Strategic Direction for Control Command and Signalling (CCS) TSI

Issue 2

Approved by the
Industry Standards Coordination Committee

14 February 2013

ISCC/016

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## Issue record

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## Publication

This document is published by RSSB, Block 2, Angel Square, 1 Torrens Street, London EC1V 1NY and is available through [www.rssb.co.uk](http://www.rssb.co.uk). For enquiries, please telephone 020 3142 5400 or e-mail [enquirydesk@rssb.co.uk](mailto:enquirydesk@rssb.co.uk).
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1 Purpose

1.1 This document:

a) Sets out the strategic direction for GB involvement in the development of the Control Command and Signalling (CCS) TSI and what GB aims to achieve with this TSI.

b) Adds value by helping GB representatives take decisions from an informed position when evaluating change proposals received from elsewhere.

c) Provides a basis and inspiration for national work.

1.2 This document will be used by the European Railway Traffic Management System (ERTMS) Engineering and Operations Standards Review Group (EOSRG) to cross-check the CCS TSI issued for consultation.
2 Background

2.1 Responsibilities

2.1.1 This strategic direction has been developed by EOSRG and endorsed by the Control Command and Signalling Standards Committee.

2.1.2 It is intended for use by those involved in the drafting of the TSI and those who influence the drafting.

2.1.3 It is also intended to inform stakeholders such as those involved in the design, procurement, building, certifying and authorising of the CCS sub-system and its constituent parts.

2.1.4 This version of the strategic direction addresses European Commission decision 2012/696/EU amending CCS TSI annex A and takes account of the ERA intermediate report on the extension of scope for the CCS TSI.

2.1.5 A comprehensive review of TSI requirements would also need to review the content of the referenced mandatory documents listed in CCS TSI Annex A (e.g. Subset 32 EIRENE functional requirements specification), which contain the majority of the technical detail. This has not been undertaken.

2.2 ERA mandate

2.2.1 ERA mandate C(2010)2576 final of 29 April 2010 sets out the scope of the changes to the CCS TSI. This strategic direction therefore covers the following technical areas:

a) Extend the (geographical) scope of the TSI to the whole rail system in the European Union.

b) Closure of open points.

2.2.2 The mandate requires that the extension of scope of the TSI shall be consistent with viable implementation strategies, taking account of:

a) Infrastructure and rolling stock constraints and opportunities

b) The European deployment plan

c) The development of rail freight corridors and passenger traffic on the extended network.

2.2.3 The mandate requires that the CCS TSI shall be revised:

a) In accordance with the interfaces with the other structural and functional TSIs

b) In order to cover:

   i) Conventional rail rolling stock running on high speed lines, and

   ii) High speed rolling stock running on conventional rail lines.

2.2.4 The version of the CCS TSI that this strategy aims to develop already includes the combined requirements for conventional rail and high speed lines.
2.3 **Key stages in the development of the TSI**

2.3.1 The final Impact Assessment Report justifying the scope extension as possible and economically viable is expected to be presented at RISC early in 2013.

2.3.2 The intermediate Impact Assessment Report presented to the CCS TSI Working Party on 11th September 2012 included the following preliminary conclusions:

   a) Transparency and stability in requirements, of which signalling systems will be in use on the off-TEN network, are important for railway undertakings in order to manage their fleet (e.g. 15 years of forward outlook of infrastructure implementation plan).

   b) Scope Extension of CCS TSI will eliminate the risk of new non harmonised systems to be introduced on the off-TEN network.

   c) Provisions should be added in chapter 7 so that Member States are not obliged to migrate to ETCS in case of upgrade, renewal or new lines within the off-TEN network.

2.3.3 The following areas of work are ongoing:

   a) Electro-magnetic compatibility (EMC) work-stream:

      i) The CENELEC EMC Working Group has a substantial amount of work to specify electro-magnetic compatibility, including closure of the open points, before this work-stream will have any effect on the TSI.

   b) Closure of open points:

      i) Work to close the outstanding open points will continue, with a view to progressive closure over time.

2.3.4 In addition, further areas of work that are beyond the scope of this version of the CCS TSI are on-going in accordance with the Memorandum of Understanding between the European Commission, the ERA and the European rail sector associations.

