

Office of Rail and Road and Network Rail

#25529 Review of Structures Examinations Compliance

Final Report

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1. Executive Summary

1.1 Purpose

Arup, in its role as Independent Reporter, was appointed by the Office of Rail and Road (ORR) and Network Rail (NR) in November 2021 to undertake an assurance review of structures' examination compliance.

The scope of the mandate was defined in the Statement of Work (SoW) and was clarified by the ORR over the course of the assessment as described in this report. A copy of the SoW is included in Appendix A.

The business priorities, set out in the SoW, and as requested by ORR for both structures examination and evaluation include understanding:

- The reasons for the non-compliance, the extent to which these are understood by the NR Regions¹ and the actions being taken to address non-compliance;
- The approach of the remedies to address the long-standing non-compliance and backlog issues, whether ORR or NR based, through analysis of the ways of working and the current regional delivery frameworks; and
- The likely success of the approach being taken by Regions and the Technical Authority to providing a sustainable, compliant outcome.

The review was undertaken at a regional level, that is, each Region was engaged independently and an assessment, in line with the above requirements, made for each of them. Additionally, because of the critical part played by delivery partners in undertaking structures' examinations the review engaged with several of the Regions' suppliers / contractors to support the assessment.

1.2 Methodology

Arup has developed a standardised methodology for reviews of this nature through its role as Independent Reporter on other mandates delivered under the current CP6 Independent Reporter Framework. The methodology was modified and tailored to meet the specific needs of ORR's evaluation of NR for this specific mandate.

Upon developing the bespoke review framework, a detailed desktop-based study was undertaken. This included a qualitative and quantitative investigation of specific documents requested from NR. This was followed by a series of structured NR stakeholder engagement sessions to understand in more detail areas to be explored within the review framework. The desktop-based review and stakeholder engagement sessions collectively informed the final moderation and reporting for each respective NR Region.

¹ Network Rail devolved into five Regions (Eastern, North-West & Central, Scotland's Railway, Southern, and Wales & Western) in June 2019. These Regions are responsible for the operation, maintenance, and renewal of the infrastructure in their area to deliver a safe and reliable railway for passenger and freight customers.



Figure 1: Assessment Methodology

The framework adopted for this review was based on exploring seven key evaluation themes. These were highlighted within the SoW and were designed to examine and understand key areas that could be impacting regional teams' structures examination non-compliance. The identified themes are shown in Table 1. Each theme was broken down into a series of exploratory questions which formed the bespoke review framework. These framework questions were agreed by ORR and NR at the Inception Meeting. A full list of the framework questions is provided in Appendix B.

Table 1: Review Themes

Evaluation Theme	Total Questions
Context	5
Constraints	5
Behaviour	6
Delivery	4
Impacts	5
Technology	6
Changes	3

For each question, a qualitative and quantitative assessment of regional performance (or level of confidence) was established. Responses to questions were then given a confidence rating based on the information provided by the Region; this allowed for a qualitative comparison between each Region to be made.

Table 2: Confidence Ratings

Confidence Rating	Description
4	Evidence presents a clear understanding with no identifiable areas of weakness or inconsistency in the approach.
3	Evidence presents a reasonable understanding but with some gaps, inconsistencies, or weakness in some areas in the approach.
2	Evidence presents significant gaps in understanding, inconsistencies and weakness identified in the approach.
1	Evidence incomplete and limited understanding shown with major inconsistencies and gaps identified in the approach.
0	Insufficient information provided.

To establish a baseline and develop the Reporter team’s understanding of the different operational approaches being used by each Region, a request for information was made to both the structures asset management team and the delivery teams.

Regional asset management teams were requested to provide documents that evidenced the following:

- Current programme of planned examinations / evaluation and an assessment of delivery to date;
- Description of the current contractual arrangements to support the Region in the delivery of examinations;
- Current levels of any non-compliance within the Region for examination, submission and sign off;
- Any recent (last three periods) internal reporting of examination delivery; and
- Any local examination / submission / evaluation process (in addition or separate to the Standards).

Regional delivery teams were requested to provide documents that evidenced the following:

- The current programme of planned site and examination submission delivery to date;
- Description of the current arrangements to support the Region in the delivery of examinations; and
- Any recent (last three periods) reporting packs used to track delivery / explain non delivery.

The documentation provided formed the baseline assessment of regional performance and led to the identification of areas for exploration during the workshops / engagement phase of the review. Workshops were undertaken with the asset management teams and delivery teams for each Region separately to explore the views of both parties independently. The evidence provided during the workshops, coupled with the documentation review, allowed for draft qualitative and quantitative assessment of each Region’s performance to be established.

Internal review and comparison of the results was undertaken to ensure consistency in scoring and benchmarking of results between Regions. Playback sessions were then held with each of the Regions. These acted as a collaborative ‘check and challenge’ session between the Reporter team and regional stakeholders. The outcome and scores for each question were agreed at these sessions, with changes made where additional evidence could be provided.

Any trends identified during the evidence assessment were then developed into observations, opportunities for improvement and/or recommendations, as appropriate.

1.3 Findings from Evidence Assessment

1.3.1 Regional Results

The use of a matrix to visually demonstrate the strengths and weaknesses evidenced through the review across the Regions and framework topics contributed to the process of the identification of areas of improvement – both nationally and in particular for the Regions.

The performance matrix summarising the outcomes is shown in Table 3. A full list of evidence against each of the framework questions is provided in Appendix B.

Table 3: Confidence Scores Matrix

Topic	Question	Eastern	NW&C	Scotland	Southern	W&W
Context 1	With respect to your organisation’s scope of work how many assets are covered by the examination regime and how do these split into the various types, e.g., bridges, culverts, retaining walls, tunnels, coastal/river defences, ancillary structures, etc.	4	4	4	4	4
Context 2	How do you apply the requirements of Standard NR/L3/CIV/006/1A?	4	3	4	4	4
Context 3	To what extent does the Standard complement your processes and fit your needs, and what issues do you have with the process as outlined in the Standard? How is compliance to the Standard tracked and what is your current level of non-compliance for the examination / submission / evaluation stages of the process?	2	3	2	2	2
Context 4	How does the current level of non-compliance compare to the historical position?	2	4	3	3	3
Context 5	What has been the impact on the process following structures examinations being placed on the Regulatory Escalator?	3	3	2	3	3
Constraints 1	Given your level of non-compliance what constraints across the process are causing this and to what degree are the types of constraint impacting on the non-compliance e.g., financial, staffing (numbers and competence / training), contractual, site accessibility/possession (including reliance on others for access), planning, information systems, fluctuations of inspection work bank volumes etc.?	2	3	3	2	2
Constraints 2	What are the levels of cancellation of examination activities due to lack of resources or access constraints?	2	2	3	4	3
Constraints 3	How do the identified constraints affect the different asset types across your portfolio and how is this managed?	4	3	4	3	3

Topic	Question	Eastern	NW&C	Scotland	Southern	W&W
Constraints 4	To what extent are resources for examinations shared nationally?	4	3	4	4	4
Constraints 5	What do you believe could be done to reduce the impacts of the identified constraints?	4	4	4	3	4
Behaviour 1	To what extent does the relationship with external contractors or an internal delivery organisation, as appropriate, associated with the structures' examination process impact on the level of non-compliance?	3	3	4	3	3
Behaviour 2	Within the organisation how much of a priority are structures examinations (do other disciplines understand the importance of structures examinations as a safety critical activity)?	3	2	3	4	3
Behaviour 3	What role does the leadership team in your organisation play in monitoring and directing action to reduce noncompliance?	3	2	2	3	3
Behaviour 4	To what extent is the level of non-compliance reported within the organisation, what KPIs are used to track compliance, and how do these link to any incentives?	4	3	2	3	3
Behaviour 5	To what extent is non-compliance accepted as the norm in the organisation?	4	4	4	4	4
Behaviour 6	What impact has the TUPE transfer of staff had on delivery and behaviour?	3	4	4	2	3
Delivery 1	How has the future plan for delivery of examinations been developed and what is the evidence basis to ensure the future examination plan is achievable e.g., milestones, tracking delivery, resource allocation?	4	3	3	4	3
Delivery 2	What assumptions have been made in the development of the delivery plan in terms of resources and other identified constraints including booked access arrangements?	3	3	3	3	3
Delivery 3	How does the type of asset (e.g., bridge, culverts, retaining walls etc.) affect examination process priorities?	4	4	4	4	4
Delivery 4	What is the anticipated result of the plan in terms of the outcome of a reduction in non-compliance, and how will this be monitored and reported?	4	4	3	3	3
Impact 1	How does the current level of non-compliance affect day-to-day operations?	4	4	4	4	4
Impact 2	To what extent has the lack of examination input affected your ability to build a reliable maintenance and renewal workbank?	3	4	4	4	4
Impact 3	What do you believe to be the risk profile to 'day to day' operations caused by the level of non-compliance in terms of the uncertainty regarding structures' condition across the network?	4	3	4	4	4
Impact 4	What subsequent action is taken by your organisation when following the process in Figure 1 of NR/L3/CIV/006 leading to the requirement to carry out a risk assessment in accordance with NR/L3/CIV/0021?	4	3	3	4	4
Impact 5	What do you believe is the safety impact of any structures' examination non-compliance?	4	4	4	4	4

