Consultation comments and responses

Document Title: Track System Requirements / Switches and Crossings

Document number: GCRT5021 / RIS-7707-INS

Consultation closing date: 14 July 2023

1. Responders to consultation

No	Name	Company
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2. Summary of comments

Code	Description	Total
-	Consulted	326
-	Total comments returned	79
DC	Document changed	57
NC	Not changed	22

Classification codes for a way forward:

- DC – Document change
- NC – No change

3. Collated consultation comments and responses

GCRT5021 issue six

No	Page	Clause	Comment	Suggestion	By	Way forward	Page	Clause	Response
1	21	2.9.2.1	Table 7 has a foot note for IAL values in the 3 slowest speed bands	I believe that 36 hrs is applicable for all speed bands regardless of track curvature <400m or not. There is no further onerous response. I suggest the * applies to IL values. This then ties into NR/L2/TRK/001/MOD11 Table 3 where sub 400m has a time scale of 7 days and 400m or greater has 14 days' time scale.	1	DC	21	2.9.2.1	Agree with comment, change made.
2	21	G2.9.2.5	There are no current additional controls around tight curves for IAL values. There are current additional controls around tight curves for IL values.	Truncate the clause to: *At lower speeds (< 75 mph) the GB IAL is less onerous than the limit set in the INF NTSN. This is justified by historic safe use.* This removes the contradiction to current NR standards *and the application of additional controls around tight curves.*	1	DC	21	G2.9.2.5	Agree with comment, change made.
3	24	2.9.5.1	Table 12 Alignment limit value for AL at speed range 76-100 (10mm) differs from current NR/L2/TRK/001/MOD11 value of 11mm in table B.1	Suggest the current AL 10mm limit value in table 12 is changed to 11mm for a full match	1	DC	24	2.9.5.1	Agree with comment, change made.
4	27	G2.9.6.10	New Guidance	Suggest that guidance is provided concerning the type of filter used. Traditionally Butterworth filters are used with a known phase shift. Limit values are traditionally based upon these types of filters used. Should an alternative filter types or alternative phase shift of butterworth filters be used such the phase distortion removed, the limit values should be adjusted accordingly.	1	DC	27	G2.9.6.10	Guidance added stating: The values for track quality in clause 2.9.6.3 are based on a measurement system utilising a Butterworth Filter to process track measurement data. Should another mathematical filter be used to derive track quality, consider revising the track geometric quality limits. Additionally – Butterworth filter added to definitions.

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5	20	G2.9.1.3	Point of clarity concerning examples of time scales. These are indicative...? NR/L2/TRK/001/MOD11 Table 2, IAL limit values, are only stipulated for Twist 3m, track gauge 1435mm nominal and cyclic top. There are NO top or alignment limit values NR/L2/TRK/001/MOD11 Table 4 contains two sets of IL values for Top and alignment that correspond to 5021's tables 11 and 12 limit values. However, the more onerous limit values in NR/L2/TRK/001/MOD11 Table 4 that align to IAL values 5021, have a response time to inspect within 72hrs and rectify in 7 or 14 days, dependent upon track category. The least onerous limit values have no inspection time scale but rectification timescale of 14 or 28 days, dependent upon track category.	Please confirm that current time scales in NR/L2/TRK/001/MOD11 Table 4 are considered compliant to 5021s guidance clause.	1	NC	N/A	N/A	The values in G2.9.1.3 are example values and therefore there it is not possible to be non-compliant against them. Additionally, it is a guidance clause.
6	27	G2.9.6.9	Interpretation issue concerning guidance. Inherent track geometry can cause false positives in top 35m or more commonly in alignment 35m. This is a feature of the inertial measurement system and traditional butterworth filter combination. This is not a track design feature.	Suggest modification to clause to read: In certain circumstances, inherent track geometry and design constraints can result in poor track quality measurement from inertia measurement systems. In these circumstances, it ~~is~~ may be appropriate to monitor the track quality rather than apply a speed restriction or carry out corrective work.	1	DC	27	G2.9.6.9	Text changed to: In certain circumstances, inherent track geometry and design constraints can result in poor track quality measurement from certain track measurement systems. In these circumstances, it may be appropriate to monitor the track quality rather than apply a speed restriction or carry out corrective work
7	12	2.5.1.1	Surely the limits in table 1 only apply to 'new lines' as per the definition in the NTSN. There are existing lines which may have horizontal curvature tighter than this and these used to be addressed in issue 5 of 5021 by clause 5.1.3. The NTSN only provides limits for 'new lines' and therefore clause G2.5.1.2 is potentially mis-leading.	Need to differentiate requirements between 'new lines' and existing and have requirements similar to clause 5.1.3 of issue 5 to cover existing lines.	2	NC	N/A	N/A	This is covered by clauses 5.1.2 and 5.1.4 10.1.2 The requirements of this document apply to all new, renewed and upgraded (excluding like-for-like replacement of components) track systems. 10.1.3 … 10.1.4 Where it is known, or becomes known, that existing track system does not comply with the requirements of the following sections, then action to bring them into compliance is required: a) 2.9 (Track geometry faults) b) 3.2 (Requirements for rails, rail gaps and rail fastenings)