2.4 **Period of validity of the strategic direction**

2.4.1 This strategic direction is valid until the vote at RISC has taken place on the TSI development described in this strategy.

2.4.2 Periodic updates will be presented to ISCC to address any particularly contentious issues.

2.4.3 There will be a review of the strategic direction in December 2013 if RISC has not voted by then.
3 Guidance for developing the TSI

3.1 Documents

3.1.3 The following documents should be used by GB representatives in developing the TSI:

a) A ‘Guide for persons involved in the development of TSIs’
   [http://www.rssb.co.uk/SiteCollectionDocuments/rgs/004_Guidance_TSI_drafting_issue_3.pdf] which has been developed by the Industry Standards Coordination Committee (ISCC) to provide guidance to individuals from the GB railway community who are involved, in some way, in the development of TSIs. The guide is supported by a ‘checklist of factors’
   [http://www.rssb.co.uk/SiteCollectionDocuments/rgs/005_Guidance_TSI_drafting_checklist_issue_2.pdf] which should be borne in mind when a TSI is being drafted, either for the first time or as a revision.

b) A ‘technical check list for TSIs’,
   [http://www.rssb.co.uk/SiteCollectionDocuments/rgs/009_Technical_checklist_for_TSIs_issue_1.pdf] which covers structural sub-systems (Infrastructure, Energy, Rolling Stock, Control-Command and Signalling), is intended to ensure, as far as possible, that the technical review of TSIs and specific cases is thorough.

3.2 Scope extension of TSIs

3.2.1 Article 1(4) of the Interoperability Directive, 2008/57/EC, requires that ‘The scope of the TSIs shall be progressively extended in accordance with Article 8 to the whole rail system, including track access to terminals and main port facilities serving or potentially serving more than one user, without prejudice to the derogations to the application of TSIs as listed in Article 9’.

3.2.2 The way in which TSIs are written must depend on the way the term ‘the whole railway system’ is interpreted. If the interpretation is too wide, the TSI becomes impossible to write as it would need to cover a very wide diversity of odd systems.

3.2.3 The TSI should therefore be drafted on the assumption that the Member States adopt the exclusions set out in Article 1(3) of the Directive which states that:

‘3. Member States may exclude from the measures they adopt in implementation of this Directive:

a) Metros, trams and other light rail systems.

b) Networks that are functionally separate from the rest of the railway system and intended only for the operation of local, urban or suburban passenger services, as well as railway undertakings operating solely on these networks.

c) Privately owned railway infrastructure and vehicles exclusively used on such infrastructure that exist solely for use by the owner for its own freight operations.'
3.2.4 The ERA mandate is limited to geographical extension and does not include any changes to technical scope of the CCS TSI.

3.2.5 This strategic direction provides an opportunity for GB to consider the feasibility of including technical parts of the CCS system that are currently outside of the scope of the CCS TSI (for example, interlocking and level crossing equipment).

3.3 General consideration of references to ENs in TSIs

3.3.1 The GB position is that EN standards should not be mandated in TSIs if they are harmonised with the interoperability directive 2008/57/EC.

3.3.2 Article 5(8) of Directive 2008/57/EC states:

‘TSIs may make an explicit, clearly identified reference to European or international standards or specifications or technical documents published by the Agency where this is strictly necessary in order to achieve the objective of this Directive. In such case, these standards or specifications (or the relevant parts) or technical documents shall be regarded as annexes to the TSI concerned and shall become mandatory from the moment the TSI is applicable. In the absence of such standards or specifications or technical documents and pending their development, reference may be made to other clearly identified normative documents; in such case, this shall concern documents that are easily accessible and in the public domain.’

3.3.3 Making an explicit reference to ENs is therefore only permitted ‘where this is strictly necessary in order to achieve the objective of this Directive’.

3.3.4 Article 5(8) should be read as a prohibition on including explicit references to ENs in TSIs, with a permitted exception under the specified circumstances. It should not be read as a general permission to include references to ENs under the specified circumstances.

3.3.5 ENs should only be referenced as ways of defining something (such as gauges). They should not be references as a way of imposing a requirement, as any necessary requirements should be set out in the TSI itself.