Topic	Question	Eastern	NW&C	Scotland	Southern	W&W
Technology 1	What is your organisation's vision for the use and benefits from the application of technology in this area?	4	4	4	3	4
Technology 2	How is the use of technology built into the examination process and what quantified benefits have been identified from its use (specific, measurable, and time-bound benefits)?	3	3	3	2	4
Technology 3	What new technology is being used / trialled by your organisation in this area, what barriers exist and how is technology best practice / experience shared nationally?	4	3	3	3	4
Technology 4	How does the current examination process link to the Network Rail Intelligent Infrastructure transformation?	3	3	4	2	3
Technology 5	What systems does your organisation use and how are these inter-connected in terms of the line of sight from the asset inventory, through the examination process to the outcome in terms of planning maintenance and renewal?	3	3	3	2	3
Technology 6	What is the timescale and process for moving any new technologies into BAU?	3	3	3	3	3
Changes 1	What are the proposed changes to the current examination framework (as a result of both internal and external factors)?	4	4	4	3	4
Changes 2	What are the specific benefits anticipated to accrue from the changes, how will these be measured and to what timescales will they be delivered?	3	4	3	3	3
Changes 3	What is the expected impact of these changes on the current level of non-compliance over time, and how will it impact specific elements or outputs of the examinations process (e.g. quality of reporting etc.)?	3	3	3	3	3

1.3.2 National Current Practice

Based on the evidence provided by the Regions for each evaluation topic the current practice and processes observed within the organisation were established and assessed. Figure 2 below summarises these findings.

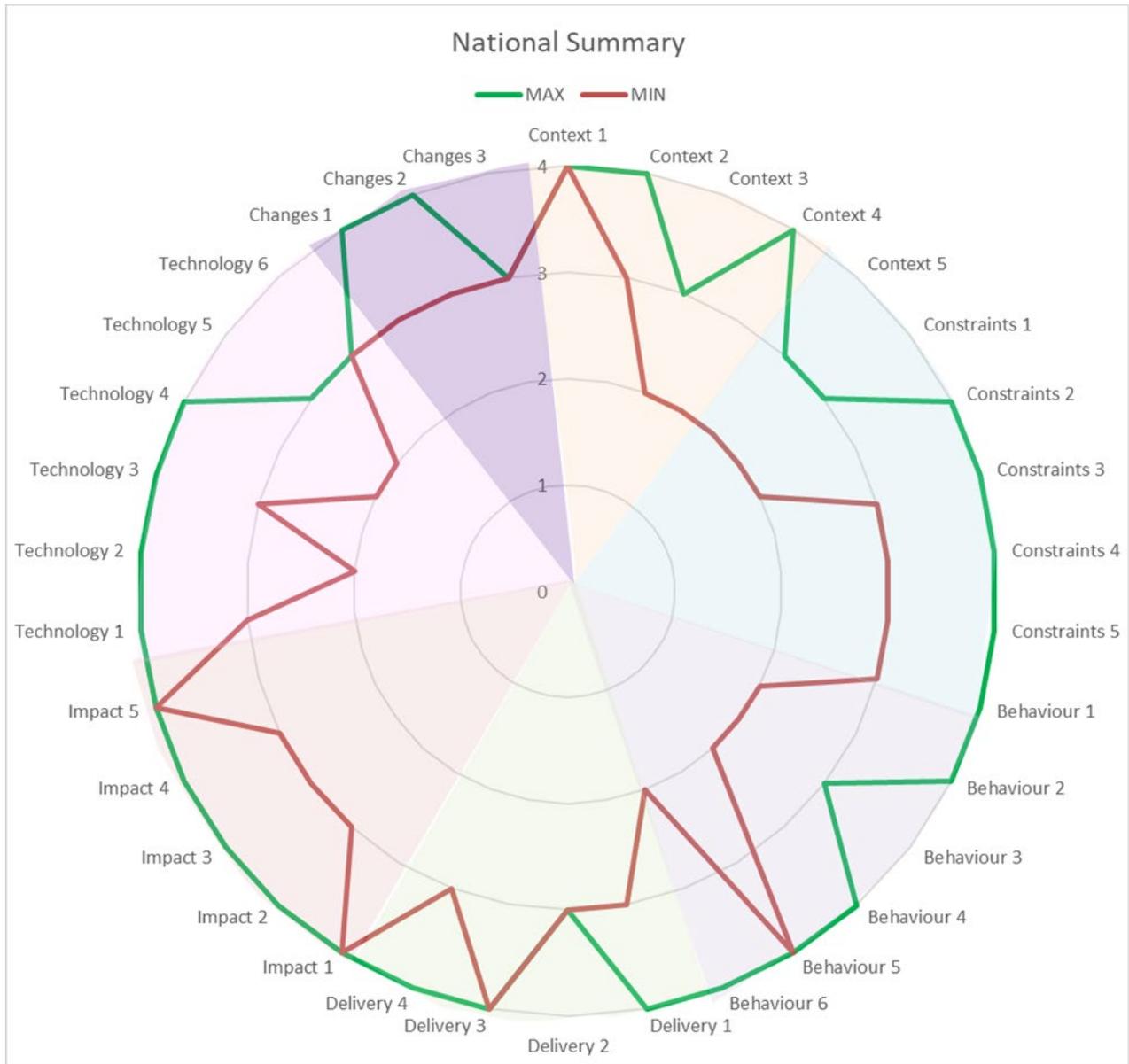


Figure 2: National Summary of Maximum vs Minimum Confidence Ratings

1.4 Key Observations

Key observations were made by the Reporter team based on the practices identified through the performance matrix where several Regions achieved lower scores, or where there was a high degree of variance, or where the same theme was presented as evidence by several Regions.

Table 4 summarises the observations developed during the review.

Table 4: Key Observations

No	Observation Topic and Description
<p>1</p>	<p>Frequency of Visual Examinations and Risk-Based Thinking</p> <p>The tolerance windows for examinations are currently under analysis as part of the TA led study of the Standard. The evidence provided by the Regions (e.g. undertaking detailed risk assessments to the Standard) indicated a limited link between risk [of asset failure] and exacting compliance to the tolerance windows. However, it was acknowledged that there needed to be a time constraint placed on the process to allow monitoring of performance. This was particularly relevant in the case of visual examinations where the Standard prescribed a time-based approach to visual exams. This approach may have been appropriate when the Standard was first introduced but it was considered that this did not reflect the current whole life asset management approach which should be undertaken by the Regions.</p> <p>In the reviewers’ opinion a risk-based approach was not being undertaken for visual examinations which consequently did not align risk and compliance with each other. It was considered that the Standard could be reviewed to ensure compliance is appropriately reflecting asset performance risk.</p>
<p>2</p>	<p>Contract Change Process</p> <p>It was considered that Regions have been hampered by the poorly founded contractual change process to move contracts from the old Civils Examination Framework Agreement (CEFA) to the new regional contractual models. A period of contractual mobilisation, that would be expected given the scale of the undertaking, was not implemented. This prevented suppliers and Regions from developing their workbanks through the appropriate systems. Also in some cases, as a result of the TUPE process, the level and scale of resources moving was not understood in advance of contract award, to support planning of workbanks. Consequently, this hampered the Planning & Robustness (P&R) process, which Regions consider as a key assurance process to deliver workbanks, that was not able to be properly undertaken.</p> <p>Following this, the late award of the contracts (noting a three-month delay) during which the old contract supplier did not undertake site examinations, not only compressed the timescale for delivery by new suppliers but forced a start from a position of significant regional non-compliance.</p> <p>In the Reporter’s opinion and based on the evidence presented by the regional structures’ teams alone, the contractual change process appears to have been handled poorly and did not support structures managers in delivering examinations. Although engagement with NR’s procurement functions did not take place as part of the review, it was considered that the approach to this contractual change process, which was applied regionally, should be reviewed and that lessons learned should be shared widely through procurement teams to ensure they are implemented for future contractual changes across the Regions. The evidence presented by the Regions indicated that the contractual change issues were/are endemic suggesting fundamental issues with the process implemented at both national and regional levels.</p>