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8	14	2.5.4.1	Legacy components may not be suitable or sustainable to be regularly subjected to deficiency in excess 110mm, condition may also preclude this.	Suggest some guidance or requirements similar to that in NR/L2/TRK/2102 regarding 'legacy' and 'modern' CWR is included in the same way as some requirements have been included in 5021, clause 2.5.4.3 for jointed track with exceptional deficiency.	2	DC	14	2.5.4.1 and 2.5.4.3	The terms modern and legacy CWR have been added to 2.5.4.1 and 2.5.4.3. Modern and legacy CWR added to definitions
9	14	2.5.4.1	EPS curve >700m – 400m Normal limit =185mm	Just to note the difference to TRK/2102 where this value is more conservative 150mm. This is perhaps something that can be looked at in future versions of TRK/2102	2	NC	N/A	N/A	Noted
10	14	2.5.4.3 item a)	The term 'track quality' implies looking at the SD's to me where I think what we really should be looking at is the quality / suitability of components and the track system for higher deficiencies	Suggest it is reworded as follows: "The condition and type of components and the historical track quality has been assessed as being suitable for taking additional lateral forces."	2	DC	14	2.5.4.3	Agreed – clause added: b) The condition of track components has been assessed as being suitable for taking additional lateral forces.
11	15	G 2.6.1.4	Guidance indicates that some stock has a bogie centre greater than 12.2m and 12.2m was the historically the shortest distance between rolling stock, however, vehicles like the Class 399 (tram-train) have bogie centres of less than 12.2m.	Update guidance to capture that there may be instances where bogie centres are less than 12.2m and these need to be considered. Also, should the value represent the worst-case bogie distance? Or the most common/likely?	2	DC	15	G2.6.1.4	Agreed – G2.6.1.4 modified: The word 'larger' now changed to 'different'. Additional guidance clause added stating: G 2.6.1.5 If a different virtual transition length is chosen, it is recommended that the shortest distance between bogie centres of the vehicles planned to operate on the route is used. BS EN 13803:2017 provides guidance on virtual transitions and references virtual transition distances of 10.07 m, 12.2 m and 20 m.
12	16	Table 4	Just to note that TRK/2102 has more conservative 'normal' values of 35mm/sec for permissible and enhanced permissible lines	For info	2	NC	N/A	N/A	Noted
13	17	Table 5	Again, some differentiation between jointed/legacy CWR vs modern CWR may be useful For info -TRK/2102 has more conservative normal design values for PL & S&C	Again, some differentiation between jointed/legacy CWR vs modern CWR may be useful	2	DC	17	Table 5	As per comment 8 – the term modern CWR has been added.
14	18	2.7.2.1	Surely the limits in table 6 only apply to 'new lines' as per the definition in the NTSN. There are many existing lines which are steeper than this and these used to be addressed in issue 5 of 5021 by clause 5.1.3. The NTSN only provides limits for 'new lines' and therefore clause G2.7.2.3 is potentially mis-leading.	Need to differentiate requirements between 'new lines' and existing and have requirements similar to clause 5.1.3 of issue 5 to cover existing lines.	2	NC	N/A	N/A	See comment 7