3.3.6 The published version of the CCS TSI is consistent with these criteria.

3.3.7 The CCS TSI mandates the application of EN50128 Railway applications: Communications, signalling and processing systems - Software for railway control and protection systems as well as mandating the requirement to verify safety software in Chapter 6, which uses the wording proposed by GB and sent to ERA in March 2011.

3.3.8 This area of interest to GB will remain a moving target until the legal review of the CCS TSI commissioned by the European Commission is completed. It is understood that the review places particular emphasis on clauses that mandate the use of EN standards.
3.4 National rules

3.4.1 The CCS TSI includes some references to Member State obligations, which imply a requirement for national rules. For example, chapter 7 includes the following wording in section 7.2.2: 'Member States shall ensure that the functionality of the legacy systems and their interfaces remains unchanged, except where modifications are needed to mitigate safety-related flaws in these systems'.

3.4.2 TSIs should not place obligations on the Member State and any existing clauses of this nature should be removed.

3.4.3 The TSI should be drafted to eliminate references to the use of national rules as a way of meeting an essential requirement (other than as a specific case in chapter 7).

3.4.4 If the TSI intends to cover a point, but there is no agreed requirement, this should be identified as an open point.

3.4.5 If the TSI has nothing to say about a point, it should remain silent. It does not need to say that the issue is dealt with by application of national rules.
4 Principles for developing the TSI

4.1 The overall aims for GB in developing the TSI shall be to:

a) Achieve a specification that allows GB to build economic and cost effective CCS on-board and track-side subsystems

b) Produce a specification that delivers the essential requirements but is not too prescriptive

c) Produce a specification that does not inhibit innovation

d) Produce a specification that is aligned with all of the other TSIs, which are:
   i) Traffic Operation and Management (TOM).
   ii) Rolling Stock (RS, LOC & PAS and Wagon).
   iii) Infrastructure (INS).
   iv) Energy (ENE).
   v) Safety in Railway Tunnels (SRT).
   vi) Passengers with Reduced Mobility (PRM).
   vii) Telematic Applications for Freight (TAF).
   viii) Telematic Applications for Passenger (TAP).
   ix) Noise.

e) Produce a specification that has well-structured relationship with the wider field of European standards and specifications.

f) Produce a standard that is fit for purpose within GB requirements and structure gauge.

g) Ensure that there is no reduction in existing overall levels of safety.

h) Enable the achievement of a cost effective transition to conformity with TSI target subsystems, to the extent that GB intends to do so. The national implementation plan is to roll out baseline 3 infrastructure. The initial assumption in GB is not to run baseline 2 trains over baseline 3 infrastructure. This includes:
   i) The issues with validation of backwards compatibility so that Baseline 3 trains can operate on Baseline 3 infrastructure and v2.3.0d fitted infrastructure.
   ii) The validation of operational rules, in particular the rules applicable to ETCS Level 2 with lineside signals.

4.2 Each of these principles is to be applied to the GB specific technical issues in sections 5 and 6 below as the TSI is developed.
5 GB specific issues

5.1 List of different GB practices

5.1.1 The following specific cases are required to deal with migration from different GB practices:
   a) Entry of train running numbers using alpha-numeric characters on ETCS DMI.
   b) Display of miles per hour on the ETCS DMI.

5.1.2 The following specific case has been required for technical compatibility at the interface between rolling stock and trackside train detection systems, which relates to GB signalling system functionality:
   a) Sanding for traction purposes on multiple units.

5.1.3 The following specific case is required for technical compatibility at the interface between rolling stock and trackside train detection systems on UK High Speed Route 1 (HS1):
   a) 15000 mm minimum distance between the first and last axle (HS1 only).

5.2 Changes to GB practices

5.2.1 Although, alignment with the TSI is possible in the long term, it is not expected that there will be any change to the different GB practices within the lifetime of this version of the CCS TSI.

