

23-902 National Operations Publications Amendments September Publication 2023

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Purpose:	Approval to publish		
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Sponsor:	Tom Lee, Director of Standards		
Lead industry committee:	Traffic Operation and Management Standards Committee (TOM SC)	Date:	27 June 2023
Supporting industry committee:	Control, Command and Signalling Standards Committee (CCS SC)	Date:	29 June 2023
Supporting industry committee:	Plant Standards Committee (PLT SC)	Date:	06 July 2023
Supporting industry committee:	Rolling Stock Standards Committee (RST SC)	Date:	13 July 2023

Decision

TOM SC is asked to:

- **COMMENT** on the proposed responses to comments received during consultation.
- **APPROVE** with or without modification the proposed responses to comments received during consultation.
- **DECIDE** if the proposed revisions of the Rule Book modules and handbooks deliver their intentions.
- **APPROVE** the proposed revisions of the Rule Book modules and handbooks for authorisation to publish.
- **APPROVE** the proposed withdrawal of GERT8000-HB20 issue five.
- **APPROVE** the proposed withdrawal of GERT8000-HB21 issue six.

CCS SC, PLT SC and RST SC are asked to:

- **COMMENT** on the proposed responses to comments received during consultation.
- **SUPPORT** with or without modification the proposed responses to comments received during consultation.
- **DECIDE** if the proposed revisions of the Rule Book modules and handbooks deliver their intentions.
- **SUPPORT** the proposed revisions of the Rule Book modules and handbooks for authorisation to publish.

- **SUPPORT** the proposed withdrawal of GERT8000-HB20 issue five.
- **SUPPORT** the proposed withdrawal of GERT8000-HB21 issue six.

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This business case for change has been developed to support standards committees in taking decisions related to changes to standards, it includes an assessment of the predicted impacts arising from the change.

Proposed documents

Number	Title	Issue
Form NR3189	Signal Passed at Danger (SPAD) or Train Trip or Unauthorised Movement <i>(The revised version is not available at this stage)</i>	2
Form RT3185	Reporting a signal / AWS / TPWS / ATP / TVM failure or irregularity <i>(The revised version is not available at this stage)</i>	12-23
Form RT3188	Activation of TPWS other than a signal passed at danger (SPAD) <i>(The revised version is not available at this stage)</i>	12-23
Form RT3973NUC	Advice to Train Crews - Conveyance of Radioactive Flask <i>(The revised version is not available at this stage)</i>	2
GERT8000-Gloss	Glossary of Railway Terminology	7
GERT8000-HB10	Duties of the COSS and person in charge when using a hand trolley	5
GERT8000-HB13	Duties of the person in charge of the siding possession (PICOS)	4
GERT8000-HB19	Work on signalling equipment – duties of the signalling technician	5
GERT8000-OTM	Working of on-track machines (OTM)	11
GERT8000-S5	Passing a signal at danger or an end of authority (EoA) without a movement authority (MA)	11
GERT8000-S7	Observing and obeying signalling indications. Train warning systems. Reporting signalling failures and irregularities	6
GERT8000-SS1	Station duties and train dispatch	9
GERT8000-SS2	Shunting	6
GERT8000-TS1	General signalling regulations	17
GERT8000-TS11	Failure of, or work on, signalling equipment - signallers' regulations	6
GERT8000-TS2	Track circuit block regulations	6
GERT8000-TW1	Preparation and movement of trains	19
GERT8000-TW4	Preparation and working of freight trains	2

Superseded documents

Number	Title	Issue
Form NR3189	Signal Passed at Danger (SPAD) or Train Trip or Unauthorised Movement	1
Form RT3185	Reporting a signal / AWS / TPWS / ATP / TVM failure or irregularity	12-15
Form RT3188	Activation of TPWS other than a signal passed at danger (SPAD)	02-05
Form RT3973NUC	Advice to Train Crews - Conveyance of Radioactive Flask	1
GERT8000-Gloss	Glossary of Railway Terminology	6
GERT8000-HB10	Duties of the COSS or SWL, and person in charge when using a hand trolley	4.1
GERT8000-HB13	Duties of the person in charge of the siding possession (PICOS)	3
GERT8000-HB19	Work on signalling equipment – duties of the signalling technician	4.1
GERT8000-OTM	Working of on-track machines (OTM)	10
GERT8000-S5	Passing a signal at danger or an end of authority (EoA) without a movement authority (MA)	10
GERT8000-S7	Observing and obeying signalling indications. Train warning systems. Reporting signalling failures and irregularities	5
GERT8000-SS1	Station duties and train dispatch	8
GERT8000-SS2	Shunting	5.2
GERT8000-TS1	General signalling regulations	16
GERT8000-TS11	Failure of, or work on, signalling equipment - signallers' regulations	5.1
GERT8000-TS2	Track circuit block regulations	5.1
GERT8000-TW1	Preparation and movement of trains	18.1
GERT8000-TW4	Preparation and working of freight trains	1.1

Documents for withdrawal

Number	Title	Issue
GERT8000-HB20	General duties of a safe work leader (SWL) working outside a possession	5
GERT8000-HB21	Safe work leader (SWL) blocking a line	6

Summary

Background and change

A number of Rule Book modules were the subject of a 12 or 60-month review for continued fitness for purpose, from which the recommendations to progress a number of changes were approved by the Traffic Operation and Management Standards Committee (TOM SC).

Other improvements to the wording of the Rule Book have been identified from Requests for Help (RfHs), enquiries received by the Rail Safety and Standards Board (RSSB), the granting of deviations and various stakeholder comments.

By progressing changes from these various sources, it is expected that understanding and application of the content of the Rule Book will be improved, and that duty-holders will have opportunities to operate more efficiently.

Certain changes previously only published in the Periodical Operating Notice and limited change releases have been included in the reissued documents.