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15	18	2.7.2.2	The term ‘new track’ is used but no definition is provided. This will lead to lots of debate and inconsistency in application.	Suggest that the term ‘new track’ is replaced with ‘new lines’ and the definition of ‘new lines’ is as per the NTSN INF: “	2	DC	19	G 2.7.2.5	Agreed. The requirement has been removed and converted to guidance referencing the INF NTSN: G 2.7.2.5 For new lines, the requirements for track gradients through platforms and sidings are set out in INF NTSN.
16	18	2.7.2.2	Why is the limit 2mm/m rather than the 2.5mm/m limit in the NTSN. The clause G2.7.2.3 is potentially misleading as it would suggest that 2mm/m is the compatible limit rather than the 2.5mm/m in the NTSN.	Given the amount of successful variations against a 1:500 limit on sidings, why can this clause not be 2.5mm/m as per the NTSN?	2	DC	18	2.7.2.2	Agreed. The requirement has been removed and converted to guidance referencing the INF NTSN: G 2.7.2.5 For new lines, the requirements for track gradients through platforms and sidings are set out in INF NTSN.
17	36	G.4.1.1.6	Abrupt change of cant deficiency	Is it worth stating the limits contained in the NTSN-INF (130mm/125mm)	2	NC	N/A	N/A	Whilst this could benefit the reader, standards policy is that we do not include limits from other standards. This ensures there is no discrepancy if the NTSN values are changed in the future.
18	43	5.1.3	The scope of this standard been reduced from 140mph to 125mph. I think we need an industry conversation on the appropriateness of 5021 & 2102 values at speeds greater than 125mph, to establish our confidence in the tolerances stated. This review should take continental standards into account. This change of scope requires explaining in the briefing note or the business case for change document. There are currently project in the UK looking at the feasibility of 140mph on the conventional rail network, so this change of scope leaves a gap Section 4.2.1 covers swing nose crossings at speeds above 125mph		2	DC	44	5.1.3	Agree with this point. The scope has been changed back to 140mph and where requirements have maximum speed bands of 125mph, guidance has been added. G 2.9.1.7 As the speed ranges used in the section do not exceed 125mph, on lines where the highest permissible or enhanced permissible speed is in excess of 125 mph, it is good practice to consider the use of more onerous fault limits, short intervention timescales, and speed restrictions.

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19	14	2.5.4.1	The 150mm exceptional limit of cant deficiency is above the capability of some rolling stock operating on the network. RIS-2711-RST Section 6.3 describes how the HST was the first train able to operate at the enhanced 150mm cant deficiency value. It is therefore vital that where cant deficiency is allowed to increase above the normal 110mm value, that speed profiles are managed to ensure all rolling stock operates at a safe value of cant deficiency.	Add a new requirement as follows: If any rolling stock operating on the route is not authorised to operate above the normal 110mm cant deficiency, then a speed profile that does not exceed 110mm cant deficiency shall be provided for all stock. An additional HST or MU lettered differential speed profile may then be provided to allow authorised rolling stock to operate up to 150mm cant deficiency. In ETCS Signals away areas the ETCS Cant Deficiency speed profiles can be used in place of the HST or MU lettered differential. Note: It may be the case that all rolling stock designed for operation above 100mph were also designed for 150mm cant deficiency operation. If this can be demonstrated to be true, then the proposed new requirement could be modified to only apply for locations where operation at 100mph would result in a cant deficiency of greater than 110mm. The author of RIS-2711-RST may be able to advise on this topic.	3	NC	N/A	N/A	The considerations regarding determining the permissible speed over a section of track are covered in section 2.3. Within this guidance there is reference to the LDPS standard RIS-7706-INS.
20	14	2.5.4.3	Operation above 90mm cant deficiency on jointed track has historically been controlled by the use of the SP lettered differential. The document does not reference the SP lettered differential as the mechanism for managing an additional speed profile to allow certain stock to operate above 90mm CD on jointed track.	Add a reference to the SP lettered differential (RIS-2711-RST Part 4) as a mechanism for providing an additional speed profile to enable only authorised rolling stock to operate above 90mm cant deficiency on jointed track.	3	DC	14	2.5.4.3	Requirement has been changed to refer to SP classified rolling stock rather that DMUs. The requirement now reads as: An exceptional limiting design value for cant deficiency of 110 mm is permissible on plain line legacy CWR and jointed track for rolling stock classified as SP, provided: 1. The track quality have been assessed as being suitable for taking additional lateral forces. 2. The condition of rail joints has been assessed as being suitable for taking additional lateral forces. 3. The condition of track components has been assessed as being suitable for taking additional lateral forces. In guidance: The requirements for rolling stock to be classified as SP are set out in RIS-2711-RST. SP added to definitions.