No	Observation Topic and Description
3	<p>Explanation of the Regulatory Escalator</p> <p>The Regulatory Escalator process was seen to have driven increased reporting within the regional delivery and structures asset management teams. There was evidence that the regional leadership were also more aware of the process and the safety critical nature of structures examinations. However, it was considered that Regions and their leadership were unclear how the Regulatory Escalator levels were set, the boundaries between the levels, and what criteria were used to determine position / level on the Escalator.</p> <p>It was therefore considered that the Regulatory Escalator process and its in-built criteria should be more widely shared within NR to ensure clear understanding of the process. This would allow targets to be set for improvement.</p>
4	<p>Constraints Leading to Non-Compliance</p> <p>Access and resourcing constraints were noted as providing further complication through the introduction of the Track Worker Safety Programme (TWSP). The Regions stated that there was a degree of uncertainty over the impact of the TWSP but that they believed it would adversely impact the traditional ways of delivering structures examinations. This was considered by them to limit the availability of track access and lead to the need to undertake more night-time working. They recognised that any move to increase night working would impact quality, access, examiner resources, industrial relationships, and the cost of examinations. They also observed that such a move brought about its own safety issues. It was clear that Regions were aware of these challenges, but with not all the procedures yet in place to support TWSP, they still faced uncertainty over the short to medium term, with implications for examinations delivery. Evidence of derogations to TWSP within Regions suggested that fundamental changes to the way of working would be required, but the details were still not clear to the Structures teams and consequently they did not understand the impact this would have, other than in broad terms. The impact of the full implementation of TWSP was considered by the review to be extremely significant in terms of the ability to achieve compliance under the current Standard.</p> <p>Following contract award, suppliers and Regions identified that they were under-resourced across certain examiner competency requirements. Regional contracts do specify resource levels, but these were currently not being met. This led to the need for considerable recruitment and training initiatives to develop the resource pool. This national issue was compounded by the fact that the procurement process had been undertaken across all Regions simultaneously, with each now competing against each other for resources, and in some Regions with their own suppliers.</p>

No	Observation Topic and Description
<p>5</p>	<p>Linking Data to Compliance</p> <p>On site failures occur when the planned examination dates (visual and detailed) are not met. It was observed that these did not always lead to non-compliance since early identification of failure could be mitigated through careful replanning of the examination within the tolerance window.</p> <p>It was noted that the tracking of on-site failures did not differentiate between those that led to non-compliance and those that were mitigated to maintain compliance. This example was just one area where data was recorded and tracked by the Regions but there was limited insight around how it impacted compliance.</p> <p>It was considered that the tracking of on-site failures affecting compliance directly and the causes of these should be part of the Regions’ reporting pack to better understand causation and impact.</p>
<p>6</p>	<p>Acceptance of Non-Compliance</p> <p>The Regulatory Escalator had clearly raised awareness outside the structures teams as to the importance of examinations leading to senior teams in the Regions being more supportive to drive change. At no point during the review did the regional structures teams give the impression that non-compliance was accepted, and the review observed a genuine desire for continuous improvement and to reach a position of compliance. Regions were however experiencing resourcing constraints which were preventing compliance at this time but the move to new contracts did raise confidence that they could make progress towards that goal. At an organisational level there was less confidence that non-compliance was not accepted given the number of initiatives that are now being considered, each of which is likely to impact on the level of compliance.</p> <p>It was considered that work should be done to ensure realistic targets are set on the journey towards compliance to ensure continued buy-in and drive continuous improvement.</p>
<p>7</p>	<p>Risks to Delivering a Compliant Workbank</p> <p>Access, resourcing, and the Track Worker Safety Programme were concerns for delivering a compliant workbank. Access was an ongoing challenge to the Regions as structures examinations were not given the priority over other asset classes. Access challenges were and will be an ongoing issue and the Regions' pre planning process aims to mitigate these. It was observed that Regions had a clear view of the resourcing that they required to deliver their planned workbanks. However, there was a significant risk to them reaching compliance if these levels were not realised. The Regions understood this and were monitoring availability of resources and ensuring that suppliers had plans in place to maintain the required levels of competency through upskilling or training new staff, as appropriate. The impact of the Track Worker Safety Programme on the delivery and the additional resources that maybe required to deliver the workbank were yet unclear. A transition to night-time working would increase the level of resourcing necessary to deliver the workbank plan.</p>

No	Observation Topic and Description
<p>8</p>	<p>National Approach to Technology</p> <p>The technical specification drafted into the new supplier contracts allows Regions and their suppliers to develop and trial new technology to support the delivery of examinations. The work done by the TA was seen to support the Regions in implementing technology trials and develop the evidence required to embed new ways of working. However, it was clear that it was ultimately up to the individual Regions to drive the new technology that was on the market and that the TA were promoting. Regions had different views on the benefits and use of technology and how this should be introduced, and this has inevitably led to inconsistency in the confidence ratings assigned by the Reporter team.</p> <p>The Intelligent Infrastructure programme and other software-based initiatives were driven through the central function, however, for site examination techniques, i.e., drone mounted cameras, there was no consistent national approach. Irrespective of the devolved status of NR, it is unfortunate that the similar - indeed, identical - problems being faced by five Regional Structures teams and nine or so contractors, were not being addressed by a centrally driven, funded and resourced programme which in the opinion of the Independent Reporter would result in greater efficiency and effectiveness.</p> <p>It was considered that the adoption of a coordinated national approach to identify technological benefits and address emerging issues would be beneficial. This would support collaborative engagement to solve the issues that all Regions face and make the process of the roll out of such initiatives more efficient.</p>
<p>9</p>	<p>Communication of the Intelligent Infrastructure Workstream</p> <p>The TA indicated that as technology had been made available, such as Structure Examination Systems (SES) and CEFA Enabling Solution (CES), that it was up to the Regions to determine how they adopted these into day-to-day working. The TA was clear that given the devolved nature of NR it was not their role to mandate the use of such systems.</p> <p>Nevertheless, Regions did comment on the need for an upgraded Civils Asset Register and Reporting Systems (CARRS) system such that it could meet the current needs of the business regarding data capture, transfer and manipulation. The road map for the Intelligent Infrastructure transformation showed that an update to the CARRS systems was planned. Though not strictly related to compliance, updates to the CARRS system were seen as good asset management and would support the business needs.</p> <p>It was considered that the upgrading of CARRS would greatly improve the data capture, storage, and manipulation that Regions required to support the introduction of other technological solutions.</p>

No	Observation Topic and Description
10	<p>Develop Cross Regional Communication Mechanisms</p> <p>All five Regions were notably striving to achieve the same goal with the same challenges and constraints present in varying degrees. The different delivery models in place across the Regions should allow for innovation and drive best practice and the sharing of any lessons learned; it was considered that this would lead to improved compliance. Although the Regions attended the Community of Practice meetings it was unclear how effective these were at driving sustainability of delivery and collaboration to develop new ways of working.</p> <p>It was considered that a review of the terms of reference of these meetings may be useful to ensure that they were used to drive best practice to support all Regions on the journey towards compliance.</p>
11	<p>Line of Route Working Approach</p> <p>The current standard rolling examination date process moves the due date based on the previous examination. This created issues with planning and developing sustainable, efficient, and environmentally friendly workbanks. Regions, excluding Scotland who already operate this way, expressed a desire to move to 'line of route' working. The evidence suggests that the Line of Route approach had been successful in Scotland. The reasons for the lack of its wider adoption were not clear; based on the engagement with other Regions, they were clearly aware of the benefits that could be obtained. It was considered by the review that the hurdle of moving to this way of working was a constraining factor given the likely impact in the medium term on compliance of doing so.</p> <p>It was considered that undertaking the examinations based on geography and proximity would reduce the travel required by examiners, reduce planning complexities, and provide consistency to both delivery and planning teams. An investigation into the benefits, compliance impact and feasibility of such approach should be carried out by NR as part of the Tranche² work. It was expected that such a transition would have an immediately detrimental impact on non-compliance in the short-term. This would need to be modelled by NR and the outcomes shared with the ORR.</p>

² The Technical Authority are leading a review of Structures Examination methodologies as part of being placed on the regulatory escalator. The work consists of four Tranches: Examination Frequency and Tolerance, Risk Assessment for Non-Compliance, Examiner Competency Requirements and Regional Recovery and Sustainability Plans. Each tranche of the first three tranches is supported by a Region with each of the Regions developing a recovery and sustainability plan.