Industry impact due to changes

Impact areas	Scale of impact	Estimated value £
A. Legal compliance and assurance	Low	35,000
B. Health, safety and security	Low	30,000
C. Reliability and operational performance	Low	64,000
D. Design and maintenance	N/A	
E. People, process and systems	(Medium)	(150,000)
F. Environment and sustainability	N/A	
G. Customer experience and industry reputation	N/A	
Total value of industry opportunity =		(21,000) over five years
The standards change contribution to the total value of industry opportunity		
<input type="checkbox"/> None or low	<input type="checkbox"/> Minor but useful	<input type="checkbox"/> Moderate
	<input checked="" type="checkbox"/> Important / essential	<input type="checkbox"/> Urgent / critical

Detail

1. What are the objectives associated with this change?

Objective 1 – To give effect to the outcome of the 12-month reviews of modules GERT8000-M3, GERT8000-TW4 and GERT8000-OTM

- 1.1 The recommendation from the 12-month review of these three documents, approved by TOM SC, was to take forward the following as part of a miscellaneous rules change project:

a) **Module M3**

Introduction of a new section concerning the possibility of ice ‘stalactites’ forming in tunnels during freezing weather.

b) **Module OTM**

Review the continued requirement for section 3.1 in view of the virtual disappearance of on-track machines that cannot be relied upon to operate track circuits and the possibility that the specific reporting numbers are no longer applied.

c) **Module TW4**

In section 9.8 include UN numbers 2908 to 2911 in the list of those not requiring warning placards.

A subsequent question has been raised whether the removal of the previous instruction concerning the carriage of dangerous goods in a wagon with an isolated brake was made sufficiently clear.

Since finalising the content of the review, difficulties have been encountered in the movement of empty coaching stock to which conditions of travel are imposed which can only be applied by signallers. The train should correctly be allocated a train identity of 3X-- or 5X-- dealt with as shown in GERT8000-TS1 regulation 15. Section 6.5 of GERT8000-TW4 does not permit the operation of ECS trains under these conditions.

As a related change, the adequacy of the instructions in GERT8000-TS1 regulation 15.6 concerning trains subject to route restrictions has been questioned and enhancements suggested.

Objective 2 – Form RT3973NUC (22-REQ-010)

- 1.2 The form still refers to the withdrawn Working Manual for Rail Staff (Pink Pages) rather than to module TW4. The continued need has also been questioned for inclusion of a list of signal box telephone numbers now that GSM-R radio has become the primary means of train to signaller communication.

Objective 3 - Actions following an ERTMS trip GERT8000-S5 and GERT8000-S7, Forms RT3185, RT3188, NR3189 (22-REQ-020)

- 1.3 The Future Rules Working Group (FRWG) has identified that module S5, which so far as ERTMS is concerned relates to passing an end of authority (EoA) without a movement

authority (MA), includes in section 9.3 a reference to a trip that has not been caused by exceeding the limit of the MA. FRWG considered that this may tend to result in any trip being assumed to have been caused by an exceedance and require an investigation, even when it is found that this was not the cause. A Request for Help (RfH) was therefore submitted to transfer all reference to ERTMS trips to GERT8000-S7.

1.4 The RfH also proposed changes to associated forms:

- RT3185 to align to ERTMS failure
- RT3188 (incorrectly referred to as NR3188) to include ERTMS trips not caused by EoA exceedances
- NR3189 to include ERTMS trips caused by EoA exceedances

1.5 Reformatting of all three forms to make them more user friendly was also proposed.

Objective 4 – Protection for a possession of part of a siding GERT8000-HB13 and GERT8000-TS1 (22-REQ-034)

1.6 This RfH proposed an alternative to the requirement to use a sleeper chained to the rails as part of the protection when a possession is taken of only part of a siding. It was suggested that this method of protection is no longer necessary or suitable in view of the cessation of loose shunting, as well as manual handling issues and difficulties in sourcing a sleeper. Alternatives which would not increase the risk to track staff were suggested as including use of a possession limit board (PLB) alone, detonator protection as the line has been made unsafe, or the use of 'Not to be Moved' boards on wagons within the siding concerned.

Objective 5 – Addition of instructions for ERTMS lines GERT8000-TW1 (22-REQ-035)

1.7 This RfH originating from FRWG proposes the inclusion in section 29 of reference to the responsibilities of the driver and conductor driver when working over an ERTMS line, the omission of which has not been an issue in existing ERTMS schemes but is likely to be a more common occurrence with future projects.

1.8 The RfH also proposed the inclusion in section 39.1 of rules or guidance concerning the use of GSM-R radio whilst the train is moving on an ERTMS line, corresponding to the current content applying to a conventionally-signalled route.

Objective 6 – Restrictions on using manual sanding apparatus GERT8000-TW1 (22-REQ-039)

1.9 For trains fitted with manual sanding devices, the Operation and Traffic Management National Technical Specification Notice (OPE NTSN) requires drivers to avoid, wherever possible, applying sand:

- in areas of points and crossings,
- during braking at speeds less than 12mph (20kph), and
- when at a standstill.

- 1.10 The objective is to prevent a build-up of sand either resulting in the points failing to operate correctly, or of a loss of train detection indications. Any instructions concerning compliance with this requirement would require to be developed individually by train operators, and the request proposes the introduction of a new requirement in module TW1.

Objective 7 – The role of the signaller when using automated route-setting signalling systems GERT8000-TS2 (22-REQ-046)

- 1.11 Track circuit block regulation 3.3 provides the instructions for signallers to manage permissive movements with clear instructions that relate to manual lever frame, VDU systems and/or NX panel signalling locations. The instructions do not take into account the requirements at locations supplied with automatic route setting (ARS) or automated route setting signalling systems. The RfH proposed that the role of the signaller at these locations needs to be included within the Rule Book with new wording developed that takes into account the different role of a signaller in these circumstances. It was suggested that it would be useful to review this example and other elements within the Rule Book to take into account the differences between automated and non-automated systems.

Objective 8 – Signalling work during a possession when the person concerned is not within a work site GERT8000-T3 and GERT8000-TS11 (22-REQ-047)

- 1.12 Network Rail Operations and Principles Standards have a recommendation to approach the RSSB to review the requirements of Rule Book Module T3 and all associated documents (handbooks) to include consideration to (emergency signalling) work activities that affect or could affect the possession area where the person in charge of it is not within a work site. The recommendation came from an inquiry into an incident following the derailment of a freight train at Sheffield. Signal testing work was in progress which had an effect on the normal operation of signalling equipment within the limits of the possession. Neither the person in charge of the possession (PICOP) nor the engineering supervisor (ES) was aware, as there was no technician presence on the ground and no mention of the affected signalling equipment was made when the possession was given up.