5.3 Temporary specific cases

5.3.1 No new temporary specific cases are anticipated.

5.4 Permanent specific cases

5.4.1 The TSI should retain the existing UK specific case that permits use of alphanumeric train running numbers during the migration phase:
   a) The long-term requirement for this specific case is dependent on the outcome of Network Rail’s study on train running numbers.
   b) UK technical and operational systems are compatible with the use of alphanumeric train running numbers whereas European practice is to use numeric only train running numbers.
   c) The existing UK specific case:
      i) Does not mandate alphanumeric train running numbers.
      ii) Allows the duty holder to use an alphanumeric keyboard for entry of the train running number, if support for alphanumeric train running numbers is required, in accordance with the technical rule notified for this purpose.
5.4.2 The TSI should retain the existing UK specific case that permits indication of train speed in units of miles per hour during the migration phase:

a) The existing UK railway infrastructure indicates train speed using imperial values whereas the CCS subsystems specified in the TSI are designed for metric operations. The existing UK specific case:

i) Does not mandate the display of dynamic train speed in ‘miles per hour’.

ii) Allows the duty holder to use such a display on lines where lineside signs display information in units of miles per hour.

5.4.3 The TSI should retain the existing UK specific case that constrains the use of sanding equipment on multiple unit trains until the work to close out the train detection open points is satisfactorily concluded.

5.4.4 The TSI should retain the existing UK specific case (High Speed Line 1) for the minimum distance between the first and last axle, which is consistent with equivalent specific cases provided for France and Belgium.

a) UK High Speed Line 1 uses the TVM signalling system, which requires a 15000 mm minimum distance between the first and last axle.

b) The train detection systems specified in the TSI specify a 3000 mm minimum distance between the first and last axle.

5.5 Development of the specific cases

5.5.1 The extension of geographical scope does not introduce a need for any additional specific cases.

5.5.2 The specific cases set out in section 5.4 are included in the CCS TSI (Commission Decision 2012/88/EU).

5.5.3 The arguments used to justify these specific cases are still valid and should be used to justify the continuing need.

5.5.4 The ongoing requirement for the train running number and displaying speed in mph specific cases will be influenced by the emerging content of the draft ETCS DMI specification and whether or not it is mandated by the ERA. The GB position is that these two specific cases should be specifically included in a mandated ERA DMI specification.

5.5.5 The ongoing requirement for the sanding specific case will depend on the closure of the open points in ERA/ERTMS/033281 (Index 77). The GB position is that the train detection interface specifications should take account of the use of sanding with all types of vehicle.
6 General issues

6.1 Introduction to general issues

6.1.3 The issues listed in this section are based on a review of the TSI agreed by RISC in June 2011.

6.1.4 The issues cover:
   a) Mandatory references to EN standards, which is covered in section 3.3.
   b) CCS technical corrections, which are described in section 6.4.
   c) Clarity of open points, which is covered in section 6.6.

6.2 Identifying inconsistencies between HS and CR TSIs

6.2.3 Not applicable – the TSI has already been merged.

6.3 Changes required for extension in geographical scope

6.3.1 Since the mandate is limited to the extension of geographical scope, no changes are foreseen.

6.4 Technical corrections

6.4.1 Overall technical scope of the TSI:
   a) The TSI should only specify requirements and functions that are essential for interoperability.
   b) The opportunity should be taken to remove any unnecessary constraints.

6.4.2 Clarity of the technical scope of Class B CCS systems (TSI clause 2.2):
   a) Class B CCS systems are currently defined as the ‘train protection legacy CCS systems that were in use before 20 April 2001’. Movement authority legacy systems are not considered to be Class B systems, e.g. colour light signalling systems.
   b) The content of the TSI should be consistent with the ongoing operation of legacy signalling systems, including on those lines where ETCS is provided in combination with lineside signalling systems during the migration phase.

6.4.3 Mobile communications functions for railways GSM-R (TSI clause 4.2.4):
   a) GSM-R baseline 1:
      i) The first formal release of the new GSM-R specifications that result from the splitting into mandatory and optional requirements will be published in an update to the TSI at the end of 2011. This is referred to as ‘Baseline 0’ and will reflect the mandatory requirements from EIRENE version 7.1/15.1 FRS/SRS.
      ii) A subsequent update corresponding to FRS/SRS version 8/16, referred to as Baseline 1, is planned for release in 2013. Suggestions are now being sought for candidate functions to be included in Baseline 1.
iii) Baseline 1 should take account of the GB requirements that are currently set out in Railway Group Standard GE/RT8082, including national technical rules.

iv) GB has a number of change requests that need to be resolved.

b) The TSI should specify the requirements for ‘packet switching’ (GPRS) applications.