1.5 Agreed Recommendations

Based on the observations shown in Table 4, the following are the recommendations that were agreed at a joint workshop in March 2022 between the ORR, Network Rail Technical Authority, and the Independent Reporter team

Table 5: Recommendations

No	Recommendation to Network Rail	Benefits	Evidence of Implementation	Recommendation Champion	Due Date
#25529/01	<p>Review of Time-Based Approach to Visual Examinations</p> <p>Review time-based approach to visual exams and assess the cost and benefits of moving these to a risk-based approach.</p>	Visual examinations frequencies are better aligned to asset risk and as a result resources are better focused	Review of visual examination frequency tolerance.	Technical Authority	TBC
#25529/02	<p>Develop and Monitor Realistic Targets</p> <p>A review should be undertaken of the targets for reducing the level of non-compliance to make them more realistic whilst challenging such that they drive continuous improvement and behaviour change. This is suggested to be in the form of a glide-path to full compliance taking account of factors within the regional structures teams' control to reach full compliance.</p>	Provides improved and sustained motivation within delivery teams	Demonstrated in Regional Improvement Plans	Regional Structures Teams	TBC
#25529/03	<p>National Dashboards</p> <p>Network Rail should develop clear metrics that measure delivery failure across the Regions to capture the causation and impact on non-compliance and the mitigations put in place to manage change.</p>	Evidence causes of non-compliance and communicates good practice; provides consistent, comparable reporting across the Regions	Demonstrated in Regional Improvement Plans	Regional Structures Teams	TBC

No	Recommendation to Network Rail	Benefits	Evidence of Implementation	Recommendation Champion	Due Date
#25529/04	<p>Line of Route Working</p> <p>Network Rail should investigate the benefits, compliance impact and feasibility of moving to a ‘line of route’ delivery approach taking account of modelled impacts on levels of compliance during the transition period.</p>	Potential to reduce turbulence in workbank planning and provide greater fixture of compliance dates; reduces on site travel improving qualitative as well as quantitative delivery efficiency	Feasibility report on the line of route working including ensuring appropriate staffing is available to deliver the change.	Technical Authority	TBC

The four Recommendations are framed to

- Enhance the ‘doability’ of the primary structures’ examination requirement;
- Improve the reporting, awareness and understanding of the delivery failures which compound the non-compliance problem; and
- Stimulate awareness and encourage the adoption of good practice across regional boundaries.

A review of the Standard, as outlined in recommendation #25529/01, to address concerns around its fitness for purpose, acceptance of the need for targets to be achievable (even if challenging), and greater clarity around the ORR’s Escalator, will all help to sustain the morale and motivation of the teams involved at regional level, and support the drive to manage difficult, long-term constraints.

1.6 Conclusions and Summary

Network Rail Regions are not meeting all the requirements of the Standard across the three levels that they are being monitored against for structures examinations by the ORR. This has seen all Regions placed on the Regulatory Escalator.

Through engagement with the regional structure's teams this independent review has come to the view that the current spike in non-complaint position was linked to issues associated with the new contract procurement exercise. The long-term position of non-compliance is considered to stem from parts of the Standard, tolerance windows and time-based examinations, that are not appropriate to the business needs in addition to historic issues with access prioritisation. These issues continue to exacerbate and indeed impact the current non-compliant position observed across Regions.

The placement on the Regulatory Escalator has seen positive engagement from senior leadership where required to support the regional structures teams particularly around access constraints. While it has also stimulated a process led by the Technical Authority to critically review areas of the Standard. The work being undertaken to review the Standard has only begun relatively recently however it is believed that initiatives like the WSP work aim to address these issues. Nevertheless, the historical issues affecting non-compliance have clearly all been within the control of NR but it was stated that the tolerances and frequencies were considered a 'sacred cow'. This review found that none of the Regions' structures teams accepted, condoned, or were content with, non-compliance to the Standard, and all offered strong evidence of their pursuit of achieving a compliant position.

Evidence provided showed that non-compliance to the Standard is not affecting day-to-day train services in any Region, and the risk of asset failure was low. The evidence provided demonstrated that examinations undertaken outside the tolerance windows had little impact on risk profiles of structures and [hence a disconnect with business needs and performance metrics]. Examination non-compliance does not affect the planning for maintenance or renewal works given the long planning cycles that Network Rail operate.

A pragmatic use of technology was demonstrated by the Regions to support the impact of track worker safety initiatives, drive examination compliance, and increase the efficiency and effectiveness of transferring data into the Region from suppliers. Regions highlighted that technology would drive examination quality and drive decision making capability.

The Recovery and sustainability plans provided by Regions demonstrated the processes and approaches each Region was undertaking to move towards a compliant position. Early evidence shows that progress is being made across the three facets of compliance monitoring, resource development and introduction of technology. Nevertheless, it is the Reporter's view that the plans have not been sufficiently embedded and there are a number of factors affecting delivery (e.g., the introduction of TWSP, and resource levels) which prevents the review coming to a definitive view of whether the Regions would deliver to their Recovery Plans to the timescales they have outlined.

1.7 Acknowledgements

The Independent Reporter team would like to thank the Regions, ORR, and the Technical Authority for their support over the course of this review.

Without their collaboration and commitment to the process it would have made the review extremely challenging.

We hope that all parties have and will find the outcomes informative and help drive best practice day to day.

2. Introduction

2.1 Background

Arup, in its role as Independent Reporter, was appointed by the Office of Rail and Road (ORR) and Network Rail (NR) to undertake an assurance review of structures examination compliance. This included:

1. The reasons for the non-compliance, the extent to which these are understood by the Regions³ and the actions being taken to address non-compliance;
2. The approach of the remedies to address the long-standing non-compliance and backlog issues, whether ORR or Network Rail based, through analysis of the ways of working and the current regional delivery frameworks; and
3. The likely success of the approach being taken by Regions and the Technical Authority to providing a sustainable, compliant outcome.

The scope of the commission was defined in the Statement of Work (SoW) #25529 and as clarified by the ORR over the course of the assessment and as described in this report. A copy of the SoW is included in Appendix A.

2.2 Mandate Aims and Requirements

The purpose of the review, as set out in the SoW, was for the Independent Reporter to provide an assessment of the planned future delivery of the structures' examination and evaluation programme.

The requirements of the review, set out in the SoW, covered six topic areas:

1. The Regions' understanding of the root causes of their non-compliance and backlog for both examination and evaluation identified within ORR's Targeted Assurance Review;
2. The behavioural drivers, if any, behind compliance and non-compliance;
3. Whether the Regions' current plans are achievable, sustainable and appropriate;
4. How the Regions consider the wider implications of not undertaking examinations;
5. The use of and adoption of technology; and
6. The plan(s) for changing the current examination framework.

The review was undertaken at regional level, that is, each Region was engaged with independently and an assessment, in line with the above requirements, made. Additionally, because of the critical part played by delivery partners in undertaking the examination site work the opportunity was also taken to engage with several of the Regions' suppliers / contractors to support the review.

³ Network Rail devolved into five Regions (Eastern, North-West & Central, Scotland's Railway, Southern, and Wales & Western) in June 2019. These Regions are responsible for the operation, maintenance, and renewal of the infrastructure in their area to deliver a safe and reliable railway for passenger and freight customers.

2.3 Report Structure

The structure of this report is presented in Table 6.

Table 6: Report Layout

Section	Description
Section 2: Introduction	Provides the background and summarises the aims and requirements of the Statement of Works.
Section 3: Methodology	A description of the approach adopted for the assurance assessment.
Section 4: Findings from Regional Analysis and Evidence Assessment	Summarises the findings from the application of the methodology, analysis and evidence assessed.
Section 5: National Observations and Opportunities	Draws together the results from the application of the assurance assessment methodology to provide observations potential improvement opportunities across all Regions.
Section 6: Recommendations	Provides recommendations for future improvements.
Appendices	Provide additional detail in support of the main text. They are used to simplify the flow of the report while retaining the detail generated during the assessment.

2.4 Glossary of Terms

The following acronyms / abbreviations are used throughout this report.

Table 7: Abbreviations and Acronyms

ALARM	Asset Logistics and Report Management
CAM	Civil Asset Management Framework
CARRS	Civils Asset Register and Reporting System
CEFA	Civil Examination Framework Agreement
CESAMS	Civil Engineering Structures Asset Management System
CES	CEFA Enabling Solution
CP	Control Period
DEAM	Director of Engineering and Asset Management
DRAM	Director Route Asset Management
EREC	Eastern Region Examination Contract
NR	Network Rail
ORR	Office of Rail and Road
P&R	Planning & Robustness
RAM	Route Asset Manager
SES	Structures Examination System
STE	Safety, Technical and Engineering
TA	Technical Authority
TCMI	Tunnel Condition Marking Index
TNC	Temporary Non-Compliance
TUPE	Transfer of Undertakings Protection of Employment Act
TWSP	Track Worker Safety Programme

3. Methodology

3.1 Overview

This section provides a description of the methodology adopted for the assurance assessment and the progression of the review.

Based on this overall approach the key stages in the delivery of the commission are as shown in Figure 3.