Objective 9 – Inclusion of a definition of the term ‘additional protection’ in GERT8000-Gloss (22-REQ-048)

- 1.13 The RfH refers to the use of the term ‘additional protection’ for a line blockage but without an associated entry in the Glossary of railway terminology. As a result, there is a lack of clarity whether a form of protection must be applied by someone other than that who applied the ‘primary’ protection, or a second level of control applied by the same person is also acceptable. The RfH states that providing a definition for additional protection within the Glossary would enable better use of the protection methods available and also improve the ability to introduce new types of additional protection that meet the overall concept.

- 1.14 A related comment has been made that in the interests of completeness the explanations of the purposes of various types of additional protection that have been included in GERT8000-TS1 regulation 13.2.4 from December 2022 should include the use of a staff or token.

Objective 10 – Provision of lights on vehicles stabled on buffer stops GERT8000-SS2 (22-REQ-051)

- 1.15 A number of questions have been raised concerning the requirements in sections 9.3 and 9.4 of this module. Section 9.3 requires a red light on the rear of vehicles or traction units left on running lines on completion of shunting, and section 9.4 a light of the same colour as that on the buffer stops when vehicles are stabled on the line concerned. Both sections have been considered by analogy to apply to train movements, and both are presented as absolute requirements.
- 1.16 The RfH proposes a review which would consider the applicability to train movements, the extent of visibility including ambient lighting and the contribution of headlights, and the practicality of providing a light that will remain lit for an indefinite period.

Objective 11 – Signal visibility affected by trees, foliage or other obstructions GERT8000-S7 (22-REQ-052)

- 1.17 The RfH states that section 7.1 of this module does not give clear instruction as to how a signaller will deal with subsequent trains following a report of a signal that is obscured by trees, foliage or other obstructions. An opportunity therefore exists to update this module and to include scenarios of actions to be taken depending on what a driver actually sees and reports, which takes into consideration the risks posed by obscured signals. This would allow the signaller to safely deal with subsequent trains based upon what has actually been reported.

Objective 12- Removal of the safe work leader competency GERT8000-HB20, and GERT8000-HB21

- 1.18 The competency of safe work leader (SWL) was removed in September 2022. As a result, any references to the role within the Rule Book have become obsolete, but in the absence of any person holding the relevant competency, there is no possibility of any attempt to exercise the role. TOM SC therefore agreed that the Rule Book should be progressively updated to remove the obsolete references when there was an opportunity to do so. A planned reissue of GERT8000-HB21 in September 2022 did not take place, as there would be no requirement to supply the reissued version. It is now proposed to withdraw GERT8000-HB20 and GERT8000-HB21 from the Standards Catalogue. In future, a controller of site safety (COSS) would undertake the same responsibilities applying the contents of GERT8000-HB7 or GERT8000-HB8.

Objective 13- Retrieving objects from the line GERT8000-SS1, GERT8000-TS1 (22-REQ-062)

- 1.19 GERT8000-SS1 and GERT8000-TS1 contain the arrangements for blocking a line when it is necessary to go on the line to retrieve a dropped item. These actions would also be appropriate for anyone using grabbers to retrieve a dropped item.

Objective 14- GET8000-SS1 Train dispatch on ERTMS lines (22-REQ-063)

- 1.20 The Future Rules Working Group (FRWG) reviewed the accuracy of GERT8000-SS1 for an ERTMS railway where lineside signals are not provided and identified two matters to be considered:
- a) Section 2.5 (Moving a train before station duties are complete) does not make any reference to a situation in which a train has stopped in a platform and is required to draw forward but has not reached the end of its movement authority (MA) which would allow it to be moved towards a 'platform' block marker.
 - b) Section 3.1 has the title 'Checking the platform starting signal'. Whilst the content of the rules makes reference to the situation in which a driver would confirm from the driver machine interface (DMI) that the train has an MA that allows departure from the platform, this is not reflected in the title.

Objective 15- GERT8000-TW1 Abnormal brake applications (22-REQ-064)

- 1.21 The most recent amendment to section 1 extended the application of the rules to situations in which the speed of the train had been reduced by an unsolicited brake application, as well as having been brought to a stand. ERTMS is designed to intervene to reduce the speed of the train if an overspeed of more than 5 mph is detected. Informal guidance exists that this is a normal function of such systems and does not have to be reported to the signaller. It is proposed to amend the wording to revert to the previous situation in which the rules only apply if a train has been stopped, and to remove the reference to train protection systems 'intervening'. This amendment was published in the March 2023 PON.

Objective 16- GERT8000-TS1 One broken fishplate

- 1.22 GERT8000-TS1 regulation 17.1.3 states that in the event of a report of one fishplate of a pair being broken, the attendance of a competent engineer must be arranged, and that until the fishplate has been repaired or an emergency speed restriction imposed, trains may be allowed to proceed subject to the driver being instructed not to exceed 20 mph at the location.
- 1.23 There has been debate within Network Rail on the application of these instructions, from which it has been established that the Track Engineering instructions state that, if a rail defect nominee (RDN) reports a single broken fishplate, a maximum speed of 5 mph is permitted for any subsequent movements with the RDN remaining on site to observe any subsequent deterioration. A speed of 20 mph applies if the initial report is from a rail defect examiner (RDE), or if an RDE has attended following the initial report. It is the attendance of an RDE that is intended to be referred to by the reference to a 'competent

track engineer'. It seems unlikely that a definite report of a single broken fishplate would be made by anyone other than a RDN, and in the event of a report from any other source of broken fishplates, subsequent train movement is prohibited by GERT8000-TS1 regulation 20.1. A review of the content of regulation 17.1.3 is necessary to explain more correctly how subsequent trains can be dealt with.