6.4.4 On-board interfaces internal to ETCS (TSI clause 4.2.6):

a) The TSI should specify an open interface between the European Vital Computer (EVC) and the DMI.

b) The TSI should specify the interface between ETCS and automatic train operation (ATO) systems.

6.4.5 Trackside interfaces internal to ETCS (TSI clause 4.2.7)

a) The TSI should specify the interface between ETCS and interlocking systems.

6.4.6 Key management (TSI clause 4.2.8)

a) The TSI should provide for on-line key management.

6.4.7 Integration of non-ETCS functions with the ETCS DMI (TSI clause 4.2.12):

a) The TSI should clarify that the ETCS DMI may be used for additional non-ETCS functions, subject to national operating rules.

b) The CSM for Risk Assessment and Evaluation would be used to make sure that non-ETCS applications can be safely integrated with ETCS.

c) Additional functions include the display of Class B CCS system information (e.g. AWS/TPWS information) and non-safety functions.

6.4.8 Visibility of trackside CCS objects (TSI clause 4.2.15):

a) Compatibility between ERTMS lineside signs and train headlights is a problem for GB.

b) ERTMS lineside signs should be specified as an interoperability constituent in chapter 5.

c) The specification of ERTMS lineside signs should take account of the requirements for colour and visibility of signs in the Persons of Reduced Mobility (PRM) TSI.

d) The requirement for verifying compatibility between ERTMS lineside signs and train headlights should be covered by chapter 6 (table 6.2).

e) There is no intention to change the specification for train headlamps.

6.4.9 Interface to RST subsystems (TSI clause 4.3.2)

a) The TSI should only include interfaces with the RST subsystem that are necessary to support interoperable functions.

b) ETCS should be capable of supporting the data transmission to provide data input to other train management systems.
c) New interfaces may be appropriate to address new RST functionality (for example, door control systems that require infrastructure and/or train positioning data)

d) The existing interfaces with the RST TSI include open points associated with:
   i) Train detection interfaces (see 6.4.4 and 6.5), and
   ii) EMC (see 6.5).

6.4.10 Interface to ENE subsystems (TSI clause 4.3.4):

a) The TSI should only include interfaces with the ENE subsystem that are necessary to support interoperable functions.

b) ETCS should be capable of supporting the data transmission to provide data input to other train management systems.

c) The ENE TSI includes a cross reference to the CCS TSI relating to traction power control and pantograph up/down control functionality. ETCS includes functionality that would support this function but it is not specified in the CCS TSI.

d) ETCS is just one way of providing this interface. Alternative methodologies include the provision of lineside signs and operational rules.

e) Interoperable functions may also include the following examples:
   i) Route suitability functionality.
   ii) Traction power control interface with the train management system.

6.4.11 Train detection interfaces (Annex A, Index 77):

a) The sanding parameters set out in index 77 version 1 are a solution rather than a definition of the interface.

b) Experience from the Cambrian project suggests that the existing definition of ‘minimum axle distance (1)’ in index 77 makes NoBo assessment difficult. The TSI should incorporate a new form of words to resolve this.

c) Mandatory specification Index 77 (chapter 4 reference 4.2.10) should set out the rolling stock parameters that would support technical compatibility between TSI compliant vehicles and TSI compliant train detection infrastructure, acknowledging that GB has a specific case for minimum wheel rim dimension.

d) With this objective in mind, EOSRG is developing a proposal for an interface framework and anticipates that this approach will be supported by EIM and CER CCS and RST representatives, subject to agreement of values and detail. Initial discussions have been limited to sanding parameters.
6.4.12 Asset management systems (TSI clause 4.5):
   a) One question to be determined is whether a Europe wide DRACAS should be specified.
   b) The output of RSSB research projects T754 and T957 suggests that a cross-industry DRACAS would benefit the management of reliability, safety and availability of shared CCS systems, including GSM-R and ETCS. The research reports include the business benefits and a cost-benefit model.

6.4.13 Verification requirements (TSI tables 6.2 and 6.3):
   a) The existing verification requirements for the integration of CCS subsystems and other subsystems in operational conditions include the use of test runs as supporting evidence.
   b) The term ‘test runs’ is not prescriptive and it may not be necessary / reasonably practicable to comply with.
   c) The requirement for test runs as part of NoBo verification should be removed from chapter 6.
   d) Failure to address this may lead to NoBos requiring extensive and costly testing.