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21	14	2.5.4.3	There is a discrepancy between this requirement and the axle load requirement placed on rolling stock to be authorised for SP. The rolling stock SP requirements are contained within RIS-2711-RST Part 4 where clause 4.2.1 states that the maximum axle load shall not exceed 13.8 tonnes under the loading conditions set out in 3.1 (which is 320kg of load per metre vehicle length).	Rectify the disconnect between this standard and RIS-2711-RST relating to the allowable axle loads for SP status. Note that the values from RIS-2711-RST have been used for SP authorisation of many vehicles historically.	3	DC	14	2.5.4.3	Agreed: see comment 20
22	19	2.7.3	Section 2.7.7.1 of GCRT5021 issue 5 details the exceptional limiting design values for vertical curve radii as 600m hog & 900m hollow. In the draft this has been replaced with a reference to INF NTSN. Section 4.2.3.5 states minimum values of 500m hog & 900m hollow. GIGN7608 section 3.3.5.1 states GB practice is to use 600m as the minimum hog vertical curve radius.	Is it correct that the minimum vertical curve radii for hog curves has been reduced from 600m to 500m? Please could this be clarified.	4	NC	N/A	N/A	Yes – there was no strong rationale to diverge from the NTSN for this requirement. It should be noted that this applies to the exceptional limiting values and therefore should be avoided if possible and justification shall be provided for the use of exceptional limiting design values. Once GCRT5021 has been published, we will look to update GIGN7608.
23		2.5.1.1	Some additional discrepancies between Inf TSI and GCRT5021 e.g. installed cant and radius (considering normal/exceptional limit, passenger/non-passenger). Radius - Is a 125m radius for non passenger lines permissible under Inf NTSN.	Clarification requested	4	NC	N/A	N/A	These are national differences due to technical compatibility and often based on historic safe use. That is why they are National Technical Rules (the requirements within a RGS – Railway Group Standard). Where these is no rationale to diverge from the NTSN (post-Brexit TSI) then this is stated – such as Vertical Curves.
24		2.5.3.1	Some additional discrepancies between Inf TSI and GCRT5021 e.g. installed cant and radius (considering normal/exceptional limit, passenger/non-passenger). Cant – Inf NTSN states max design cant 180mm, GCRT5021 states normal limit is 150mm	Clarification requested	4	NC	N/A	N/A	These are national differences due to technical compatibility and often based on historic safe use. That is why they are National Technical Rules (the requirements within a RGS – Railway Group Standard). Where these is no rationale to diverge from the NTSN (post-Brexit TSI) then this is stated – such as Vertical Curves.
25	12	2.5.1.1	possibly ambiguous wording – “Shall exceed”. I appreciate that it’s stating “be greater than” but as these are limits, ‘shall exceed’ reads like a typo. Worth considering alternative wording?		10	NC	N/A	N/A	We have to use the word ‘shall’ to ensure it is a requirement and it was agreed with our Policy team – I recommend the wording is kept.
26	17	2.6.4	Table 5 – “S&C designed to accommodate this cant deficiency” – which cant deficiency is referred to here? No guidance is given on which designs of S&C are referred to?		10	DC	17	2.6.4.1	The phrase “S&C designed to accommodate this cant Deficiency” has been changed to “Modern CWR S&C”.