Objective 17- GERT8000-S5 Enquiry and observations received

- 1.24 An enquiry received through RSSB's Customer Relationship Management System (CRM) pointed out that section 2.3 is incorrect in requiring the signaller to confirm personally that a facing point lock is properly engaged. This is not the intention as it is sufficient to have received confirmation of the fact. This is possibly a case in which a Plain English Campaign edit to achieve an 'active' rather than a 'passive' instruction was accepted without recognising the unintended change of meaning.
- 1.25 A further enquiry through CRM questioned the title of the recently introduced section 4.6 (ground position-light signals). This is inconsistent with the remaining Rule Book references to 'position-light signals'. Whilst it is frequently the case that such signals within the route would be located on the ground this is not always the case, and for consistency the term 'position-light signals' would be preferable. It would also make it clear that the instruction is intended to be relevant to any position light signals within the route to the next main aspect signal.
- 1.26 A further observation has been made that this section would also be relevant to any semaphore shunting signals that require to be cleared to permit movement towards the next stop signal, or which are the intended limit of an authority to pass a signal at danger. It was further suggested that the term 'shunting signals' should be used in this section as an all-embracing term, but this would introduce a degree of inconsistency. The better option would be to refer to 'position light signals and semaphore shunting signals' which would be consistent with other references. The words 'and obey all others' in this section are commonly used, although unofficially as they do not appear in section 3.1 and could be removed as the observation suggested.
- 1.27 An observation was also made concerning section 8 which allows a driver to pass at danger all stop signals controlled by a signal box after confirming that it is closed. It was suggested that this should be stated explicitly as applying only to a signal box with a closing switch on an absolute block line (which is in practice correct) and that any level crossing should only be passed over after the driver has made sure it is safe to do so. In practice, it would be uncommon for a signal box to be provided with a closing switch if it controls, rather than supervises, any level crossings. A final view on this section was that in practice it may very seldom be applied and could be withdrawn without any adverse effects.
- 1.28 It has also been identified that the changes necessary to remove the term 'pilotman' have not been applied to this module.

Objective 18- GERT8000-HB10 RAIB recommendation (22-REQ-067)

- 1.29 Recommendation 3 from the Rail Accident Investigation Branch (RAIB) investigation into a train striking a trolley left on the line at Challow highlighted that the visibility of trolleys had been a contributory factor. GERT8000-HB10 prescribes the use of a red flag or light, but a red flag was considered to be inadequate. The recommendation was that an amendment be proposed so that hand trolleys are required to display a red light in both directions at all times when on the track and that all existing reference to a red flag be removed.

Objective 19- GERT8000-TS1 Changes to reflect ERTMS operation (23-REQ-016)

- 1.30 It was agreed to include as consultation comments a number of minor changes proposed for this purpose. The changes proposed and the response to them is included in the consultation comments for this module.

Objective 20- GERT8000-SS1 Dispatching a DO train from an unstaffed platform

- 1.31 It was agreed that a change to this module which had been developed as part of another standards project (21-014) would be included as a consultation comment in connection with this project. This includes defective on-train equipment as a reason for applying alternative methods of dispatch.

2. How does the content in the standard need to change to achieve the objective?

Objective 1 – To give effect to the outcome of the 12-month reviews of modules GERT8000-M3, GERT8000-TW4 and GERT8000-OTM

- 2.1 The possible introduction of a new section in GERT8000-M3 dealing with the formation of ice ‘stalactites’ in tunnels, subject to the agreement of content that would be useful. After discussion of this proposal it appears that a need for additional instructions does not exist. The existence of icicles would be treated in the same way as any other obstruction, and their suspected presence would be determined by examination of the line. This proposed change will not be progressed.
- 2.2 Following a review of section 3 of GERT8000-OTM it has been confirmed that the whole of the content has become obsolete and is no longer required. A consequential change has been made to regulation 12.1 of module TS1 to remove reference to an OTM that cannot be relied upon to operate track circuits.
- 2.3 Additional UN numbers to be added to the list in section 9.8 of GERT8000-TW4 of those that do not always require warning placards.
- 2.4 An explicit statement has been included in section 9.5 of GERT8000-TW4 that a wagon with isolated brakes conveying dangerous goods is not subject to any instructions additional to those applying to any other wagon in this condition.
- 2.5 Section 6.5 of GERT8000-TW4 to be amended to include the operation of ECS trains as ones conveying exceptional loads.

- 2.6 Regulation 15.6 of GERT8000-TS1 to be reviewed to provide fuller guidance on dealing with trains operating under 'Q' train identity arrangements. The signaller is required before signalling the train over a different running line or route from that planned to find out from the driver whether the restrictions on the train's movement will allow this.

Objective 2 – Form RT3973NUC (22-REQ-010)

- 2.7 The production of a revised issue of form RT3973NUC incorporating changes agreed following a review.

Objective 3 – Actions following an ERTMS trip GERT8000-S5 and GERT8000-S7, Forms RT3185, RTS3188, NR3189 (22-REQ-020)

- 2.8 Revision of GERT8000-S5 and GERT8000-S7 to develop instructions that are appropriate for ERTMS trips caused by exceedances of the end of authority (EoA) from those which are caused by normal operation of the system for other reasons and 'right side failures'. It is proposed to include complete instructions in GERT8000-S5 where a trip has been caused by a train exceeding the limit of its movement authority (MA) and GERT8000-S7 those when this has not been the reason for the trip.

- 2.9 Reissue of the associated forms to reflect these changes and improve user-friendliness.

Objective 4 – Protection for a possession of part of a siding GERT8000-HB13 and GERT8000-TS1 (22-REQ-034)

- 2.10 The content of GERT8000-HB13 and GERT8000-TS1 has been reviewed to incorporate changes agreed to be appropriate to protection requirements. These allow use of a derailer as a more easily handled item, with use of a derailer or sleeper required when the portion of the siding is unsafe for the passage of any movement, when work is being undertaken making it unsafe for movements to enter, or when any staff are working on or near that part of the siding.

Objective 5 – Addition of instructions for ERTMS lines GERT8000-TW1 (22-REQ-035)

- 2.11 GERT8000-TW1 will be reissued to incorporate these additional instructions.

Objective 6 – Restrictions on using manual sanding apparatus GERT8000-TW1 (22-REQ-039)

- 2.12 Reissue of GERT8000-TW1 to include appropriate instructions. Following consultation, reference has been added to isolating automatic sanding equipment in the same circumstances if permitted by train operating company instructions. It is intended that any such isolation would be permitted if the railway undertaking considers this appropriate given the type of traction concerned and the situations in which it is operated.

Objective 7 – The role of the signaller when using automated route-setting signalling systems GERT8000-TS2 (22-REQ-046)

- 2.13 A review was to be undertaken to identify instances where existing requirements for signallers do not adequately reflect the existence of variations that would be applicable

where a higher degree of automation exists. Revised issues of modules would be developed to incorporate those agreed to be necessary and of a sufficiently high priority to be included in this project.

- 2.14 After discussion, the only changes identified are to regulation 3.3.4 dealing with permissive working.