6.4.14 Compliance with an earlier version of the TSI (TSI tables 6.2 and 6.3):
   a) The IC verification process needs to allow for situations where a previous derogation allows for compliance with an earlier version of the TSI.

6.4.15 Verification using ‘on-site measurement’ (TSI table 6.3):
   a) The existing verification requirements for the integration of CCS subsystems and other subsystems require the use of ‘on-site measurement’ as supporting evidence.
   b) The term ‘on-site measurement’ is not prescriptive and it may not be necessary / reasonably practicable to comply with.
   c) The application guide should provide a clear definition of ‘on-site measurement’, which should permit the use of asset records, subject to confirmation that they are accurate.

6.5 Closing out open points

6.5.1 The mandate includes closure of the open points listed in Annex G.

6.5.2 Annex G does not include all the open points in the TSI. Annex G should be revised to include all open points.
6.5.3 Open points listed in Annex G are:

a) Braking aspects (Index 15):
   i) The GB position is to use the Baseline 3 braking model in Baseline 2 applications. This requirement is included in the proposed revisions for RIS-0340-CCS RIS for Onboard ETCS.
   ii) The ETCS braking model needs to be reviewed and it is believed at this stage that consistent rules need to be developed to supplement the model.

b) Availability (Index 28):
   i) The GB position is to engage with the ERA when there is visibility of further work being undertaken.
   ii) The opportunity should be taken to consider whether CCS system availability should be deleted as a mandatory specification if it can be agreed that it is covered by contractual obligations between duty-holders.

c) Safety requirements for ETCS DMI functions (Index 78):
   i) This is a new open point in the CCS TSI.
   ii) The GB position is to remain engaged with the ERA until the open point is addressed; ERA has indicated that this will be early 2013.

d) Ergonomic aspects of the DMI (Index 51):
   i) The GB position is to use ERA_ERTMS_015560 ETCS Driver Machine Interface v3.3.0 to close this open point in Baseline 2.
   ii) It is not an open point for Baseline 3 (closed by ERA_ERTMS_015560 - Table A 2, Index 6).

e) Minimum wheel diameter for speed greater than 350 km/h (index 77):
   i) The GB position is to engage with the ERA when there is visibility of further work being undertaken.

f) Minimum axle distance for speed greater than 350 km/h (index 77):
   i) The GB position is to engage with the ERA when there is visibility of further work being undertaken.

g) Metal and inductive components – free space between wheels (index 77):
   i) Currently, GB does not have a view on this issue.

h) Characteristic of sand applied to tracks (index 77):
   i) This open point should be addressed in combination with the technical correction for sanding characteristics. The sanding characteristics currently specified are a solution rather than a definition of the interface.
   ii) GB representatives are actively pursuing a working group to resolve this problem for the next revision of the TSI.
iii) Closure of this open point should aim to remove the GB specific case for sanding described in 5.1.2a.

i) Vehicle metal mass (index 77):
   i) The GB position is to wait for the open point to be closed by Europe because it has no interest in this area.

j) Combination of rolling stock characteristics for the purpose of dynamic shunting impedance (index 77):
   i) The GB position is to engage with the ERA when there is visibility of further work being undertaken.

k) Electro-magnetic interference (traction current) (index 77):
   i) The GB position is to continue to support the work of the TS-EN50238 drafting group, ensuring that all content of TS-EN50238 is covered by the TSI and (noting that EN50121 is already harmonised) ensuring that it specifically addresses EMC requirements for:
      • axle counters in dc traction areas
      • track circuits, and
      • balises on lines fitted with dc conductor rail systems.

l) Electro-magnetic interference (electro-magnetic fields) (index 77):
   i) The GB position is to continue to support the work of the TS-EN50238 drafting group, ensuring that all content of TS-EN50238 is covered by the TSI and (noting that EN50121 is already harmonised) ensuring that it specifically addresses EMC requirements for:
      • axle counters in dc traction areas
      • track circuits, and
      • balises on lines fitted with dc conductor rail systems.

m) DC and low frequency components of traction current (index 77):
   i) The GB position is to continue to support the work of the TS-EN50238 drafting group, ensuring that all content of TS-EN50238 is covered by the TSI and (noting that EN50121 is already harmonised) ensuring that it specifically addresses EMC requirements for:
      • axle counters in dc traction areas
      • track circuits, and
      • balises on lines fitted with dc conductor rail systems.

