.1.3 to be amended for the same reason? This is now a similar concept to that for tail lamps where two are provided on some rolling stock.		7	NC			Out of scope. This section has not been amended and will be part of the next project that will follow after the publication of the current changes.
15	39	4.16.1	*In-cab external door monitors – entering service from a maintenance depot* The clause as drafted does not allow a train to start from a maintenance depot if the in-cab external door monitors are faulty for "any cab that is required to be used". It does not reflect whether the in-cab external door monitors are intended to be used in operation – rolling stock may be fitted with such equipment but it is not used in operation by a particular TOC…though the Rationale in G 4.16.3 does reflect this so suggest the two clauses are aligned.	Suggest reword sentence: *"A train shall not start a journey from a maintenance depot if an in-cab external door monitor* ***where the normal method of train dispatch requires their use*** *cannot display an image, or the image is not sufficiently distinct, in any cab that is required to be used."*	7	NC			Out of scope. This section has not been amended and therefore not within the scope of the consultation. However, a follow-up project is already planned. RSSB will consider this comment during the definition phase.
16	41	4.20.1.1.a	*Sanding equipment to assist train braking* This sub-clause refers to "*the sanding equipment in any vehicle that will be a leading vehicle during the journey is defective".* The new EMR Class 810 BMU is fitted with sanding equipment but this is located on the first bogie of the second vehicle (axle 5) so the clause as drafted could be interpreted as not being covered, which we are sure is not the intention (the term "leading vehicle" is used in TW5 clause 5 Brake defects to describe the first vehicle in the formation). This same comment is made in the feedback on GERT8000 TW5 clause 19.1 and 19.2.	RSSB to redraft to take account of vehicles fitted with sanders that are not vehicle one in direction of travel Possible suggested words to add: *"…in any vehicle that will be a leading vehicle or vehicle towards the leading part of the train formation during the journey is defective"*	7	DC		4.20.1.1 G 4.20.1.3 G 4.20.1.7 4.20.2.1 G 4.20.2.7	Relevant clauses have been amended to include new wording "any sanding equipment that will be the leading installed set". In addition, extra associated guidance to the location of the leading set has been included, along with reference to an extra RIS with supplementary information on low adhesion (RIS-8040-TOM).

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17	57	G 5.4.8	EMR does not support this clause as drafted. The new Class 810 BMU is fitted with four diesel engines. It was originally proposed by the manufacturer to have a “one shot” fire suppression system covering all four engines, in that in the event of system deployment (including a false activation), there would no longer be fire suppression for the remaining engines if they were required to remain running. This would be a necessity (unless the defective unit was hauled) for the train to return to the Maintenance depot in Derby to rectify the fault that caused the fire suppression activation. EMR undertook a quantified risk assessment and concluded that this was not tolerable. This QRA considered both the risk to the train itself, but also System risk including that of passengers undertaking uncontrolled evacuation that could occur if an engine fire developed without any suppression. The design is now being subsequently altered to move away from this single shot system. EMR propose that this clause is aligned with that of loss Fire Detection systems providing options if the risk can be reduced		7	DC		G 5.4.8	Clause amended: “If a fire suppression system is fitted and becomes defective when starting a journey from other than a maintenance depot or during a journey, as long as there is a fully operational fire detection system and the fire hazard can be reduced, the train can continue its journeys for the rest of the day. The railway undertaking’s risk assessment informs the DOTE contingency plan by considering the system risk and identifies if the train can continue in service subject to additional control measures. It is good practice for its final journey to be to a maintenance depot.”
18	24	4.7.1	The timings for some legacy stock may not be available, however they meet the criteria for the current rule. Therefore can reference to current arrangements be included where this may not be provided and will take significant time, cost and resource to arrange?		8	NC			See response to comment 9. The existing arrangements of metres away from a door and 90-seconds were already present in RIS-3437-TOM issue 2. The metres away from a door requirement was a design requirement that no longer applies due to the different types of vehicle configurations. However, a train that was designed and certified to the previous specifications (before June 2020 – GMRT2130 issue 4) can be considered to already comply with the 90-seconds, unless a deviation is already in place.
19		4.9.2.1	Why is the control of running at a reduced speed within 4.9.2.2 not applicable, as it may be required to start a journey to move it to a maintenance depot.	Ensure clauses are consistent with the operational response options	8	NC			Clarification. Section 4.9.2.1 defines the conditions that allow a train with defective or isolated DSD or vigilance to start a journey from other than a maintenance depot or continue its journey at the normal permissible speed. Therefore, only two conditions allow this requirement to be satisfied, as defined in 4.9.2.1 a) and b). Section 4.9.2.2 discusses the scenario where 4.9.2.1 a) is not satisfied, therefore the defect relates to the leading cab and the train is to convey passengers. In this situation, a competent person must be provided, or the train speed reduced as set out in table 2. 4.9.2.3 relates to the situations where a competent person cannot be provided and requires onward movement to be restricted in terms of speed. The rationale provides further explanation about the hierarchy of controls and their application.

