

20-003 GSM-R Handbook update – stage 2

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

Version:	1.05		
Purpose:	Approval to proceed to consultation		
Authors:	Suzanne Anderson – Senior Rail Operations Specialist		
Sponsor:	Tom Lee – Director of Standards		
Lead industry committee:	Traffic Operation and Management Standards Committee (TOM SC)	Date:	25 February 2025
Supporting industry committee:	Control, Command and Signalling Standards Committee (CCS SC)	Date:	13 March 2025

Decision

Traffic Operation and Management Standards Committee (TOM SC) is asked to:

APPROVE that the proposed revision of RS523 is consulted on.

In approving the standard for consultation the SC has:

DECIDED that the proposed revision of RS523 delivers the intentions of the proposal for change.

DECIDED that the proposed revision is in a suitable state for consultation.

IDENTIFY any specific organisations or individuals to be included in the consultation.

Control, Command and Signalling (CCS) Standards Committee is asked to:

SUPPORT that the proposed revision of RS523 is consulted on.

In supporting the standard for consultation the SC has:

SUPPORTED that the proposed revision of RS523 delivers the intentions of the proposal for change.

SUPPORTED that the proposed revision is in a suitable state for consultation.

CONSIDER whether they need any further involvement in the project beyond the pre-consultation stage

Revised document – Stage 1 (Completed. Published September 2024)

Number	Title	Issue
GERT8000-TW1	Preparation and movement of trains (section 41)	20

Superseded document – Stage 1 (Completed. Superseded September 2024)

Number	Title	Issue
GERT8000-TW1	Preparation and movement of trains	19

Proposed revised document – Stage 2

Number	Title	Issue
RS523	GSM-R Handbook	2

Proposed superseded document – Stage 2

Number	Title	Issue
RS523	GSM-R Handbook	1.2

Summary

Background and change

The intended purpose of RS523 *GSM-R Handbook* is to give guidance to users of the Global System for Mobile Communications-Railway (GSM-R) voice system on the GB mainline railway. The 12-month review of the document identified that the content was a mixture of information and instructions. In line with standards policy, an information handbook cannot contain any rules.

The objectives of this project were separated into two stages:

- 1) Stage one where instructions were removed from handbook RS523 issue 1.2 and added to GERT8000 TW1 Preparation and movement of trains. This was completed in time for publication in September 2024; and
- 2) Stage two of the project provided additional information into RS523, which looked to clarify and improve the information within this handbook, from industry feedback.

This business case for change contains the work carried out in stage two. During this phase, the content of RS523 was improved by providing more detail on railway emergency group calls (RECs) and clarifying certain functions. Other changes included improving the flow of the document and highlighting the priority of certain call types. A photo of the train radio handset was added, to help emphasise the function of the press-to-talk button (PTT) when a REC takes place.

Industry impact due to changes

Impact areas	Scale of impact	Estimated value
A. Legal compliance and assurance	Low	Not quantifiable
B. Health, safety and security	Low	Not quantifiable
C. Reliability and operational performance	Low	£3,280,550
D. Design and maintenance	Low	Not quantifiable
E. People, process and systems	Low	Not quantifiable
F. Environment and sustainability	N/A	N/A
G. Customer experience and industry reputation	N/A	N/A
Total value of industry opportunity =		£3,280,550 over a 5-year period
The standards change contribution to the total value of industry opportunity		
<input type="checkbox"/> None or low	<input checked="" type="checkbox"/> Minor but useful	<input type="checkbox"/> Moderate
		<input type="checkbox"/> Important/essential
		<input type="checkbox"/> Urgent/Critical

Detail

1. What were the objectives associated with this change?

Objective 1 – update RS523 to separate instructions from information

- 1.1 The 12-month review of RS523 *GSM-R Handbook* completed in 2019 identified the content as a mixture of instructions and information.
- 1.2 In line with the standards policy, an information handbook (RS prefix) should only contain information and not instructions.
- 1.3 The review of RS523 *GSM-R Handbook* issue 1.2 identified what material was information and could be retained in the handbook, and which instructions needed to be transferred to the Rule Book.
- 1.4 The delivery of the work was separated into two stages:
 - i) Stage one: extraction of rules and relocation within the Rule Book; and
 - ii) Stage two: update of information in RS523.