Objective 8 – Signalling work during a possession when the person concerned is not within a work site GERT8000-T3 and GERT8000-TS11 (22-REQ-047)

- 2.15 It was initially proposed that GERT8000-T3 and GERT8000-TS11 be reissued to incorporate suitable instructions when signalling equipment is affected during a possession by work undertaken outside the limits of the possession. This would appear to have relevance to activity other than testing, and that a consequential change to GERT8000-HB19 would be necessary. However, it is considered that the necessary instructions can be more readily included in GERT8000-TS11 and GERT8000-HB19, with no changes to GERT8000-T3.

Objective 9 – Inclusion of a definition of the term ‘additional protection’ GERT8000-Gloss (22-REQ-048)

- 2.16 A reissue of GERT8000-Gloss to incorporate this change will be required.
- 2.17 GERT8000-TS1 regulation 13.2.4 to be amended to include an explanation of the purpose of using a token or staff for this purpose.

Objective 10 – Provision of lights on vehicles stabled on buffer stops GERT8000-SS2 (22-REQ-051)

- 2.18 A reissue of GERT8000-SS2 is required to include changes agreed to be necessary. As a relevance to train movements as well as shunting movements has been identified, a corresponding instruction has been included in section 37.2 of GERT8000-TW1 (Traction unit left unattended) concerning a traction unit left on a dead-end platform line where there is a red light on the buffer stops

Objective 11 – Signal visibility affected by trees, foliage or other obstructions GERT8000-S7 (22-REQ-052)

- 2.19 GERT8000-S7 will require reissue as a result of the changes proposed. A new section 7.4 has been introduced.

Objective 12- Removal of the safe work leader competency GERT8000-HB20, and GERT8000-HB21

- 2.20 Both GERT8000-HB20 and GERT8000-HB21 would be withdrawn.
- 2.21 The opportunity has been taken as a result of the reissue of GERT8000-HB10, GERT8000-HB13, GERT8000-HB19, GERT8000-OTM, GERT8000-SS2, GERT8000-TS1, GERT8000-TW1 to remove the obsolete references to safe work leader from those publications.

Objective 13- Retrieving objects from the line GERT8000-SS1, GERT8000-TS1 (22-REQ-062)

- 2.22 Reissue of GERT8000-SS1 and GERT8000-TS1 will be required to include this additional situation.

Objective 14- GERT8000-SS1 Train dispatch on ERTMS lines (22-REQ-063)

- 2.23 Reissue of GERT8000-SS1 would be required to include the amended instructions.

Objective 15- GERT8000-TW1 Abnormal brake applications (22-REQ-064)

- 2.24 A reissue of GERT8000-TW1 would be required to introduce this clarification.

Objective 16- GERT8000-TS1 One broken fishplate

- 2.25 A reissue of GERT8000-TS1 would be required to introduce requirements consistent with the engineering instructions.

Objective 17- GERT8000-S5 Enquiry and observations received

- 2.26 A reissue of GERT8000-S5 would be required to introduce the amended instructions.

Objective 18- GERT8000-HB10 RAIB recommendation (22-REQ-067)

- 2.27 A reissue of GERT8000-HB10 would be required to include the amendment.

Objective 19- GERT8000-TS1 Changes to reflect ERTMS operation (23-REQ-016)

- 2.28 The reissue of GERT8000-TS1 includes the agreed changes.

Objective 20- GERT8000-SS1 Dispatching a DO train from an unstaffed platform)

- 2.29 The reissue of GERT8000-SS1 includes the agreed changes.

3. How urgently does the change need to happen to achieve the objectives?

- 3.1 The changes will be incorporated within the September 2023 Rule Book amendments (in force December 2023).

4. What are the positive and negative impacts of implementing the change?

Justification of impact, scale and quantification for the seven impact areas

A. Legal compliance and assurance

- 4.1 The Railways and Other Guided Transport Systems (Safety) Regulations 2006 (as amended) (ROGS) require that the safety management system of transport operators shows how continuous improvement of the safety management system is ensured. The changes to the Rule Book help transport operators meet the requirement for continuous improvement of the safety management system. Therefore, the changes can contribute to reducing a potential breach of ROGS and demonstrate continuous improvement.

If a serious personal injury is caused, then a likely outcome could be being issued with a prohibition notice or prosecution and/or civil claim. The following costs could be incurred:

- Prosecution (average) cost/fine = £200,000 including costs
- Prohibition notice (cost of stopping operations, rectification costs and reputational damage) = £50,000
- Civil claim (average amount for serious claim) = £100,000 pp including costs
- Total = £350,000

- 4.2 If one such incident over the course of 5 years were to occur, then a potential cost of £350,000 could be incurred. If the changes introduced contribute by 10% to avoiding this cost, then this is a total benefit of £35,000.

B. Health, safety and security

- 4.3 In relation to the changes arising from the 12-month review of the Rule Book, new or revised instructions in these changes are not considered to introduce significantly different working practices or significantly increase workloads for the relevant roles. In all cases, they improve application of existing instructions; promote consistency and alignment with instructions elsewhere; and/or introduce actions which enhance existing objectives or address an operational scenario not covered in existing instructions.
- 4.4 Generally increased clarity around the rules would be expected to result in improved safety given that any confusion should be removed. A lack of clarity can give rise to miscommunication. The risk of injury from incidents due to miscommunication (the closest cause precursor from the Safety Risk Model) is 0.05891 FWI per year. If there is a 6% reduction in risk as a result of introducing the Rule Book changes, then this represents 0.002946 FWI per year. Using the Value of Preventing a Fatality (£2,017,000) this represents a benefit of £29,706 over five years, rounded to £30,000 for the purposes of this estimate.

C. Reliability and operation performance

- 4.5 Increased clarity around the rules would be expected to result in improved reliability and operational performance given that any confusion should be removed. Considering the benefits of this in terms of delay minutes, it seems reasonable to take a conservative estimate that updating the Rule Book might prevent 0.02% of delays caused by operator error (as a result of confusion with the rules). Using delay data from 2019-2020, operator (driver and signaller, including ERTMS) error accounted for a total of 1,427,546 delay minutes. A 0.02% reduction would prevent 285.5 delay minutes per year. At an average cost of £45 per delay minute, this is a benefit of around £12,848 per year, or £64,000 over 5 years.

D. Design and maintenance

- 4.6 This area is not directly applicable to the changes.