n) Use of magnetic and eddy current brake (index 77):
   i) The GB position is to engage with the ERA when there is visibility of further work being undertaken.
6.5.4 Annex G should be amended to include all of the open points in the main body text of the TSI:

a) The minimum impedance between pantograph and each wheel of the train (clause 3.2.2 of Annex A, Index 77):
   i) The GB position is to wait for the open point to be closed by Europe because it has no interest in this area.

b) Odometry FIS (Index 44):
   i) The GB position is to engage with the ERA when there is visibility of further work being undertaken.

c) Test specification for mobile equipment GSM-R (Index 48):
   i) The GB position is to engage with the ERA when there is visibility of further work being undertaken.

d) RBC-RBC Test specification for safe communication interface (Index 62, Subset-099):
   i) The GB position is to engage with the ERA when there is visibility of further work being undertaken.

e) EIRENE FRS: Restriction on Cab Mobile software updates while in service (Index 32):
   i) The GB position is to support a revision to the GSM-R specifications to address this (a change request originating outside GB has already been raised).

f) EIRENE FRS and EIRENE SRS: PA interface for Driver Only Operation (Index 32 and Index 33):
   i) The GB position is to propose a revision to the GSM-R specifications to address this. An implementation report has been raised and has been accepted at pre-qualification stage.

g) EIRENE FRS and MORANE P 38 T 9001 FFFIS for GSM-R SIM cards (Index 32 and Index 67): Stored numbers or other set-up details:
   i) The GB position is to propose a revision to the GSM-R specifications to address this. An implementation report has been raised and has been accepted at pre-qualification stage.

h) EIRENE FRS: National specific operational messages (Index 32):
   i) The GB position is to propose a revision to the GSM-R specifications to address this. An implementation report has not yet been raised.

i) EIRENE FRS and EIRENE SRS: Journey Registration (Index 32 and Index 33):
   i) The GB position is to propose a revision to the GSM-R specifications to address this. An implementation report has been raised, but has been rejected at pre-qualification. This is being challenged.

j) EIRENE FRS and MORANE P 38 T 9001 FFFIS for GSM-R SIM cards (Index 32 and Index 67): International phonebook:
i) The GB position is to propose a revision to the GSM-R specifications to address this. An implementation report has been raised and has been accepted at pre-qualification stage.

k) EIRENE FRS and EIRENE SRS: Cab Mobile voice quality testing (Index 32 and Index 33):
   i) The GB position is to propose a revision to the GSM-R specifications to address this. An implementation report has been raised and has been accepted at pre-qualification stage.

l) EIRENE FRS: eMLPP priority designations (Index 32):
   i) The GB position is to propose a revision to the GSM-R specifications to address this. An implementation report has been raised and has been accepted at pre-qualification stage.

m) EIRENE FRS, EIRENE SRS and MORANE P 38 T 9001 FFFIS for GSM-R SIM cards: GB SIM card profile (Index 32, Index 33 and Index 67):
   i) The GB position is to propose a revision to the GSM-R specifications to address this. An implementation report has been raised and has been accepted at pre-qualification stage.

n) EIRENE FRS: National specific UUS1 tags (Index 32):
   i) The GB position is to propose a revision to the GSM-R specifications to address this. An implementation report has been raised and has been accepted at pre-qualification stage.

6.6 Additional open points

6.6.1 No additional open points are anticipated as a result of the extension of geographical scope.

6.6.2 If GB decides that the scope of the CCS TSI should be expanded to include interfaces with those parts of the CCS system that are currently outside of the scope of the CCS TSI (for example, interlocking and level crossing equipment), such an extension would create additional open points.

6.6.3 Annex G should be corrected to include the missing open points in the TSI, which are listed in section 6.5.4 above.