Objective 2 – to provide additional information requested by industry

- 1.5 At the start of the project, a questionnaire was sent out to industry to ask for feedback on RS523. With the information collated, this objective sought to improve information and enhance the usefulness of the document, making it a more valuable resource for users.

Objective 2.1 Volume and menu navigation

- 1.6 RSSB received an enquiry relating to the use of the cab radio volume buttons.
- 1.7 The content of handbook RS523 covered the basic volume functions, but it was suggested that providing more detail on how to use the adjuster buttons and how to clear faults could be included when explaining the function of these buttons.
- 1.8 In addition, a potential fault, known as ‘silent radio’ behaviour was identified as a fault with train radios. This is currently not in the publication and it was highlighted as a useful addition.

Objective 2.2 User Procedures Manual

- 1.9 NS/GSM-R/OPS/0514 GSM-R User Procedures (Cab radio), issue 7.1 is a document developed by Network Rail at the request of the GSM-R Failures Working Group to incorporate the changes introduced through various software changes. This document was last published in June 2015 to incorporate updates to software version 3.5 of the Siemens cab mobile radio.
- 1.10 This document was stored on the RSSB website until an upgrade took place, at which point the webpage was withdrawn.

Objective 2.3 GSM-R related functions

- 1.11 A suggestion from industry feedback was to enhance section five in RS523, which focuses on radio communication. This section contains information about the types of calls that can be made using GSM-R. The results of the questionnaire indicated that the industry would also benefit from additional guidance on GSM-R-related functions related to this.

Objective 2.4 Low adhesion terminology

- 1.12 Changes in reporting terminology during low adhesion conditions were introduced to module GERT8000-TW1 *Preparation and movement of trains* in June 2018. RS523 still had content relating to the term ‘poor rail conditions’, rather than the updated term ‘reportable rail conditions’.

2. How has the content in the standard changed to achieve the objectives?

Objective 1 – update RS523 to separate instructions from information

- 2.1 When considering how the document would be adjusted, it was found that removing rules content lost significant information helpful to users, and the context of the remaining information would become unclear. As a result, some information was kept, but the wording was altered to comply with RSSB’s handbook style.

Objective 2 – to provide additional information requested by industry**Volume and menu navigation**

- 2.2 In section 2.1 of RS523 issue two, detail was included to highlight how volume buttons function. These buttons also work as menu navigation buttons, so information was added to improve understanding.

Silent radio

- 2.3 Details of how to manage this fault were added to the faults section of the RS523 handbook. This included how to identify silent radio, how to prevent it from happening, and corrective actions if silent radio occurs. This information was originally published in Network Rail’s GSM-R bulletin number 47 NIR 3741 – ‘Silent-Radio’ behaviour.

User procedures manual

- 2.4 The necessary information from the *GSM-R User Procedures (Cab radio)* issue 7.1 was extracted to make RS523 issue two more useful to users.

Objective 2.3 GSM-R related functions**Railway emergency group calls (REC)**

- 2.5 The section containing information on RECs was adjusted to make it clearer. Some content was moved into more relevant areas of this section. For example, the information on the press-to-talk (PTT), which was in section 5.3 in issue 1.2, was moved to the section on the driver making a REC in issue two. In addition to this, the wording on the lead signaller role was clarified in issue two to highlight that they only became the lead signaller once they had initiated or received a call.
- 2.6 There was some concern, highlighted by enquiries received by RSSB, that if a driver were to initiate a REC and become disconnected, the call would end. Wording was added into RS523 issue two to confirm that the call would continue, even if the train radio where the call was initiated became disconnected.