E. People, process and systems

- 4.7 As with most Rule Book changes, there are direct costs of implementation due to the need for briefing or training. However, it is not anticipated that, for these changes, any more detailed briefing and training is necessary than what would normally be required for Rule Book updates to address inconsistencies, ambiguities or omissions.
- 4.8 As an indication to purchase Rule Book modules and handbooks, recent reissues of modules S5, TS1 and TW1 generated total sales of 26,032 copies at a cost of £43,400. Assuming that more sales will be generated from this project because more modules will be reissued, using sales figures for recent reissues of Rule Book modules since 2018, it is estimated that this project would cost the industry £234,000 to purchase Rule Book modules and handbooks. It is likely that further migration to using the Rule Book App will reduce the number of sales costing an estimated £150,000. Over five years, this is a one-off cost in year one.

F. Environment and sustainability

- 4.9 This area is not directly applicable to the changes.

G. Customer experience and industry reputation

- 4.10 No significant and specifically quantifiable benefits or disbenefits relating to 'customer experience and industry reputation' are expected to be realised as a result of these changes.

5. What is the contribution of this standards change in realising the value to industry opportunity?

- 5.1 The changes to the Rule Book suite are considered important and essential to realising the benefits to the industry. Despite the cost of purchasing reissued Rule Book modules and handbooks producing a net disbenefit of £21,000 over five years, this change still contributes to continuous improvement of the safety management systems of railway undertakings and infrastructure managers. It also contributes to reducing safety risks and improved reliability and operational performance.

6. What is the effort required by RSSB to make the change?

- 6.1 The project is anticipated to require a leading Rail Operations Specialist and a supporting Rail Operations Specialist to provide peer review and to ensure changes are compatible with the Rule Book App. Input will also be required from an RSSB Policy and Risk Specialists.
- 6.2 Additional effort will be required for project management, communications and development of briefing materials, and liaison with Willsons printers.

7. Can RSSB deliver against industry's expected timescales?

- 7.1 The changes are expected to be delivered in line with the project's schedule which is to publish in September 2023 for an in-force date of December 2023.

8. How will the industry implement the change?

8.1 By training / briefing operating staff using materials supplied by RSSB.

9. How will RSSB assess whether the change is achieving the objectives?

9.1 RSSB will support implementation of the standards through stakeholder engagement and will request feedback from users where required.

9.2 RSSB will undertake a 12-month review following publication.

9.3 RSSB will monitor proposals for deviation and enquiries.

Appendix A

Table A1: GERT8000-Gloss Issue 6 to GERT8000-Gloss Issue 7

From GERT8000-Gloss Issue 6	To GERT8000-Gloss Issue 7	Way forward	Comments	Objective
N/A	Additional protection	New	A definition has been included	9

Table A2: GERT8000-HB10 Issue 4.1 to GERT8000-HB10 Issue 5

From GERT8000-HB10 Issue 4.1	To GERT8000-HB10 Issue 5	Way forward	Comments	Objective
Title	Title	Revised	Removal of obsolete reference to safe work leader (SWL)	12
1 General	1 General	Revised	Removal of obsolete reference to safe work leader (SWL)	12
1 General	1 General	Revised	Following a consultation comment, an explanation of the meaning of the term 'person in charge of the trolley' included in the interests of clarity	18
1 General	1 General	Revised	Following a consultation comment, reference has been added to a trolley not stopping within 2 metres of an axle counter head, in line with existing instructions, in the interests of completeness.	18
2 Duties of the COSS or SWL	2 Duties of the COSS	Revised	Removal of obsolete reference to safe work leader (SWL)	12
2.1 Making sure the line is blocked	2.1 Making sure the line is blocked	Revised	Removal of obsolete reference to safe work leader (SWL)	12
2.3 On a running line in a possession	2.3 On a running line in a possession	Revised	Removal of obsolete reference to safe work leader (SWL)	12

From GERT8000-HB10 Issue 4.1	To GERT8000-HB10 Issue 5	Way forward	Comments	Objective
3 Duties of the person in charge of the trolley	3 Duties of the person in charge of the trolley	Revised	Removal of obsolete reference to safe work leader (SWL)	12
3 Duties of the person in charge of the trolley	3 Duties of the person in charge of the trolley	Revised	Only a red light and not a red flag can be displayed	18

Table A3: GERT8000-HB13 Issue 3 to GERT8000-HB13 Issue 4

From GERT8000-HB13 Issue 3	To GERT8000-HB13 Issue 4	Way forward	Comments	Objective
2 General	2 General	Revised	Removal of obsolete reference to safe work leader (SWL)	12
3 Competence	3 Competence	Revised	Removal of obsolete reference to safe work leader (SWL)	12
4.2 Telling the shunter	4.2 Telling the shunter	Revised	Following a consultation comment, a reference has been added to telling any other person responsible for train movements within the siding, in the interests of completeness.	4
5.2 Possession of part of one siding	5.2 Possession of part of one siding	Revised	The requirement to use a sleeper as part of the protection only applies if that part of the siding has become unsafe for any movements to take place over it, the work will make the siding unsafe for any movement to enter the part under possession, or anyone is to work on or near that part of the siding. A derailler is allowed to be used rather than a sleeper.	4
6.2 Movements to or from the running line under possession	6.2 Movements to or from the running line under possession	Revised	Removal of obsolete reference to safe work leader (SWL).	12

From GERT8000-HB13 Issue 3	To GERT8000-HB13 Issue 4	Way forward	Comments	Objective
7 Allowing work to start	7 Allowing work to start	Revised	Removal of obsolete reference to safe work leader (SWL)	12
9.1 Work suspended or completed	9.1 Work suspended or completed	Revised	Removal of obsolete reference to safe work leader (SWL)	12
9.2 Telling others	9.2 Telling others	Revised	Following a consultation comment, a reference has been added to telling any other person responsible for train movements within the siding, I the interests of completeness	4
9.3 Recording the arrangements	9.3 Recording the arrangements	Revised	Removal of obsolete reference to safe work leader (SWL)	12

Table A4: GERT8000-HB19 Issue 4.1 to GERT8000-HB19 Issue 5

From GERT8000-HB19 Issue 5.1	To GERT8000-HB19 Issue 6	Way forward	Comments	Objective
6 Work on equipment when the line is under possession	6 Work on equipment when the line is under possession	Revised	Removal of obsolete reference to safe work leader (SWL)	12
6 Work on equipment when the line is under possession	6 Work on equipment when the line is under possession	Revised	New instruction included concerning signalling work being carried out, the person in charge of which is not located within the limits of the possession	8