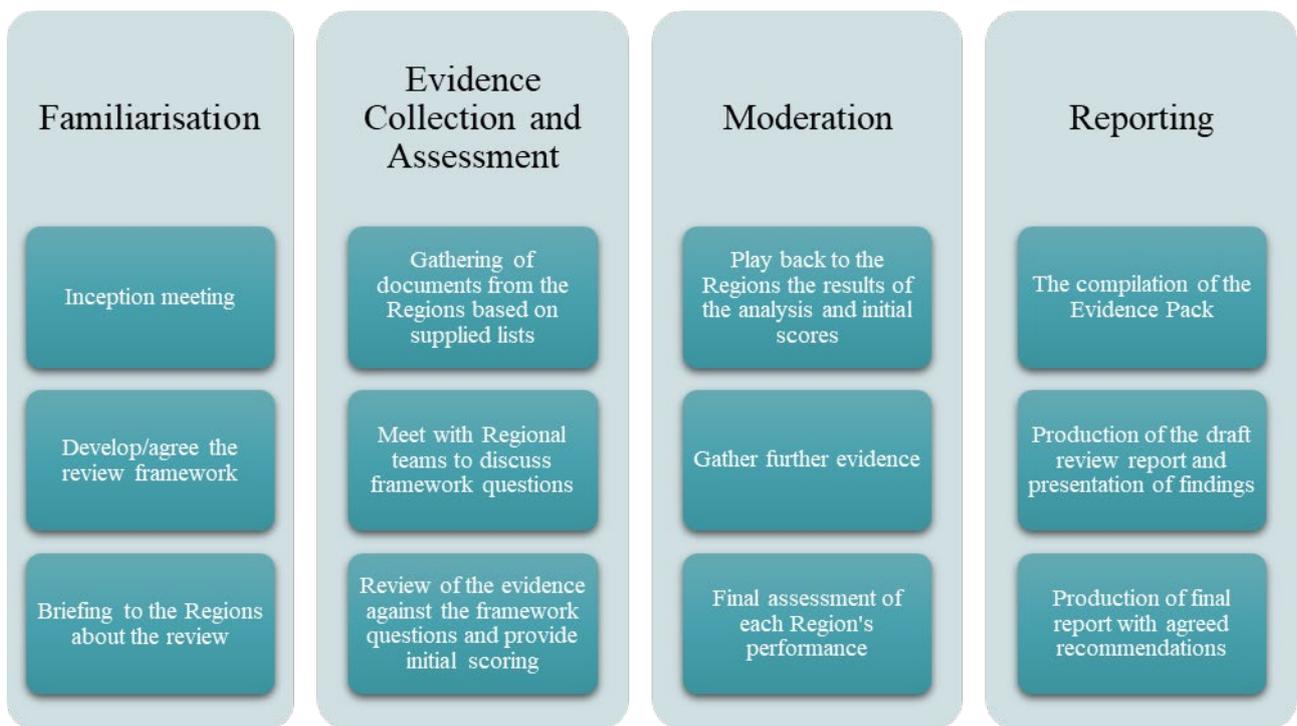


Figure 3: Assessment Methodology

The following sub-sections provide a more detailed description of the stages identified in Figure 3.

3.2 Familiarisation

3.2.1 Inception Meeting

The review team held an Inception Meeting with ORR and NR to discuss in detail:

- the approach for developing the overarching Review Framework;
- the fundamental questions that this project seeks to address; and
- the activities planned to carry out the review.

In addition, the contact details of NR stakeholders in the Regions were obtained and the requirements for any initial communication messaging from the NR Project Manager / Sponsor to inform stakeholders of the task at hand were outlined. A view, based on the SoW, was also shared by the Review Team of the initial set of data and documentation which would be required to support the review.

3.2.2 Agreeing the Review Framework

The review framework was developed to create thirty-four questions across seven themes based on the SoW requirements. These questions were reviewed and agreed by ORR and NR and were thus taken forward as the core of the review's stakeholder engagement.

The areas explored within the themes are described below:

1. Context: Implementation and monitoring of the examinations' regime process – investigated NR stakeholders' understanding and practical application of the current business process for managing the examination regime, as per the flowchart detailed within Standard NR/L3/CIV/006/1A. The flowchart describes the current end-to-end process for structures examinations, including undertaking risk assessments for non-compliant structures.
2. Constraints leading to non-compliance – sought to understand what specific financial, resource or similar constraints may be impacting the ability of the Regions to successfully deliver examination programmes compliant with the Standard frequencies. This assessment included, but was not limited to, understanding competent resource availability and allocation to undertake examinations, the ability and the ease with which access could be secured to locations where examinations must be undertaken, etc.
3. Behavioural drivers and constraints for non-compliance – explored and aimed to understand behaviour drivers affecting compliance or non-compliance. This included company policies, regulatory influence, contractual obligations, incentives, culture, etc.
4. Delivery plan suitability – interrogated the forward programmes of structures examinations to determine whether these were suitable, achievable and sustainable in the short, medium and longer term. This sought to identify any issues impacting compliance, deliverability, senior sponsorship, reporting and escalation processes, and any other drivers of non-compliance.
5. Consideration by the Regions of the implications of not undertaking examinations – explored how regional stakeholders understood and perceived the wider implications and impact of non-

compliance regarding safety risks, longer term sustainability, and other aspects. It also considered the protocols that were in place for monitoring non-compliance to understand the level of focus and importance given to structures' examination.

6. Adoption of technology – explored what technology was being trialled or adopted across the Regions which could assist in delivering structures examinations. It sought to identify opportunities where technology was being used successfully and whether there were any constraints to sharing the learning between the Regions, or barriers preventing technology trials moving to BAU. As part of this theme, the review explored changes that were likely to occur or be implemented because of the ongoing wider NR Intelligent Infrastructure (II) transformation programme.
7. Changes to the examination framework – this considered the implications to structure examinations because of NR proposing changes to the examinations framework as well as assessing current and future proposals in a variety of areas.

3.2.3 Briefing to the Regions

Core to the successful delivery of the review was early engagement with the regional structures' teams. NR facilitated the review team's involvement in the November 2021 Structures Examination Community of Practice meeting. At this session, attended by the review team and representatives of the regional structures' teams, the background to the study was shared along with the agreed framework questions. The aim of the session was to prepare the regional teams for the forthcoming engagement sessions and to promote the importance of the study and its timescales.

3.3 Evidence Collection and Assessment

3.3.1 Document Collection

Following the initial briefing, requests were made to the Regions for documentation to support the review. Specifically, this included documentation associated with structures examinations and evaluation planning, delivery and outcomes. The documents included, inter alia, company policies, contractual arrangements, regional plans, data and associated monitoring reports, data and information submitted as part of the 2021 ORR Structures Examination Targeted Assurance Review, any other documents or guidance used to plan and manage examinations or evaluations, plus any proposals for changing the examinations framework, etc.

Documents received from the Regions as part of this process that were referred to during the review are listed in the document register included in Appendix B.

3.3.2 Initial Assessment

Using the submissions from the Regions a detailed desktop review was conducted to provide an initial assessment against the review framework questions. The analysis that was undertaken as part of this exercise linked the supplied regional documentation to the themes and individual questions on the framework. Out of this emerged an initial view of regional delivery in terms of an assessment of the appropriateness of the regional response and actions based on the available evidence. The analysis also generated areas for further examination in the subsequent stakeholder engagement sessions with the Regions.

In addition, towards the end of the initial assessment period copies of the individual Regional Recovery Plans were shared. These too were used to inform the early assessment and were significant inputs to the forthcoming discussion with the regional structures' teams.

3.3.3 First Regional Meeting

Based on the initial analysis described above a series of meetings were convened with each of the Regions to discuss the individual questions in the framework in detail. The purpose of these meetings was to:

- Share the current level of review and understanding of the Region's approach based on the submitted documentation; and
- To provide an opportunity for the Regions to provide further input to the review both verbally and in follow up documentation supporting an explanation of their actions, views and plans.

In order to obtain as broad an understanding of the process and plans as possible the opportunity was also taken to meet with a number of the regional delivery partners. The choice of who to engage with from the supply chain was based on the outcome of the meeting with the regional structures' teams. The following table provides a list of the engagement sessions that were held as part of this process.

Table 8: Regional Meetings Split

Region	Teams	Meeting No.
Eastern	Regional Structures Team	1
	In-house Delivery Team	2
North West and Central	Regional Structures Team	3
	In-house Delivery Team	4
Scotland's Railway	Regional Structures Team	5
	Amey (Delivery Partner)	6
Southern	Regional Structures Team	7
	Xeiad (Delivery Partner)	8
	Amey (Delivery Partner)	9
Wales and Western	Regional Structures Team	10
	Inspire (Delivery Partner)	11

Based on the discussion at the meetings, and the follow-up documentation, a further round of analysis of the Regions' response to individual questions in the framework was undertaken by the review team.

In addition to the meetings with the regional teams, meetings were also held with ORR and the NR Technical Authority (TA). The meeting with the ORR was carried out early in the commission to test and understand the key issues for the Regulator in this area. The meeting with the NR TA, again held before engagement with the Regions, was used to understand the role of the TA in the process and to gather intelligence regarding any initiatives being led by the TA which were or could impact on regional delivery of compliance.

3.3.4 Draft Evidence Pack

On completion of the engagement with the Regions and the delivery partners, and supported by the supplied documentation, a full review of the previously scored framework was undertaken. This captured in detail the discussions held at the meetings, highlighted inconsistencies in the evidence, and used any newly supplied evidence to undertake further numerical analysis.

The outcome of this analysis was captured on an updated framework assessment. This recorded the relevant documentation for each framework question along with detailed notes of the discussions at the various meetings leading to a reviewer narrative on the assessed position of the Region. This was supported by assigning a confidence rating for each question.