- 2.7 The information on the driver making a REC and using the PTT function in RS523 issue two was expanded to include more detail about the PTT button on the train radio handset. This information was also moved to the 'Driver actions and indications' section.
- 2.8 In RS523 issue 1.2, the information regarding the ST button indicated that drivers could acknowledge a call by pressing this button once they had stopped while listening to a REC. It was commonly believed that the signaller would receive this acknowledgement during the call. However, the GSM-R system does not support this functionality, unlike an acknowledged safety broadcast call. The signaller will not receive confirmation until after the REC has ended, at which point drivers will have already been granted the authority to move. Network Rail confirmed that the screen will stop flashing when the ST button is pressed during a REC. The information in issue two was changed to reflect this.

Urgent calls

- 2.9 In this section, the wording was changed in issue two to highlight the priority of an urgent call in comparison to other call types. The content was aligned to reflect the wording in Rule Book module TW1 for information and accuracy purposes.
- 2.10 A change was made to remove ambiguity concerning the driver receiving an urgent call. This previously stated that the driver 'should respond to the call as quickly as possible'. This was changed to highlight that the call is automatically answered by the cab radio after two ring cycles.

Driver-to-driver calls

- 2.11 This section was previously titled 'Cab-to-cab calls' in issue 1.2. This was changed to 'Driver-to-driver calls' in issue two, to keep the terminology in line with other GSM-R documents. A cab-to-cab call can be initiated using other cab equipment.

Company wild card codes

- 2.12 Additional information was added to the 'Company wild card codes' section, to give more detail on how the system would work in this scenario and to highlight how inputting the wrong details can affect the routing of a call to a signaller.

Low adhesion terminology

- 2.13 RS523 version 1.2 mentioned 'poor rail conditions' in various places in section eight. Some of these sat within content that is not in RS523 version two. Any remaining references to 'poor rail conditions' were adjusted and the term 'reportable rail conditions' was used.

Further changes introduced to enhance the content of RS523

- 2.14 The roles the document was addressed to in issue 1.2 did not include the role of guard. However, guards may need to have some knowledge of the GSM-R, so issue two included this role.
- 2.15 The introduction section of the handbook in issue two, was changed to reflect the intention and use of RS523 more accurately. The term 'headcode' was replaced by 'train reporting number'. Both terms were used interchangeably, but 'train reporting number' is the term

used elsewhere in the Rule Book. Any abbreviations of train reporting number have been replaced by the full term.

- 2.16 RS523 has always had pictograms of the radio buttons and a short explanation. Responders to the questionnaire suggested that users would benefit from more visual references. A picture of the train radio was added, and a picture of the handset was also included to highlight the function of the press-to-talk (PTT) button.

Powering up the train radio

- 2.17 More detail was added to this section in issue two. This highlights that a switched-on train radio in a cab where a driver's key is active has more functions available than a train radio in a cab without an active driver's key.

Broadcast calls

- 2.18 The content in section eight of RS523 issue two has changed to combine general and advisory calls into one section. They both provide information to drivers without requiring a response. The section 'Uses for safety broadcasts' was removed as this information was part of the work completed in stage one of the project. The broadcast calls scripts were moved to their own subsections.

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

- 3.1 Stage one of the project was published with the changes to GERT8000-TW1 in September 2024. The update to RS523 with more comprehensive information on the use of the GSM-R train radio is on track for publication in September 2025.

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 Operation and Traffic Management National Technical Specification Notice (OPE NTSN) mandates railway undertakings to provide a driver's Rule Book. RSSB publishes the Rule Book on behalf of transport operators. Transferring instructions from information in handbook RS523 to the relevant module of the Rule Book will help transport operators comply with the OPE NTSN requirements.
- 4.2 Incorporating more content from the *GSM-R user procedure manual* into RS523 will assist in better consistency of use across the network, as well as relieving each transport operator from the responsibility of compiling and developing its own training manual.

B. Health, safety and security

- 4.3 Separating GSM-R-related instructions from information has resulted in greater prominence for the rules. This has provided greater clarity to users, thus potentially reducing human error and improving the use of the system; in doing so, safety and performance may be positively affected.