6.6.4 Open points within the main body text of the TSI should be shown in the relevant clause as well as Annex G.

6.6.5 Open points are not consistently shown in referenced documents.

6.6.6 Annex G currently includes the open points in index 77 but not other referenced documents. This is inconsistent and potentially misleading. Annex G should be amended to include all of the open points in mandatory documents (TSI Annex A).
6.7 TSI issue log

6.7.1 There are two open issues in the existing TSI issue logs for the High Speed and Conventional Rail CCS TSIs:

a) Critical errors relating to GSM-R, which have been addressed by notifying particular clauses in GE/RT8082 as national technical rules.

b) The wheel flange height range for a P8 profile wheel is 30mm (new) to 36.5mm (worn) (as specified in Appendix A of GM/RT2466) which exceeds the 36mm maximum specified in the TSI.

6.7.2 The GB position is to address both of these issues in this version of the CCS TSI.

6.7.3 A review of the content of the revised CCS TSI following the RISC vote in June 2011 has identified the following new issues which will need to be added to the TSI issues log if they are not addressed before publication:

a) Assessment of the on-board ERTMS/ETCS:

   i) Clause 6.2.4.1 states that the NoBo is required to check that a specimen of the IC has passed the full set of mandatory test sequences referenced in 4.2.2 and that these tests are carried out in a laboratory accredited to carry out this type of test in accordance with Regulation (EC) No 765/2008.

   ii) There are no accredited laboratories in Europe, which means that it is not possible to comply with this requirement.

b) Verification of STMs:

   i) Clause 6.2.4.2 states that the Member State shall verify that STMs conform to national requirements. It is not clear how this should be done.

   ii) Also, the GB position is that TSIs should not place obligations on the Member State.

c) The direct reference to ERA/TD/2011-11 version 1 in CCS TSI section 2.2 Scope is inconsistent with the use of Annex A to list referenced documents.

d) Implementation of train detection systems:

   i) The requirements for upgrading and renewing train detection systems are a significant change from previous versions of chapter 7.

   ii) The existing CCS TSI specifies implementation in terms of an ERTMS/ETCS plan. The new TSI adds specific implementation requirements for train detection systems.

6.8 Changes to minimise references to ENs

6.8.1 The GB position is that Euronorm (EN) standards should not be mandated in TSIs if they are harmonised with the interoperability directive.
6.8.2 This is consistent with the position of the ERA on this matter but not the decision taken by RISC (see section 3.3).

6.9 Changes to eliminate the use of national rules

6.9.1 The existing list of CCS national technical rules was notified to address the open points in the CCS TSI and mandatory referenced documents (GB category 1). These will be eliminated when the open points are closed.

6.9.2 Additional CCS national rules are expected to be notified in order to comply with EC recommendation 2011/217/EU (DV29) including:
   a) National technical rules to address technical compatibility with the existing infrastructure and operations (GB category 2).
   b) The GB specific cases (GB category 4).

6.9.3 In addition, TSI section 2.2 refers to a limited set of train protection legacy CCS systems, which is established by reference to ERA document ERA/TD/2011-11 List of Class B systems, version 1.0, which includes for UK:
   a) GW ATP.
   b) RETB.
   c) TPWS (which includes AWS).
   d) TVM 430.

6.9.4 In connection with the extension of geographical scope, GB shall seek to add the following legacy CCS systems to the published list of Class B systems:
   a) Chiltern ATP.
   b) Mechanical train-stop.
   c) Indusi train-stop (Tyne and Wear).

6.9.5 The list of Class B systems includes missing data covering:
   a) Version identification.
   b) Date of latest authorisation to place into service.

6.9.6 It is anticipated that GB will be required to notify the national technical rules for these systems in accordance with EC recommendation 2011/217/EU (DV29).

6.10 Interoperability Constituents (ICs) and Interchangeable Spare Parts (ISPs)

6.10.1 As described in section 6 of this paper, ERTMS lineside signs should be specified as an interoperability constituent.

6.10.2 GB should support the work to develop a CENELEC technical specification (TS-EN) for the open interface between the ETCS DMI and European Vital Computer (EVC).
7 Feedback to ISCC

7.4 Reports will be made to ISCC on progress with the development of the TSI when:
   a) Preliminary drafts of the TSI is available.
   b) Presentations by ERA are due to be made to RISC.
   c) The final draft is submitted to RISC for vote.

7.5 Where it appears that the development of the TSI is at risk of deviating significantly from the direction set out in this document, EOSRG shall report to ISCC on the issues with recommendations on any further action that needs to be taken.

8 Appendices

8.1 None.