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20		8.4	*Defective DSD – It's too late for this consultation but do we (as in, the industry) need to consider the possible benefits of ETCS with an FS mode profile and running normal speed with the defect? If so, escalate up through Future Rules/RSSB/TOM-SC etc? I'll check with TfW on their local instructions for the Cambrian.*		8	NC			This comment will be raised at the ERTMS Future Rules Review Group for them to consider. If deemed necessary, we will include it in the follow-up project that will be created after publication of the current issue.
21	*briefing note*		*briefing note it says –* *• Fire detection and fire suppression systems – adding further guidance in case of a defective suppression system, when present.* *But I cannot find any reference to 'fire' or 'suppression' in GERT8000-TW5* *Rule Book Module Preparation and movement of trains: Defective or isolated vehicles and on-train equipment* *Issue 11, 09-2022.*		8	NC			The briefing note is only applicable to RIS-3437-TOM issue 3. Fire suppression systems are not a requirement, nor are they systems yet in wide use, so a correspondent section in the Rule Book is currently not available. Principle 1.3.3.
22	30	4.9.2.3	The interface at Ashford, Kent, would be an anomaly. The speed through the Up/Down CTRL Chord is 100km/h or 60mph. (The conversion is 96.56km/h). Speed of 95km/h is in conflict with NRHS rulebook (TW5 B5.2.3 b) of 100km/h.	Round up conversion to 100km/h to maintain standardisation	9	NC			GERT8000-AM ERTMS issue 1, published by RSSB in 2009, contained the relevant tables for speed conversions. Although this document was withdrawn in 2013, these tables remain the point of reference for RSSB. In this document: Table A contained values to convert from mph to km/h. In this table, 60 mph = 95 km/h. Table B contained values to convert from km/h to mph. In this table, 95 km/h and 100 km/h = 60 mph. The conversions used in TW5 and RIS-3437-TOM would have used Table A. However, although the values are deemed correct at this time, RSSB will note the comment and we will take this up internally.
23		4.15.2	*Comment received when presented at TOM SC 31/05/22 and followed up via email:* If we have a train that leaves Inverness in the morning and immediately develops a fault with the internal hot axle box detector it is permissible after checks and isolations etc to leave this train in service until it arrives into London Kings Cross over 8 hours and many hundreds of miles later with no additional checks, the train could run the entire length of the route effectively with no monitoring of the axles on the vehicle with the system isolated.	Can the guidance in RIS section 4.15.2 be expanded upon to include wording highlighting the lack of monitoring for the vehicles with inboard bearings and the potential need for additional checks depending on the length of the journey being undertaken?	10	DC		G 4.15.2.3	Clause amended: "If a hot axle box detection is deemed to be false upon investigation, the DOTE contingency plan may incorporate instructions to isolate the system if the type of vehicle allows it. When this is the case, it is good practice for the railway undertaking to consider the length of the remaining journey when allowing the train to continue in this condition."

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24		4.7	*Comment received when presented at TOM SC 31/05/22 and followed up via email:* Has the scenario been considered of doors being locked out of use on a vehicle which has become derailed and is no longer upright and the impact this could have on the 90 to 180 second evacuation time? The specified evacuation times do not envisage such emergency situations, when other design features may assist in evacuation. There may be a need to include additional guidance based on the timings included in the LOC and PAS NTSN, which might require Individual Railway Undertakings (RUs) to consider additional precautions as part of their own contingency plans.		11	DC		G 4.7.1.4	All the information that will be of use to the railway undertaking to compile their DOTE contingency plans can be found in RIS-2730-RST, section 2.10. This RIS is already signposted in the proposed section in RIS-3437-TOM issue 3, and it is protocol not to duplicate text. With this in mind, the content of the existing clause has been amended to better emphasize the point. Clause amended: "RIS-2730-RST contains guidance on how to determine the evacuation times and considerations for the development of the DOTE contingency plan. It incorporates measures for the railway undertaking to consider when compiling the risk assessment to identify the hazards that will influence the ability of passengers to evacuate a vehicle in emergency conditions."