- 4.4 Completing the actions and fulfilling stage two of the project has led to the improvement of RS523, with a clear, 'guidance-only' remit.
- 4.5 Moving instructions to their relevant location in the Rule Book, and completing the enhancement of information provided in RS523, will lead to users of the GSM-R radio increasing their knowledge of its functions and better equipping them to deal with emergency situations if the case arises.
- 4.6 Lack of information and the incorrect application of the REC, for example, could result in incidents and potential loss of life.
- 4.7 In a similar way to the above, lack of awareness of faults of the 'silent radio' type also has the potential to result in accidents, injury to people or damage to the infrastructure.

C. Reliability and operation performance

- 4.8 Better availability of information can assist in the understanding of the functions of the GSM-R radio by its users. This would potentially reduce delays caused by a lack of knowledge or hesitation when applying procedures. It was found that GSM-R delays caused a considerable number of delay minutes per year. Due to the way the attribution process works, it was difficult to quantify what percentage of these were simply due to user error. However, the RSSB looked at the GSM-R delays, attributed to 'traincrew causes' where the driver was unaware how to correctly use the train radio. It was calculated that a 10% reduction of these would result in £3,280,550 of benefit over five years.¹
- 4.9 Acknowledged safety broadcast calls also have the potential to reduce the need to stop trains when they need to be cautioned, reducing signaller workload as well as the associated delays and knock-on effects on the passenger experience.

D. Design and maintenance

- 4.10 The solutions for potential faults of the 'silent radio' type have the potential to influence software updates and enhance maintenance regimes.

E. People, process and systems

- 4.11 Having instructions and information clearly defined and correctly placed assists in the training and competence of users of the GSM-R system. The changes to RS523 will benefit users with better availability of information to ensure knowledge is kept up to date. Therefore, reducing the effects of delays caused by traincrew due to lack of confidence when using the functions. Quantification has already been accounted for in a previous section.

F. Environment and sustainability

- 4.12 These changes are unlikely to have any impact on the environment or sustainability.

G. Customer experience and industry reputation

- 4.13 These changes are unlikely to have any impact on customer experience and industry reputation.

¹ Data extracted from Network Rail's 'total performance dataset'. (PfPI minutes used = total delay including cancellations) 2020/21 shows a total of 156 GSM-R-related incidents attributed to TG (traincrew), causing a total of 131,222 minutes delay = £6,561,100. RSSB uses a measure of £50 per performance minute delay.

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

- 5.1 The outcomes from this project can act as an enabler to other GSM-R projects, ensuring the relevant information is correct and available. The changes are expected to make a minor but useful contribution to realising the value of future industry opportunities.

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

- 6.1 RSSB performed the revisions referenced in sections one and two of this business case for change. The work was undertaken by Operations Technical Specialists, with input from a policy specialist and GSM-R experts. Engagement with Network Rail was also required.
- 6.2 Changes carried out for RS523 have been made to rework the content to ensure it has met the intended purpose as a handbook.

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

- 7.1 RSSB published stage one, the revision of GERT8000-TW1, in the September 2024 standards catalogue update. The revision of RS523 issue two is scheduled for publication in September 2025.

8. How will the industry implement the change?

- 8.1 The project outputs will be published and supported by briefing materials created by RSSB that are intended to facilitate the onward dissemination of the changes to the target audience.
- 8.2 A session will also be included within the quarterly Standards Webinar to raise awareness of the changes and allow industry staff to ask questions.

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

- 9.1 RSSB will review RS523, issue two, twelve months after publication to assess whether the content remains fit for purpose.

Appendix A Disposition Table

A.1.1 Only sections that have been subject to review have been included in the disposition table. Sections not mentioned below remain unchanged by this project.