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27	33	G.3.2.8.3	“or other rail-mounted infrastructure”?		10	DC	33	G 3.2.8.1 G 3.2.8.2 G 3.2.8.3	This is actually a good spot in terms of the wider clause. It only references track within 9 m of a fishplate – will change clause to reflect NR and wider industry.
28	35	4.1.1.1	Table 20 – “S&C designed to accommodate this value of cant deficiency” – again this isn’t clear? Where do we define which S&C is designed to accommodate it?	-	10	DC			The phrase “S&C designed to accommodate this cant Deficiency” has been changed to “Modern CWR S&C”.
29	35	4.1.1.1	Table 20 - where has the 125mm limit at switch toes come from – and the foot note that states speeds up to 105mph?	-	10	NC	N/A	N/A	This is justified by historic safe use.
30	40	G 4.4.2.6	Typo – “Switched”	-	10	DC	41	G 4.4.2.6	Typographical error corrected.
31		G 2.9.1.3	For G 2.9.1.3 AL faults are supposed to be dealt with during core maintenance activities; the timescales do not define Inspection or Rectification (for instance as you suggested there are 7 day rectification faults, or inspection within 72 hours); whilst IAL includes Block the Line. Whilst these are examples, I think a definition of IAL, IL and AL would be better rather than providing an example of an intervention timescale.	-	10	NC	N/A	N/A	As this is an example, I recommend that it is kept. It may help inform non-NR infrastructure operators.
32		N/A	There is no reference to gauge variation. Was this discussed by the working group? Whilst this is more of a ride quality issue where gauge tightens over 3m increasing wheel conicity and thus lateral forces applied to the rails, the recent Sheffield Derailment highlighted how reporting of gauge variation could have aided the maintenance teams with identifying an issue at the site.	-	10	NC	N/A	N/A	I think that will probably be too granular for an RGS – I think the current track gauge limits should remain. The issue at Sheffield seemed to be the lack of dynamic measurement over the points.

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33		N/A	On a side note, the University of Huddersfield have released Work Package One of the research into NR/L2/TRK/001 Module 11 which I am currently reviewing. Dominic Trueman is aware of the research and there is a potential recommendations from the research if adopted may deviate from the changes put forward in the new version of GC/RT/5021. So far the evidence has demonstrated Network Rail's twist3m, cyclic top and dip standard governance is sufficient, whilst there are opportunities to challenge gauge, lateral (TOP35m) and horizontal (AL35m) channel governance. Would you be interested in reading the WP1 report?	-	10	NC	N/A	N/A	Noted and I'm aware of the work – it was very interesting but currently a bit too detailed for the RGS.

RIS-7707-INS issue one

No	Page	Clause	Comment	Suggestion	By	Way forward	Page	Clause	Response
34	8	2.1.1	When you say that points have unique numbering for interlocking, is that a workstation interlocking or ROC interlocking?		9	DC	8	2.1.1	To provide clarification of the type of interlocking the requirement has been edited. Point identity that is unique to the controlling signal box or signaller's workstation shall be provided for: a) worked points, unworked points, train-operated points, and swing nose crossings that are detected in the signalling system; and, b) unworked points in running lines that are not detected in the signalling system.
35	16	G 4.2.6	Is reference of the NR standard allowable in RIS?		8	DC	14	G 3.4.5	The reference to the NR standard is no longer considered necessary and so the reference has been removed and the guidance edited to combine G 3.4.5 and G 3.4.6.
36	9	G 2.2.8	I cannot see why there is any need to observe Point ID plates at Line speed by train crew? The signalling system proves point lie and locking for normal mode operation. The point ID plates on have relevance to maintenance and some degraded mode processes. To be visible at line speed they would need to be much larger than traditionally. And why only in daylight?		8	DC	N/A	N/A	This rationale is no longer included as it is incorrect.
37	13	3.2.3	In discussion with the ORR some years ago we had an improvement notice to get rid of any unworked points in running lines facing or trailing.		8	NC	N/A	N/A	This requirement will be retained should unworked points in running lines be required as part of staging works and in the absence of confirmation that no unworked points in running lines are present on the GB network.
38	13	3.2.5	Out of use points are a requirement from time to time during stage work. These should be detected wherever practical and a points management plan put in place. Although it is possible to secure points as described the risk we have seen on a few occasions arises where the securing is removed to allow use during engineering work and then not correctly replaced.		8	DC	13	G 3.2.13	Additional guidance has been incorporated to address this situation. "It is good practice for detection to be provided and a points management plan to be in place for out-of-use points in running lines. Where detection is not provided and points are restrained by a secure physical device, the points management plan manages the risk of the secure physical device being replaced after removal."