In addition to this descriptive text, a graphical analysis of the results from the Region was included in the form of a ‘radar’ diagram showing the assessment of the Region’s position against each of the framework questions.

3.3.5 Consistency in Assessment

To deliver the review within the commission’s timescales responsibility for each of the five Regions was split between three Reporters with each Region being assigned a Lead and Secondary Reporter. To maintain consistency across the review, ‘check and challenge’ sessions were held to ensure that a common understanding and assessment approach was being applied.

On completion of all the regional engagement sessions and once the frameworks had been completed an internal review, led by the Project Director, was undertaken to highlight anomalies, ensure consistency and identify areas of further focus with individual or groups of Regions.

3.4 Moderation

Integral to the process of delivering the review, it was agreed with the stakeholders that having reached this stage in the assessment, the draft results would be shared with the individual Regions to present back to them the review findings to:

- ensure there were no misunderstandings of the evidence presented;
- afford the Regions the opportunity to provide further evidence, when a clear gap in the evidence was established; and
- ensure an open collaborative assessment that communicated findings to the Regions.

During these moderation sessions the assessment of each of the framework questions was reviewed and agreement reached on the findings, or the opportunity taken for more evidence to be provided. Through this process the Regions provided a ‘check and challenge’ to the assessment made by the Reporter. The output from this round of meetings was therefore either confirmation of the earlier assessment or the modification of the findings taking into consideration new evidence. As a final check on consistency a further review-wide session was held within the Reporter team to validate the scoring of the Regions across each of the questions.

3.5 Reporting

The reporting of the results of the review was undertaken in two stages.

An Evidence Pack (included in Appendix B) was produced which provided a detailed account of the assessment and scoring for each question for all five Regions. This was presented in a single Excel file with separate tabs for each Region. These results were summarised in a 'performance matrix' covering all Regions. This Evidence Pack was issued for comment in March 2022 to ORR, Network Rail, the commission's Peer Reviewer, and the Named Independent Reporter.

The second stage was the presentation of the findings of the review in a draft report which was supported by the Evidence Pack taking account of comments received from the various reviewers. The draft report formed the basis of a tri-partite presentation to the joint clients in March 2022.

As part of the process the review identified opportunities and key observations across NR. These observations and opportunities were linked to where deficiencies, themes and good practice had been found across the Regions. As such the review was able to readily identify recommendations from these opportunities.

From these opportunities, and where appropriate, a series of recommendations was developed which were applicable nationally or more focused on a sub-set of the Regions. The suggested recommendations were discussed at a tri-partite meeting and agreed for inclusion in this Report.

4. Findings from Regional Analysis and Evidence Assessment

4.1 Overview

This section summarises the findings from the analysis undertaken based on the available evidence. It outlines areas of good practice and provides further observations for each of the five Regions.

The full evidence pack is included in Appendix B and contains a summary of:

- Evidence from the documentation review;
- Queries stemming from the documentation review, subsequently raised and discussed with regional stakeholders;
- Evidence gathered from discussion with regional stakeholders;
- Confidence ratings;
- Evidence assessment summary; and
- Opportunities for NR.

The evidence evaluation covered seven themes each of which was divided into a series of supporting exploratory questions. The full list of questions is shown in Appendix B

Table 9: Evaluation Topics and Questions

Evaluation Themes	Questions in each Theme
Context	5
Constraints	5
Behaviour	6
Delivery	4
Impacts	5
Technology	6
Changes	3

For each question a qualitative and quantitative assessment of regional performance was established. Questions were then given a confidence rating based on the information provided by the Region, this allowed for a qualitative comparison between each Region to be made and acted as an assessment of performance.

The confidence rating descriptions are provided in Table 10.

Table 10: Confidence Rating Descriptions

Confidence Rating	Description
4	Evidence presents a clear understanding with no identifiable areas of weakness or inconsistency in the approach.
3	Evidence presents a reasonable understanding but with some gaps, inconsistencies, or weakness in some areas in the approach.
2	Evidence presents significant gaps in understanding, inconsistencies and weakness identified in the approach.
1	Evidence incomplete and limited understanding shown with major inconsistencies and gaps identified in the approach.
0	Insufficient information provided.

To establish a baseline of information and develop the Reporter team’s understanding of the different operational approaches being used by each Region a request for information was made to both the structures asset management team and the delivery teams for each Regions.

Regional asset management teams were asked to provide the following documents where available:

- Current programme of planned examinations / evaluation and an assessment of delivery to date;
- Description of the current contractual arrangements to support the Region in the delivery of examinations;
- Current levels of any non-compliance within the Region for examination, submission and sign off;
- Recent (last three periods) internal reporting of examination delivery; and
- Local examination / submission / evaluation processes (in addition or separate to the Standards).

The regional delivery teams (internal and external) were asked to provide the following documents:

- The current programme of planned site and examination submission of delivery to date;
- Description of the current arrangements to support the Region in the delivery of examinations; and
- Recent (last three periods) reporting packs used to track delivery / explain non delivery.

The information provided in the documentation formed the baseline assessment of regional performance and led to the identification of areas for exploration during the workshop phase of the review. Workshops were undertaken with the asset management teams and delivery teams for each Region separately to explore the views of both parties independently. The evidence provided during the workshops coupled with the documentation review allowed a draft qualitative and quantitative assessment of each Regions’ performance to be established.

The following sub-sections outline the evidence provided by each Region and their delivery partners and the qualitative and quantitative assessment of their approach to reach structures examination compliance.

4.2 Eastern Region

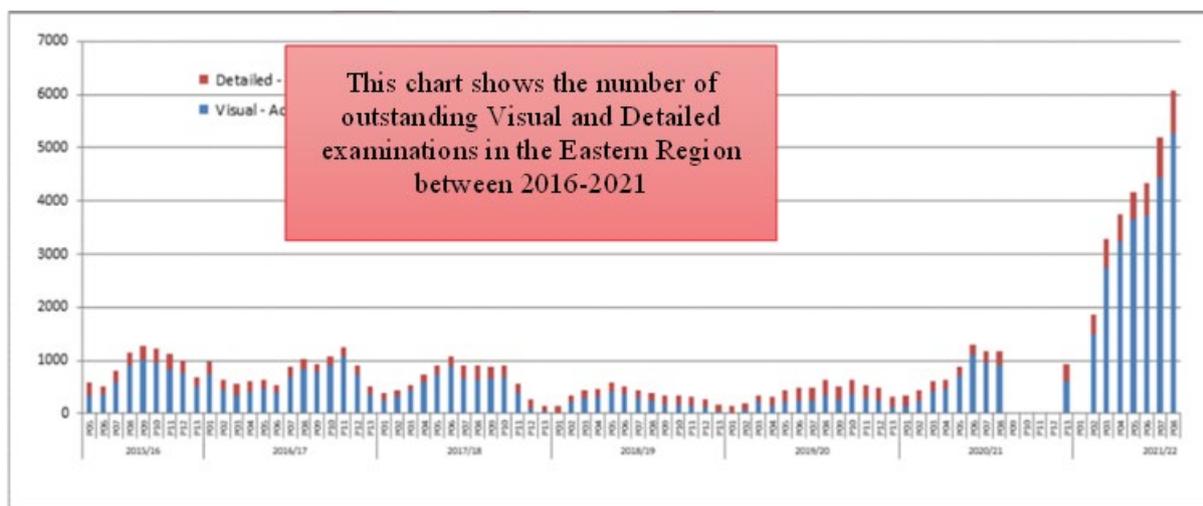
4.2.1 Eastern Region Theme Summary

The following section summarises the evidence presented by the Region over the course of the review.

4.2.1.1 Regional Context

On an annual basis the Region were required to undertake circa 22,000 visual examinations and 3,300 detailed and tunnel examinations which inform the asset management planning process and manage risk. With the ending of the CEFA contract the Region split the delivery of these visual and detailed examination workbanks across different delivery teams. Visual examinations were being undertaken by the newly established internal delivery team while the more complex detailed examinations workbank was issued to two external suppliers Xeiad and Bridgeway who deliver an even split of the work bank. The internal delivery team were not only responsible for the visual examination workbank but also for undertaking reconnaissance, bridge strikes and unplanned visual examinations.

The Region demonstrated a clear understanding and application of the business process for managing the examination regime, as directed by Standard NR/L3/CIV/006/1A. The regional asset engineering team had developed a risk-based system to prioritise the review of examination submission based on the type of examination that had been undertaken. The Region evidenced that the Standard manages the delivery of detailed examinations, where a clear risk-based approach was taken to determine intervals and the tolerances were appropriate given the time between intervals. The Region questioned the appropriateness of the time-based approach for visual examinations given the diversity of their asset base.



Initial evidence provided by the Region demonstrated that they were currently experiencing the highest level of non-compliance over the period 2016-2021, see graph above.