Table A5: GERT8000-OTM Issue 10 to GERT8000-OTM Issue 11

From GERT8000-OTM Issue 10	To GERT8000-OTM Issue 11	Way forward	Comments	Objective
2.1 Before starting a journey	2.1 Before starting a journey	Revised	Reference to telling the signaller that the OTM cannot be relied upon to operate track circuits removed as all OTM can be relied upon to operate track circuits	1
3 OTM that cannot be relied upon to operate track circuits	3 Not used	Withdrawn	Complete instructions withdrawn as all OTM can be relied upon to operate track circuits	1
5.1 Maintaining clearance from other lines	5.1 Maintaining clearance from other lines	Revised	Removal of obsolete reference to safe work leader (SWL)	12

Table A6: GERT8000-S5 Issue 10 to GERT8000-S5 Issue 11

From GERT8000-S5 Issue 10	To GERT8000-S5 Issue 11	Way forward	Comments	Objective
1.1 Signaller's authority	1.1 Signaller's authority	Revised	Amendment of 'pilotman' to 'pilot' to remove gender-specific language.	17
1.2 Driver getting authority	1.2 Driver getting authority	Revised	Amendment of 'pilotman' to 'pilot' to remove gender-specific language	17

From GERT8000-S5 Issue 10	To GERT8000-S5 Issue 11	Way forward	Comments	Objective
2.3 Setting the route correctly where there is a lever frame	2.3 Setting the route correctly where there is a lever frame	Revised	Amended to remove incorrect requirement for signaller to confirm personally.	17
3.1 Instructions from the signaller	3.1 Instructions from the signaller	Revised	Amendment of 'pilotman' to 'pilot' to remove gender-specific language.	17
3.2 Instructions through a pilotman or handsignaller	3.2 Instructions through a pilot or handsignaller	Revised	Amendment of 'pilotman' to 'pilot' to remove gender-specific language	17
3.4 Dealing with TPWS	3.4 Dealing with TPWS	Revised	Amendment of 'pilotman' to 'pilot' to remove gender-specific language	17
4.2 c) Train speed	4.2 c) Train speed	Revised	Amendment of 'pilotman' to 'pilot' to remove gender-specific language	17
4.6 Ground position-light signals	4.6 Position-light signals not associated with a main aspect signal and semaphore shunting signals	Revised	Amended to explain more clearly the position-light signals that are referred to, and to include similar instructions that apply also to semaphore shunting signals. An inconsistent reference to obeying all other signals has been removed	17
8.1 Preconditions	8.1 Preconditions	Revised	Explanation added that these instructions only apply at a signal box on an absolute block line.	17
8.3 During the movement	8.3 During the movement	Revised	Amended to state that the instruction applies to passing over any level crossing.	17
9.3 Signaller's actions	9.3 Signaller's actions	Revised	Amended to state that these instructions apply when a train has passed an EoA without authority, and not to all ERTMS trips.	3

Table A7: GERT8000-S7 Issue 5 to GERT8000-S7 Issue 6

From GERT8000-S7 Issue 5	To GERT8000-S7 Issue 6	Way forward	Comments	Objective
6.5 TPWS operation other than a SPAD	6.5 TPWS operation other than a SPAD	Revised	Title of form amended.	3
N/A	7.4 Signals, difficult to see because of trees, foliage or other obstructions	New	New instructions introduced applying when a signal is difficult to see. The instructions in section 7.2 apply to lineside boards or signs.	11
7.4 Signals, lineside boards or signs becoming difficult to see because of trees, foliage or other obstructions	7.5 Signals, lineside boards or signs becoming difficult to see because of trees, foliage or other obstructions	Renumbered	Renumbered as a result of introduction of new section 7.4	11
7.5 Shunting movements	7.6 Shunting movements	Renumbered	Renumbered as a result of introduction of new section 7.4	11
7.6 ERTMS failures or irregularities	7.7 ERTMS failures or irregularities	Renumbered	Renumbered as a result of introduction of new section 7.4	11
7.7 Reporting a signal/AWS/ERTMS/TPWS failure or irregularity	7.8 Reporting a signal/AWS/ERTMS/TPWS failure or irregularity	Renumbered	Renumbered as a result of introduction of new section 7.4	11
8.3 Train receiving a trip	8.3 Train receiving a trip	Revised	Instructions expanded and explanation added that if the trip has been caused by exceeding the limit of a movement authority the instructions in GERT8000-S5 will apply	3

Table A8: GERT8000-SS1 Issue 8 to GERT8000-SS1 Issue 9

From GERT8000-SS1 Issue 8	To GERT8000-SS1 Issue 9	Way forward	Comments	Objective
2.3 Items falling onto the line	2.3 Items falling onto the line	Revised	The instructions are extended to include removal of an item by the use of retrieval equipment.	13
2.5 Moving a train before station work is complete I	2.5 Moving a train before station work is complete	Revised	Changed to include a corresponding arrangement for an ERTMS line	5
3.1 Checking the platform starting signal	3.1 Checking the authority to start	Revised	Title changed to reflect the alternative arrangement for an ERTMS line already included	5
3.8 Dispatching a DO train from an unstaffed platform	3.8 Dispatching a DO train from an unstaffed platform	Revised	Amended to include defective on-train cameras or monitors as a reason why alternative arrangements may have to be adopted.	20

Table A9: GERT8000-SS2 Issue 5.2 to GERT8000-SS2 Issue 6

From GERT8000-SS2 Issue 5.2	To GERT8000-SS2 Issue 6	Way forward	Comments	Objective
9.4 Leaving vehicles or traction units on a dead-end line	9.4 Leaving vehicles or traction units on a dead-end line	Revised	The display of a red or weight light on the rear of vehicles or traction units left on dead-end lines can be exempted by train operating company instructions as a result of the vehicles or traction units being sufficiently visible without.	10
10.2 Before giving a signal to move	10.2 Before giving a signal to move	Revised	Removal of obsolete reference to safe work leader (SWL)	12