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39	13	G 3.2.12	There a number of sites where the detection system does not prove the locking and detection of points for every movement. Typically these are on single lines or absolute block worked lines where mid-section ground frame worked sidings are provided. The integrity of the mechanical points operation is generally accepted as sufficiently robust. I would accept that non mechanical point locking arrangements need regular proving.		8	DC	13	G 3.2.12	The guidance has been edited to improve accuracy. “In situations where the points are not required to move between trains, it cannot be assumed that the points are in the correct position. Continuous detection checks and reports the position of the non-mechanically worked points prior to every movement authority being given. It is acceptable for some mechanically worked points, typically where operated by a mid-section ground frame, that the detection system does not prove locking and detection after every movement.”
40	9	G 2.2.8	Consistent design and positioning of point identification plates facilitates their observation by traincrew at the permissible speed in daylight.		7	DC	N/A	N/A	This rationale has been removed as it is incorrect.
41	12	3.1.4	Requirement is related to wheel-rail interface therefore could be considered technical compatibility. Consider inclusion in RGS as an NTR.		7	NC	N/A	N/A	The requirement is provided to maintain the integrity and longevity of the switch system rather than managing the wheel and rail interface. A tolerance is provided for maintainability but in ideally gap is zero. The tolerance minimises the effect of vibration and impact loads from passing wheelsets that would reduce the asset life of the switch or crossing nose and point operating equipment.
42	15	4.2	Limits of wear and damage are part of the wheel-rail interface, therefore can be considered technical compatibility. Consider classifying as a NTR and moving to RGS		7	DC	13	G 3.4.1	This requirement cannot be classified as an NTR as it is already covered in the INF NTSN 4.2.5.1. The requirement has been converted to guidance so that the NTSN requirement is not duplicated by the RIS.
43	15	G 4.2.2	Editorial change	Limits of wear and damage are used to identify when maintenance is appropriate and when points are secured out-of-use to minimise the risk of derailment.	7	DC	13	G 3.4.1, G 3.4.4	This rationale has been moved to guidance and edited to incorporate comments from consultation.
44	6	1.3.1	Misspelling of signalling		6	DC	6	1.3.1	Misspelling of signalling corrected.
45	8	2.1.2	Clarification		6	DC	8	2.1.2	The requirement has been edited to improve clarity. Points worked by lever frame shall be identified by the lever number.
46	8	2.2.1	Use of ‘in accordance with’ incorrect		6	DC	8	2.2.1	References to lineside safety sign AC10 moved to guidance as this is good practice and the requirement does not have so specify the solution.
47	8	2.2.2	b) a signal box or locality code prefix, where necessary. - who decides?		6	DC	8	2.2.2	The requirement is proposed to be reworded to add context as to when the locality prefix is required to prevent confusion.
48	9	2.2.4	Should this be an 'and'?		6	DC	9	2.2.3, 2.2.4, 2.2.5	The requirements have been edited to improve clarity. Rather than use a list the requirements have been written out individually.