Table A1: RS523 issue 1.2 to RS523 issue 2

From GERT8000-RS523 issue 1.2	To GERT8000-RS523 issue 2	Way forward	Comments	Objective
Page 1 Roles and responsibilities	Page 1 Roles and responsibilities	Revised – material change to content	Guard role added.	2.3
1 Introduction	1 Introduction	Revised – material change to content	The abbreviation GSM-R has been fully worded, and the purpose altered to reflect how RS523 can be used.	2
2.1 Train radio functions	2.1 Train radio functions	Revised – material change to content	Driver's control panel photo added, and the initial paragraph reworded due to the addition of the image. The order of the button icons has been changed to follow the order of the buttons on the image. The description of the 'ST' and 'reject' or 'cancel' buttons has been changed to more accurately reflect the function. The 'up' and 'down' buttons now have more information on their function and change of name for this purpose too.	2.1
2.2 Fixed terminal functions	2.2 Fixed terminal functions	Redrafted – no material change	Wording change from 'less', to 'fewer' as grammatically correct.	
3.1 Train Radio	3.1 Train radio	Revised – material change to content	First paragraph reworded to use 'plain English', the information has not changed. Information enhanced to include registration with or without the driver's key and the difference in function.	1 and 2
4.1 Registration of the train radio	4.1 Registration of the train radio	Redrafted – no material change	The term 'headcode' has been changed to 'train reporting number'.	1
4.2 Pending registration	4.2 Pending registration	Revised – material change to content	First paragraph adjusted to meet the purpose of RSSB handbooks which provide information, this content has not changed.	1 and 2.2

From GERT8000-RS523 issue 1.2	To GERT8000-RS523 issue 2	Way forward	Comments	Objective
			<p>The term 'headcode' has been changed to 'train reporting number'. This is the term used in the Rule Book. This does not change the aim of the information in the handbook. Both terms were originally used in RS523 issue 1.2.</p> <p>Additional step included as this is part of the process and pressing accept button removed after pending registration as this is automatic.</p>	
4.3 Company wild card codes (99x)	4.3 Company wild card codes (99x)	Revised – material change to content	<p>First sentence adjusted to meet the purpose of RSSB handbooks which provide information, this content has not changed.</p> <p>The term 'headcode' has been changed to 'train reporting number' to keep the language consistent with other RSSB publications.</p> <p>Information expanded in the second paragraph to give more information on wild cards and the importance of the driver entering the correct 'train reporting number'.</p>	1
4.4 Preregistration	4.4 Preregistration	Redrafted – no material change	Third paragraph adjusted to meet the purpose of RSSB handbooks which provide information. This content has not changed.	1
4.5.1 Registration failure	4.5.1 Registration failure	Redrafted – no material change	Reworded to provide information rather than instruction, but the information has not changed.	1
4.5.2 Wrong train reporting number	4.5.2 Wrong train reporting number	Redrafted – no material change	<p>Adjusted to align with the handbook style, but the information given has not changed.</p> <p>The term 'headcode' has been changed to 'train reporting number' to keep the language consistent with other RSSB publications.</p>	1
4.5.3 Duplicate registration identity	4.5.3 Duplicate registration identity	Redrafted – no material change	Adjusted to meet the purpose of RSSB handbooks which provide information. The material content has not changed.	1
4.5.5 Failure of the train radio to deregister	4.5.5 Failure of the train radio to deregister	Redrafted – no material change	Adjusted to meet the purpose of RSSB handbooks which provide information. The material content has not changed.	1

From GERT8000-RS523 issue 1.2	To GERT8000-RS523 issue 2	Way forward	Comments	Objective
4.5.6 Unregistered trains	4.5.6 Unregistered trains	Redrafted – No material change	The term ‘headcode’ has been changed to ‘train reporting number’ to keep the language consistent with other RSSB publications.	1
4.5.9 The train radio connects to the wrong network	4.5.9 The train radio connects to the wrong network	No change	Adjusted to meet the purpose of RSSB handbooks which provide information. The material content has not changed.	1
5.1 GSM-R call types	5.1 GSM-R call types	No change	Group calls are now mentioned first as group calls are now first in this section.	2
5.1.1 Point-to-point calls	5.1.2 Point-to-point calls	No change	Section renumbered, as per the point above.	2
5.1.2 Group calls	5.1.1 Group calls	No change	Section renumbered. These have been moved so the Railway Emergency Group Call is the first call type discussed to highlight the priority of the call.	2
5.2 Urgent calls	5.3 Urgent calls	Revised – material change to content	This section has been renumbered due to group calls located in section 5.2. The information changes now include a mention regarding RECs as higher priority calls and the Rule Book definition of when urgent calls are made, where previously the information didn’t align.	2
5.2.1 Driver actions and indications	5.3.1 Driver actions and indications	Revised – material change to content	Previously, this section said the driver should respond to the call as quickly as possible. This information has changed to highlight that a call is automatically answered after two ring cycles. Section also renumbered.	2.2
5.2.2 Signaller’s actions and indications	5.3.2 Signaller’s actions and indications	Revised – material change to content	Section renumbered and more information has been added to the second paragraph on how the signaller answers an urgent call.	2.2