The Region explained that this non-compliance had been driven by a combination of the change of contract, the Amey security breach, red zone working (TWSP) and a lack of resources. Some of

these factors had led to a legacy non-compliance at the start of the new contracts which was having to be caught up in a condensed period, thus it had increased the pressure on resources and access. The Region provided, at the follow up session, the 2021/22 Period 12 Week1 site non-compliance report which showed evidence of improvement since the initial request for information. Though the level of non-compliance was still very high, the Region could demonstrate that additional resource deployed through the CAM suppliers were reducing their non-compliant position.

The Region highlighted that though there had not been any process change made due to being placed on the Regulatory Escalator, they had increased the frequency of delivery partner meetings to monitor progress and further promote the need to meet compliance targets. It was said that the Escalator had placed a lens on the team from senior leadership and focused the team's attention on developing their understanding of what the internal delivery team can deliver to achieve compliance.

4.2.1.2 Regional Constraints

Evidence provided by the Region highlighted that at the start of Year 3 the reduction in 'red-zone' working had caused issues with access and changed working arrangements, but these had subsequently been addressed. Generally, access was not seen as a problem though there were challenges particularly around metropolitan areas. The internal delivery team did demonstrate that access could be a constraint when an on-site failure occurs as the time period required to replan access can lead to non-compliance.

Resourcing was a major concern for the Region with both their internal and external delivery teams lacking the appropriate resources to meet the examination requirements. Both the internal and external delivery teams had experienced issues with the TUPE process, with significantly fewer staff transferring over than had been expected. The Regions' recovery and sustainability plan outlined the need for 20 examiners as a minimum, and 28 for a sustainable position, to be achieved for delivery of the visual workbank. It was stated that a significant training programme was required to meet this demand. Due to TUPE, suppliers were unclear as to who would transition over to them until late in the process and consequently, they were unable to start delivering as soon as the contracts came into place. The Region was aware that this was going to be the case and put in place mitigation with CAM suppliers being primed and issued with workbanks to ensure delivery of the examinations.

The Region provided data on the instances of on-site failures with the data reflecting the commentary from the Region that access and resourcing were the key drivers of site non-compliance within the EREC contract. Of the total on site failure, 40% were attributed to access (track and other) and a further 23% from resourcing. The Region did provide evidence to show that when examinations were cancelled in advance of the intended date, mitigation could be put in place to replan the examination inside the maximum site tolerance period. There was no evidence provided that a correlation existed between on-site failure and non-compliance.

Though constraints did not affect specific asset type but were experienced across the board the team highlighted that bridges tended to have more access constraints as they often interacted with other infrastructure owners but when planned according to the P&R process, this was appropriately managed.

The Region stated that they did not share resources with other Regions but as they operate two distinct teams according to their northern and southern routes, they do share internal resource when needed. The Regions evidenced that EREC contractors could deploy resources as they saw fit but must ensure the needs of the Region were met, resourcing capability was set within the contract.

The Region had weekly meetings to discuss with EREC suppliers where examiners were working to ensure they provided sufficient resource. It was assumed by the Region that STE02 grade examiners were shared at more national level given their short supply and that their work could be conducted remotely.

The Region provided a clear resourcing plan for the training of the internal team, developing glide paths to monitor training schemes, and the impact on delivery this would have. They had a clear goal to ensure that STE04 examiners had a career path available to them to attract talent and they plan to train all STE04 to be EngTech accredited.

The Region saw the deployment of the CES tool supporting the delivery of higher quality reporting, which was an issue under the old contracts. The tool would allow the upload of imagines, raw data, planning constraint data, access data which would support development of work banks and provide robustness. With track access reducing under TWSP the recording of access data would support CDM compliance and development of future access plans.

4.2.1.3 Behavioural Drivers and Constraints

The Region evidenced that the movement to an in-house delivery team had broken down silos that had existed before and had given examiners more ownership of the examination process. The Region evidenced that having the team in-house speeded up the process for answering any technical question or issues that arose through the examination process as well as the submission of findings. They were translating this learning across to the external suppliers to ensure they understood the process and the constraints for undertaking asset renewal and maintenance. The teams were working collaboratively to drive both compliance and quality. The Region demonstrated how the EREC contract placed a lot more emphasis on developing a framework that looked at both the strategic and tactical aspect of delivering the workbank. Monthly tactical meetings and quarterly strategy meetings were part of the framework to ensure continuous improvement. External delivery teams reported compliance as a KPI, this informed part of the Region's ongoing assessment of the level of work that would be issued to a supplier. The EREC contract had a 20% flex to allow the Region to reduce the supplier's workbank by up to 10% or increase it by 10% depending on performance between the two contract holders. This approach retained oversight and contractual flexibility for the Region to incentivise suppliers and drive competition, which were not in place before.

Weekly monitoring reports were provided to each of the Route Directors, with structure compliance reported alongside track compliance. The Region report to their DEAM though a weekly tactical report to outline the compliance position. In a unique approach, the Region developed a technical authority function who acted as technical leaders within the Region. The Region demonstrated that the leadership were engaged with the monitoring process. They were there to enable the Region to achieve compliance, though they were not actively engaged in driving actions at a tactical level; they supported the strategic changes to delivery.

There was no evidence to suggest acceptance of non-compliance, and as the writers' and developers of the Standards, their aspiration was to adhere to them. Given the constraints the Region was experiencing at this time achieving compliance was a challenge. The evidence presented by the Region highlighted a culture of striving for improvement and a drive to achieve compliance, though they were not yet achieving compliance, they did not accept the current position.

4.2.1.4 Delivery Plan Suitability

The Region evidenced that, due to the nature of the Standard, each year's programme was based on what was achieved in the year previous based on the rolling nature of the compliance dates. The compliance team provided the delivery teams with a draft task list of required dates, tolerance dates and review dates for every asset, as part of the P&R process. The delivery teams then planned the workbank according to resource availability and booked access as required. For the in-house team the current plan was based on the resources that were available to them in accordance with their training schemes, supported by the CAM suppliers.

The Region demonstrated that priority was not based on asset type but on exam type and asset risk. Prioritisation was based on compliance and the timing of tolerance window opening as opposed to asset type. However, there was an increased shift to prioritise examinations that could be conducted from a position of safety and potential to reset the 'birth date' for a more efficient delivery programme.

The Region anticipated and predicted that non-compliance was expected to decrease in line with the increased resource while the full time period to undertake the P&R process for Year 4 would allow suppliers to manage peaks and troughs and book access further in advance. Eastern Region was looking to establish a long-term plan for delivery by moving compliance dates for geographically adjacent assets closer to each other. This line of route working approach aimed to provide stability to planning process. This process was being undertaken by using the tolerance windows to move examination dates to minimise non-compliance, consequently this process would take time.

4.2.1.5 Operational Impact

The Region stated that non-compliance did not affect the day-to-day operation of the network with regards to train services. The Region outlined that wrong side failures⁴ had not occurred due to non-compliance but rather due to the quality of examinations with defects not being identified.

The Region provided evidence to show that the renewal workbank was not built from the visual examination data but that it could lead to minor works and inform Opex decisions. Non-compliance could affect minor works such as vegetation removal, vandalism and basic maintenance but did not impact on renewal activities or structural work. The Region outlined an end-of-life management approach to maintain structures; hence the time tolerance periods for detailed examinations had limited impact on the planning of renewal works. With renewal workbanks planned for several control periods in advance there was limited impact from non-compliance. The Region evidenced that they did not believe that non-compliance lead to any increase in the risk profile associated with structures assets. This view was supported by the work undertaken by the Technical Authority in developing the requirements for the TNC.

The Region operated with a dedicated compliance team to manage the status of the examinations, when an asset goes over the compliance date they inform the asset management team to undertake the risk assessment process as required by NR/L3/CIV/006/1A and NR/L3/CIV/002 to understand the risk posed to the asset. The Region implemented a process for the review and sign off as risk assessments to ensure high risk assets were signed-off first with their operational impact understood. The Region believed that there was no impact regarding the safety of the asset due to non-compliance as the risk assessment process managed safety. This was particularly evidenced in

⁴ A wrong side failure occurs where inaccurate condition data or defect recording results in a safety issues or operational impact.

the case for visual exams while the conservative nature of the risk-based detailed examinations managed the safety risk appropriately.

4.2.1.6 Regional Adoption of Technology

The Region had a proactive approach to the use of technology and the benefits it could bring, providing evidence that they would see improvements in efficiency, safety, and quality through the use of technology. Visual technology aids such as pan cameras, drones, etc., supported visual examiners improving quality of reporting and monitoring of assets but would not necessarily drive compliance. In line with the TWSP initiative technology could have the ability to remove boots on ballast and required less working at night as data could be collected without the need for track access.

The Region evidenced that they were developing several new technologies which were both software and hardware based to support compliance and management of assets. Software technologies would support delivery of examinations, management, and transfer of examination information. The roll out and implementation of Polestar 2 was being supported by North West and Central Region who had developed the software.