Table A10: GERT8000-TS1 Issue 16 to GERT8000-TS1 Issue 17

From GERT8000-TS1- Issue 16	To GERT8000-TS1 Issue 17	Way forward	Comments	Objective
3.5 Using reminder appliances:3.5.1 On a signalling control	3.5 Using reminder appliances:3.5.1 On a signalling control	Revised	Reference added to a route setting position on an ERTMS line in the interests of completeness	19
3.5.2 On an override switch	3.5.2 On an override switch	Revised	Reference added to a route setting position on an ERTMS line in the interests of completeness	19
10.2 Propelling movements	10.2 Propelling movements	Revised	Reference added to corresponding situation on an ERTMS line in the interests of completeness.	19
12 Dealing with trains that cannot be relied upon to operate track circuits 12.1 When this general signalling regulation must be used	12 Dealing with trains that cannot be relied upon to operate track circuits 12.1 When this general signalling regulation must be used	Revised	Reference to an on-track machine that cannot be relied upon to operate track circuits removed.	1
13.1 Personnel asking for trains to be stopped When this regulation must be used	13.1 Personnel asking for trains to be stopped	Revised	The instructions are extended to include removal of an item by the use of retrieval equipment. The term 'Network Rail' replaced by 'infrastructure manager's' in the interests of completeness.	13
13.1.1 When this regulation must be used	13.1.1 When this regulation must be used	Revised	Removal of obsolete reference to safe work leader (SWL)	12

From GERT8000-TS1- Issue 16	To GERT8000-TS1 Issue 17	Way forward	Comments	Objective
13.1.2 Reaching a complete understanding	13.1.2 Reaching a complete understanding	Revised	The requirement to block an adjacent line is not necessary if an item is to be retrieved without anyone going onto a platform line.	13
13.2 COSS, IWA, PC or SWL blocking a line	13.2 COSS, IWA or, PC blocking a line	Revised	Removal of obsolete references to safe work leader (SWL) throughout the regulation.	12
13.2.4 Additional protection	13.2.4 Additional protection	Revised	An explanation is included of the purpose of obtaining a token or staff.	9
13.2.4 Additional protection	13.2.4 Additional protection	Revised	Reference has been added to a disconnection, TCOD or EPR being used at a signal in relation to the site of work in anticipation of this method of working being introduced.	9
13.2.4 Additional protection	13.2.4 Additional protection	Revised	Following a consultation comment, a reference to a block marker has been included in the interests of completeness for ERTMS lines.	19
13.4.4 possession of part of one siding	13.4.4 possession of part of one siding	Revised	The requirement to use a sleeper as part of the protection only applies if that part of the siding has become unsafe for any movements to take place over it, the work will make the siding unsafe for any movement to enter the part under possession, or anyone is to work on or near that part of the siding. A derailer is allowed to be used rather than a sleeper	4
13.7 Crossing the line procedure	13.7 Crossing the line procedure	Revised	Removal of obsolete references to safe work leader (SWL) throughout the regulation.	12
15.6 Signalling a train that has route restrictions	15.6 Signalling a train that has route restrictions	Revised	Enhanced instructions introduced on dealing with these trains.	1
17.1.3 Report of only one broken fishplate	17.1.3 Report of only one broken fishplate	Revised	More comprehensive instructions introduced to give alignment with engineering instructions.	16

Table A11: GERT8000-TS11 Issue 5.1 to GERT8000-TS11 Issue 6

From GERT8000-TS11 Issue 5.1	To GERT8000-TS11 Issue 6	Way forward	Comments	Objective
N/A	6.5 Signalling work affecting a line under possession	New	New instruction included concerning signalling work being carried out, the person in charge of which is not located within the limits of the possession	8

Table A12: GERT8000-TS2 Issue 5.1 to GERT8000-TS2 Issue 6

From GERT8000-TS2 Issue 5.1	To GERT8000-TS2 Issue 6	Way forward	Comments	Objective
3.3.4 Additional regulations for permissive working on platform lines	3.3.4 Additional regulations for permissive working on platform lines	Revised	Instructions amended to make reference to situations in which the signalling equipment will apply the necessary restrictions on movements.	7

Table A13: GERT8000-TW1 Issue 18.1 to GERT8000-TW1 Issue 19

From GERT8000-TW1 Issue 18.1	To GERT8000-TW1 Issue 19	Way forward	Comments	Objective
1 Abnormal brake applications	1 Abnormal brake applications	Revised	Reworded to remove the inclusion of brake applications reducing the speed of trains rather than bringing them to a stand, which had not been the intention.	15

From GERT8000-TW1 Issue 18.1	To GERT8000-TW1 Issue 19	Way forward	Comments	Objective
29.1 Driver's responsibilities	29.1 Driver's responsibilities	Revised	Changed to include corresponding arrangements for an ERTMS line	5
N/A	30 Sanding equipment	New	Introduction of restrictions on the use of manual sanding equipment, and application to automatic sanding equipment if permitted by train operating company instructions. Sections 30 to 47 renumbered as 21 to 48 respectively in consequence	6
36.2 Traction unit left unattended	37.2 Traction unit left unattended	Revised	New instructions introduced concerning display of a red light on the rear of a traction unit left on a dead-end platform line, unless exempted by train operating company instructions as a result of the traction unit being sufficiently visible without.	10
39.1 Using the train radio safely	403.1 Using the train radio safely	Revised	Changed to include a corresponding arrangement for an ERTMS line	5
47 Working on the outside of a train	48 Working on the outside of a train	Revised	Removal of obsolete reference to safe work leader (SWL)	12

Table A14: GERT8000-TW4 Issue 1.1 to GERT8000-TW4 Issue 2

From GERT8000-TW4 Issue 1.1	To GERT8000-TW4 Issue 2	Way forward	Comments	Objective
6.5 Moving coaching stock vehicles on empty coaching stock trains	6.5 Moving coaching stock vehicles on empty coaching stock trains	Revised	New instructions concerning trains to be treated as 'out-of-gauge'	1

From GERT8000-TW4 Issue 1.1	To GERT8000-TW4 Issue 2	Way forward	Comments	Objective
9.5 Restrictions on where dangerous goods can be marshalled in a train	9.5 Restrictions on where dangerous goods can be marshalled in a train	Revised	Clarification on dangerous goods loaded in a wagon on which the automatic brake is not operative.	1
9.8 Warning placards	9.8 Warning placards	Revised	Additional UN numbers added to list of those not requiring placards	1