From GERT8000-RS523 issue 1.2	To GERT8000-RS523 issue 2	Way forward	Comments	Objective
5.3 Railway Emergency Group Calls	5.2 Railway Emergency Group Calls	Revised – material change to content	<p>This section has been renumbered. Information has also been added from the signaller and driver sections to avoid repetition, and the situation when a REC should be made.</p> <p>Driver information has been moved to 5.2.2 Driver actions and indications.</p> <p>An explanation of what happens if a call is disconnected has been added.</p>	2
5.3.1 Signaller and route controller actions and indications (Lead and non-lead signallers)	5.2.1 Signaller and route controller actions and indications (Lead and non-lead signallers)	Revised – material change to content	<p>Making a REC</p> <p>Moved the reason why a signaller may make an emergency call to 5.2. Reworded the information on the lead signaller for clarity.</p> <p>The second paragraph (third in RS523 version 1.2) has been reworded to meet the purpose of RSSB handbooks which provide information. The material content has not changed.</p> <p>Receiving a REC</p> <p>The second paragraph has also been reworded to meet the purpose of RSSB handbooks.</p> <p>Section also renumbered.</p>	2 1 1

From GERT8000-RS523 issue 1.2	To GERT8000-RS523 issue 2	Way forward	Comments	Objective
5.3.2 Driver actions and indications	5.2.2 Driver actions and indications	Revised – material change to content	<p>Making a REC</p> <p>Information on the press-to-talk button was moved to this section and further information has been provided, to highlight that the press-to-talk button needs to be released so the user can hear the person on the other end talking. An image of the handset has been added.</p> <p>Receiving a REC</p> <p>More detail was added on drivers receiving a REC. The detail on the ST button has been changed to reflect what happens after the driver presses it.</p> <p>There are some grammatical changes and changes to wording, but this does not change the information contained within issue 1.2.</p> <p>The section has also been renumbered.</p>	2 and 2.3
5.3.3 PTT override	5.2.3 PTT override	Redrafted – No material change	Section renumbered and minor editorial wording change.	2
5.3.4 REC closure	5.2.4 REC closure	No change	Section renumbered.	2
5.3.5 Accidental use of REC	5.2.5 Accidental use of REC	Redrafted – no material change	Section renumbered and reworded to meet the purpose of RSSB handbooks, which provide information; the material content has not changed.	1
5.4 Short dial codes	5.4 Short dial codes	Redrafted – no material change	A minor change to the last sentence to meet the purpose of RSSB handbooks, which provide information; the material content has not changed.	2

From GERT8000-RS523 issue 1.2	To GERT8000-RS523 issue 2	Way forward	Comments	Objective
5.5 Using the train radio phonebooks	5.5 Using the train radio phonebooks	Redrafted – no material change	Minor change to the end of the last sentence to meet the purpose of RSSB handbooks, which provide information; the material has not changed.	2
5.6 Cab-to-cab calls	5.6 Driver-to-driver calls	Revised – material change to content	The changes in this section are only where ‘cab-to-cab’ appeared in version 1.2. This is now known as ‘driver-to-driver calls’ to align with other GSM-R documents. The term ‘headcode’ has been changed to ‘train reporting number’.	2.2
5.7 Misrouted calls	5.7 Misrouted calls	Redrafted – no material change	Each paragraph has been reworded to meet the purpose of RSSB handbooks, which provide information; the material content has not changed.	1
5.9 Role transfer	5.9 Role transfer	Redrafted – no material change	The first and last paragraphs have been reworded to meet the purpose of RSSB handbooks, which provide information; the material content has not changed.	1
5.10 Call transfer	5.10 Call transfer	Redrafted – no material change	Minor editorial changes to the second and last paragraphs. These have been reworded to meet the purpose of RSSB handbooks, which provide information; the material content has not changed.	1
6.1 DSD alarm	6.1 DSD alarm	Redrafted – no material change	The last paragraph has been reworded to meet the purpose of RSSB handbooks, which provide information; the material content has not changed.	1
6.2 PA calls	6.2 PA calls	Redrafted – no material change	The last paragraph has been reworded to meet the purpose of RSSB handbooks, which provide information; the material content has not changed.	2