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49	9	2.2.5	At point ends without a normally closed switch rail, the point identification plate shall incorporate an arrow pointing in the direction of operation for the normal position. - is this trap or wide to gauge points?		6	NC	N/A	N/A	A point end without a normally closed switch rail would be known when undertaking the layout design. Trap points, including wide to gauge trap points, are examples of a point end without a normally closed switch rail as stated in the guidance.
50	9	2.2.6	a) be fixed to a bearer next to the normally closed flangeway, adjacent to the crossing nose; and, - correct terminology?		6	NC	N/A	N/A	'Normally closed flangeway' is the correct terminology for swing nose crossings on the GB mainline.
51	9	G 2.2.9		The information conveyed in the point identification plate to the points operator or route-setting agent enables confirmation that the points are set in a particular position when moving and securing points by hand.	6	DC	9	G 2.2.9	Agreed, guidance edited.
52	9	G 2.2.10		A signal box or locality code prefix can avoid confusion where points controlled from different interlockings are adjacent to each other.	6	DC	9	G 2.2.10	Agreed, guidance edited.
53	10	Figure 1	drawing confusing plate on bearer at tips.		6	DC	10	Figure 1	Agreed. The diagram of illustrative point layout in Figure 1 a) has been updated to improve clarity.
54	10	G 2.2.13	Clarify wording		6	DC	N/A	N/A	This guidance is no longer included to prevent confusion and does not provide value.
55	10	G 2.2.14	Clarify		6	DC	N/A	N/A	This guidance is no longer included to prevent confusion and does not provide value
56	11	G 2.2.15	Points with two or more ends that are operated by the same interlocking element are identified by a common identity and a unique suffix for each end. Each signal box has a convention for the allocation of suffixes. The suffixes for new layouts increment alphabetically in the down direction to help with the locating of points. Where existing layouts are modified, established conventions are generally followed. - where are they now? better wording.		6	DC	10	G 2.2.12	The guidance has been edited to improve clarity. The established conventions are reused to maintain the consistency of operation.
57	12	3.1.4	Facing point locks shall not engage when the conditions set out in Table 1 are met – use of shall not engage incorrect?		6	NC	N/A	N/A	No change has been made to this requirement following consultation. The use of engage to refer to the facing point lock function is considered good practice.
58	12	G 3.1.5	Facing point locks prevent the points from moving until the whole train has passed over them. Rationale inaccurate		6	DC	11	G 3.1.5	Agreed, the rationale has been edited to improve accuracy incorporating G 3.1.8 (see comment 59).
59	13	G 3.1.8	What is this paragraph trying to say?		6	DC	11	G 3.1.5	This guidance has been moved to rationale and rewritten for clarity (see comment 58).

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60	13	3.2.1	There is no mention of switch rail detection.		6	NC	N/A	N/A	No change has been made to the requirement as it is understood that the requirement is correct.
61	13	3.2.2	Is this a requirement?		6	DC	12	3.2.2	It is understood that the permission is valid for the use of mechanically worked and signalled points. The requirement has been edited to improve the clarity and avoid confusion.
62	13	3.2.5	Wording confusing		6	DC	12	3.2.5	The requirement has been edited to improve clarity and remove 'obstruction' as this has been used elsewhere to refer to objects such as ballast trapped between the open switch and its associated stock rail. Obstruction replaced with "device designed for the purpose".
63	13	3.2.6	Discuss this requirement		6	DC	12	3.2.6	This requirement has been edited to remove the cross-referencing which was inaccurate and confusing. The requirement has been edited to improve clarity.
64	13	G 3.2.7	Detection proves that the points are set in the correct position and locked in this position for the passage of the train - some points don't require a fpl but require detection		6	DC	12	G 3.2.7	Agreed. This requirement has been edited to improve accuracy.
65	13	G 3.2.10	Derailers and scotch blocks, when operated by an external command, are classified as points for the purpose of this document. - probably need to consider separately		6	DC	N/A	N/A	This guidance has been removed from this section as it was not accurate to detection requirements. The requirement for detecting devices such as derailers has been edited (see comment 63)
66	13	G 3.2.11	What is it trying to say?		6	DC	12	G 3.2.10	This guidance has been edited to improve clarity. This guidance provides further explanation behind the rationale that detection is a hazard mitigation.
67	13	G 3.2.12		In situations where the points are not required to move between trains, it cannot be assumed that the points are in the correct position. Continuous detection checks and reports the position of the points prior to every movement authority being given.	6	DC	12	G 3.2.11	Agreed. Suggested text accepted.
68	14	G 3.2.13	To allow for the small movements and vibration caused by the passage of trains, it is good practice to provide tolerance in the detection of points. - how? who does? design or maintenance?		6	DC	13	G 3.2.12	The guidance has been edited to provide clarity.
69	15	4.1.2	Text highlighted for further clarity.		6	DC	13	3.3.2, 3.3.3	The requirement has been edited to improve clarity (note change of clause number due to reformatting).