From GERT8000-RS523 issue 1.2	To GERT8000-RS523 issue 2	Way forward	Comments	Objective
7.1 Standing at signal message	7.1 Standing at signal message	Redrafted – no material change	Now confirms that the driver is messaging the signaller.	2
7.2 Contact signaller message	7.2 Contact signaller message	Redrafted – no material change	The last paragraph has been reworded to meet the purpose of RSSB handbooks, which provide information; the material content has not changed.	1
7.3 Contact train operator control message	7.3 Contact train operator control message	Redrafted – no material change	This has been reworded to meet the purpose of RSSB handbooks which provide information; the material content has not changed.	1
7.4 Wait message	7.4 Wait message	Redrafted – no material change	The last paragraph has been reworded to meet the purpose of RSSB handbooks which provide information; the material content has not changed.	1
8.1 Types of broadcast calls	8.1 Types of broadcast calls	Revised – material change to content	The information in the last paragraph under ‘Cell-based group broadcast calls’ has been added at the end of the first section as this is introductory information. The numbers of categories has been removed as to highlight that the calls either need the driver to respond or not..	2
8.2 General broadcast calls and 8.3 Advisory broadcast calls	8.2 General or advisory calls	Revised – material change to content	These call types are the same in that they relay information that does not require an acknowledgement from the driver, so have been amalgamated and the example ‘blanket speed restriction’ has been added. To keep the information succinct, scripts have been removed and placed together in section 8.4.	2
8.4 Acknowledged (safety) broadcasts calls	8.3 Acknowledged (safety) broadcast calls	Revised – material change to content	The subsection ‘Uses for safety broadcasts’ was moved to GERT8000-TW1 section 41.10 as part of stage 1 of this project. The scripts have been moved to section 8.4.	2

From GERT8000-RS523 issue 1.2	To GERT8000-RS523 issue 2	Way forward	Comments	Objective
N/A	8.4 Broadcast calls scripts 8.4.1 General or advisory broadcast calls 8.4.2 Acknowledged (safety) broadcast calls	Revised – material change to content	<p>This section now incorporates all the scripts to make it easier for users to find. The original wording has not changed unless stated below. The scripts for general and advisory are now under the same subsection.</p> <p>Section 8.4.2 contains Acknowledged (safety) broadcast calls. The wording in the scripts sections has been updated. ‘Poor rail condition’ in version 1.2, is now the updated term ‘Reportable railhead conditions’ and the term ‘temporary speed restriction’ (TSR) has been added to the abbreviation on the subject as this is now where it is first mentioned.</p>	2 2.4
9.1 Deregistration of the train radio	9.1 Deregistration of the train radio	Redrafted – no material change	Where the term ‘headcode’ was previously mentioned, this has been changed to ‘train reporting number’.	1
9.1.1 Deregistration – end of journey	9.1.1 Deregistration – end of journey	Revised – material change to content	This section now gives more detail on how the driver can deregister to highlight there is more than one method.	2.2
9.1.2 Deregistration – mid journey	9.1.2 Deregistration mid-journey	Redrafted – no material change	The term ‘headcode’ has been changed to ‘train reporting number’.	1
9.1.3 Deregistration – reversing movement	9.1.3 Deregistration – reversing movement	Redrafted – no material change	The term ‘headcode’ has been changed to ‘train reporting number’.	1
9.2.1 Train radio failed to deregister from previous journey	9.2.1 Train radio failed to deregister from previous journey	Redrafted – no material change	<p>The first paragraph has been reworded to meet the purpose of RSSB handbooks which provide information; the material content has not changed.</p> <p>The abbreviation ‘TRN’ has been written as ‘train reporting number’ as the abbreviation is not used in the Rule Book.</p>	1
9.2.2 PA deregistration failure	9.2.2 PA deregistration failure	Redrafted – no material change	The term ‘headcode’ has been changed to ‘train reporting number’.	1

From GERT8000-RS523 issue 1.2	To GERT8000-RS523 issue 2	Way forward	Comments	Objective
10.1 GSM-R TD failure	10.1 GSM-R TD failure	Redrafted – no material change	The last three paragraphs have been reworded to meet the purpose of RSSB handbooks which provide information; the material content has not changed.	1
10.2.1 Power-up self-test failures	10.2.1 Power-up self-test failures	Redrafted – no material change	The wording within the 'Service affecting failures' section has not changed, but the wording has changed to comply with the handbook style.	1
10.2.2 Service affecting failures	10.2.2 Service affecting failures	Redrafted – no material change	The first and second paragraphs have been reworded for clarity and to meet the purpose of handbooks which provide information. The context has not changed.	1
10.2.3 Non-service affecting faults	10.2.4 Non-service affecting faults	Redrafted – no material change	Minor changes to the wording in the last paragraph to meet the purpose of RSSB handbooks which provide information; the material content has not changed.	1
10.2.4 Cancelling fault messages	10.2.4 Cancelling fault messages	Redrafted – no material change	Minor changes to wording in the last paragraph, to meet the purpose of RSSB handbooks which provide information. The material content has not changed.	1
10.3.1 No network message	10.3.1 No network message	Redrafted – no material change	Minor changes to the last paragraph, to meet the purpose of RSSB handbooks which provide information; the material content has not changed.	1
10.3.2 If the train radio does not find the network at the starting location	10.3.2 If the train radio does not find the network at the starting location	Redrafted – no material change	First, third and fourth paragraphs have had minor rewording to meet the purpose of RSSB handbooks which provide information, but the content has not changed.	1
10.3.3 Public mobile network interference	10.3.3 Public mobile network interference	Redrafted – no material change	Minor wording change to the last paragraph to meet the purpose of the RSSB handbooks which provide information, but the content has not changed.	1

From GERT8000-RS523 issue 1.2	To GERT8000-RS523 issue 2	Way forward	Comments	Objective
10.4 Call failure and dropped calls	10.4 Call failure and dropped calls	Redrafted – no material change	Minor wording changes to this section to meet the purpose of the RSSB handbooks which provide information, but the content has not changed.	1
10.5 Checking the train radio can make and receive calls (echo call test)	10.5 Checking the train radio can make and receive calls (echo call test)	Redrafted – no material change	Minor wording changes to this section to meet the purpose of the RSSB handbooks which provide information, but the content has not changed.	1
10.6 Loss of a signaller's fixed terminal	10.6 Loss of a signaller's fixed terminal	Redrafted – no material change	Minor wording changes to the first, second, and last paragraphs, to meet the purpose of the RSSB handbooks which provide information, but the content has not changed.	1
10.7 Loss of a train operator's fixed terminal	10.7 Loss of a train operator's fixed terminal	Redrafted – no material change	Minor wording changes to this section to meet the purpose of the RSSB handbooks which provide information, but the content has not changed.	1
n/a	10.8 Silent radio	New	The detail in this section covers symptoms of silent radio, and ways to resolve this issue.	2.1
10.8 Use of hand portable devices	10.9 Use of hand portable devices	Redrafted – no material change	Renumbered as silent radio section added. Some rewording on the last sentence where the term GERT8000 has been removed and a slight change in wording to clarify what users will find in the Rule Book where it is referenced.	2.1
10.9 Use of transportable devices	10.10 Use of transportable devices	Redrafted – no material change	Renumbered as silent radio section added. Some rewording on the last sentence where the term GERT8000 has been removed and a slight change in wording to clarify what users will find in the Rule Book where it is referenced.	2.1