No	Page	Clause	Comment	Suggestion	By	Way forward	Page	Clause	Response
70	15	G 4.1.4	Editorial change	These requirements enables train movements over train-operated points to be made in a safe manner and helps mitigate train derailment.	6	DC	13	G 3.3.4, G 3.3.5	The rationale has been edited to improve clarity (note change of clause number due to reformatting). G 3.3.4 These requirements enable train movements over train-operated points to be made in a safe manner and helps mitigate train derailment. New rationale: G 3.3.5 If the points are not in the correct position after the passage of a train, detection is not given, and the train operator must carry out procedures for securing the points for a facing train movement.
71	15	G 4.1.6	Wording is conflicting		6	DC	N/A	N/A	This guidance has been withdrawn as train-operated points are defined in the Definitions and remainder of guidance does not provide value.
72	15	4.2.1	Wording		6	DC	13	G 3.4.1	This requirement has been converted to guidance (see comment 42).
73	17	Definitions	facing points (FP) Points where train movements can be routed towards different lines, irrespective of whether or not they constitute part of a diverging junction. - route-ed		6	NC	N/A	N/A	This definition is referenced from the CCS Master Glossary.
74	9	2.2.4, 2.2.5	I struggled initially with understanding why 2.2.5 was a separate requirement and not written as a part c) to 2.2.4 given that 2.2.4 reads as if it always applies, whilst 2.2.5 is conditional on the absence of a normally closed switch rail. The reality is that they are both conditional, depending on whether or not there is a normally closed switch rail.	At point ends with a normally closed switch rail, the point identification plate shall:	5	DC	9	2.2.4	The requirements have been edited to improve clarity. Proposed used of 'normally closed switch rail' has been accepted.
75	10	G 2.2.11	This statement is factually correct but I'm not sure what value it adds on its own. I think its value would be increased if it was expanded to provide guidance that supports a reader to determine whether it is appropriate to use presentation A or presentation B for a particular set of points (as this does not appear to be covered in RIS-0009-CCS or on the sign AC10 information sheet).	-	5	DC	10	G 2.2.11	Guidance has been edited to explain that the alternative presentations are for different bearer types, and both are considered acceptable.

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76	10	G 2.2.13, G 2.2.14	I started to wonder whether the statements in G 2.2.13 are implied requirements, whether they are always true and how a reader might decide how to define the normal position when G 2.2.14 applies. It would be helpful to explain how a layout risk assessment and flank protection considerations can support the definition of the normal position of a set of points and then use the statements in G 2.2.13 and G 2.2.14 as examples of typical arrangements.	-	5	DC	N/A	N/A	This guidance is no longer included to prevent confusion and does not provide value.
77	12	G 3.1.8	missing "…and its associated stock or wing rail" from the first sentence.	-	10	DC	11	G 3.1.8	Agreed. Guidance has been updated to include the proposed wording.
78	14	3.4.1	b) not clear why this is included here. Wear and damage on OOU points can still accumulate to unsafe level. Not sure what b) is adding to clause	-	10	DC	13	G 3.4.1	It should have been stated that the points are taken out-of-use when there is an immediate risk of derailment, as per issue five of GCRT5021. The text has been edited to correct this.
79	9	G 2.2.8	Second request for SF's comments on G.2.2.8 to be reconsidered – reading of point numbers at permissible speed is not realistic	-	10	DC	N/A	N/A	Agreed. It is not realistic for points identity plates to be read at line speed and is not an expectation. Points identification plates read by drivers when vehicle is stationary and by trackside workers. Rationale removed.