The Region was engaged with the Intelligent Infrastructure programme through the development of SES and CES programmes. The Region's management and internal delivery team were involved in the development of both systems. They were deploying this new software in a cautious manner to ensure it met their business needs and did not inhibit progress towards compliance.

Findings from Regional Analysis and Evidence Assessment outlined that there was not one system that aligned the asset management process or transfer of information in operation within the business. The CARRS database did however provide a strong line of sight from the examination process to inform the asset management decisions. In addition, the examination process itself provides assurance across three different levels for planning of maintenance and renewals activities. On site STE04 examiners provide asset specific recommendations for the management of an asset, with STE02 reviewing findings and recommendations. The asset management teams asset engineers (STE01) provide the operational oversight and decision making within the constrained environment that Network Rail operates.

4.2.1.7 Changes to the Examination Framework

Through the Regions recovery and delivery plan and the workshops held with the Independent Reporter there was no evidence to suggest that there were fundamental changes to the framework being introduced. The Region outlined a plan to reduce their non-compliance using improved technologies, new ways of working and an increase in examiner resource both internally and externally. Early signs showed that additional resource being deployed through the CAM framework was driving non-compliance down. Use of the CAM supplier examiners had brought the resource to the desired level, though it remained to be seen how effective training schemes would be in bringing this additional resource in-house. Eastern regions aim was to bring total non-compliance across the three measures to within 15% by Period 6 of Year 4. The Region stated that developing their resource base was critical to moving towards a compliant position. The new contracts improved the Regions ability to incentivise and collaborate with their external suppliers to meet compliance targets. Evidence from the Region highlighted that the quality of the examinations being submitted, which though not tracked was an issue in the past, was a critical element of the process with the EREC contract containing KPIs that measured the quality of deliverables and the availability and development of the delivery teams' resources.

The Region was monitoring themselves against the glide paths developed as part of their Sustainability and Improvement Plan issued in December 2021. The glide paths outlined how the Region would reduce non-compliance and increase resource. Evidence was provided to show how the two were interlinked with early signs of improvement being shown. The Region would carry over a non-compliant position into Year 4 but would move towards a compliant position as the year progress and new initiatives were established, with forecasts showing a compliant position towards the end of the Year 4.

4.2.2 Eastern Heatmap

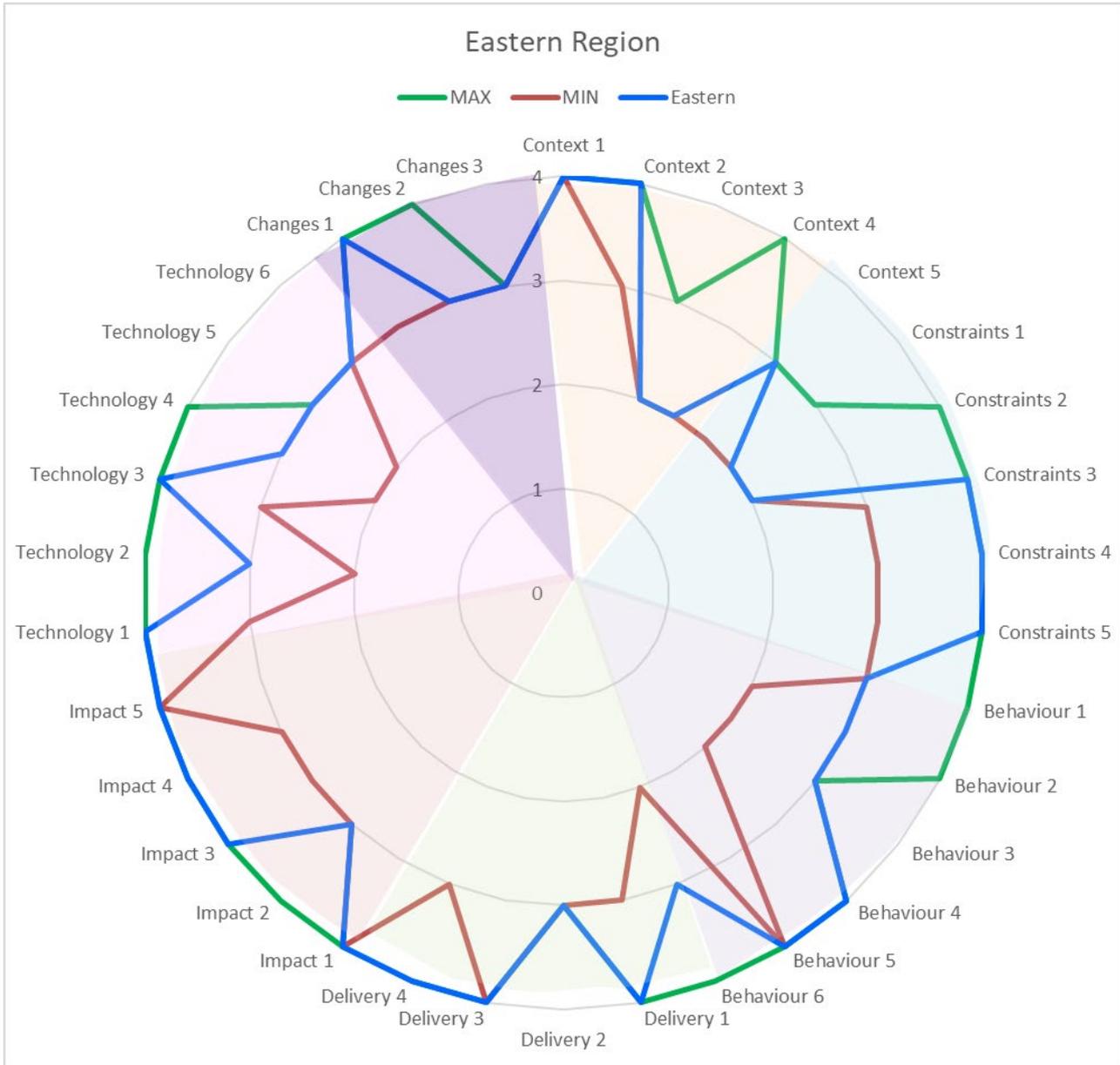


Figure 4: Eastern Region Heat Map

4.2.3 Independent Reporter Opinion

The current contract for the Region started Year 3 from a position of non-compliance which was caused by the contract change process that was implemented, with the Region playing catch up. That late award of the contract hampered the normal planning and robustness process which was used by delivery teams to plan and deliver the examinations workbank. It was the Independent

Reporter's opinion that the contract change process was not fit for purpose and a review should be conducted to understand what lessons could be applied to other contractual changes within the organisation to prevent this from happening in the future. The Region had cleared the backlog of risk assessments and implemented a process that prioritised high risk assets/examinations to ensure safety was managed.

The Eastern Regions' delivery partners were under-resourced which was constraining their ability to meet the needs of both the asset base and clear the backlog. We were confident that the Region had put in place plans to develop this resource and early evidence showed that increasing resources was reducing non-compliance. However, the Region had indicated a heavy reliance on the development of new resource and failure to deliver this would directly correlate in a failure to meet compliance targets. The Region's resource development plan to deliver the required in-house and external resources were targeted for completion by September and October 2022, respectively. Early evidence from EREC suppliers indicated that this target would be met for external resources. There was little evidence to show this would be the case for the in-house delivery teams and the Reporter was less confident in this target being achieved.

It was the review's opinion that this was cause for concern given the need to find the right talent within a constrained geography and with competition from both internal and external delivery teams to find people with the right skills and/or potential.

Regional recovery plans for visual site compliance by Period 3 of Year 4 were on track and we were confident that this would be delivered. We were less confident around the glide paths for the detailed examination compliance given that they did not take account of Year 4 work and a position of non-compliance for Year 3 was expected. Longer term planning glide paths for non-compliance across all stage showed non-compliance across all points until Period 6 of Year 4 as shown in the Recovery Plan. No date for full compliance was presented at this time and the evidence provided did allow for a view of when this would be achieved.

It was the opinion of the Independent Reporter that the time-based approach that the Standard advocated, for visual examinations, did not take a risk-based approach or consider asset characteristics. Consequently, there was little correlation between non-compliance and risk. The Standard was therefore not meeting the needs of the business to appropriately manage the risk posed to the network.

The Region showed that they were developing technological solutions that would support examiners in improving quality of examinations outputs and efficiency in the transfer of reports into the business. There was no evidence that showed in a quantifiable manner how these benefits would reduce the levels of non-compliance within the Region. In the Reporter's opinion the targets for on-site technology adoption by March 2023 will be met given the progress shown to date.

4.3 Northwest and Central Region

The following section summarises the evidence presented by the North West and Central Region over the course of the review.

4.3.1 Northwest and Central Region Theme Summary

The following section summarises the evidence presented by the Region over the course of the review.

4.3.1.1 Regional Context

Based on the data provided in the Region's Strategic Plan, it was indicated that the Region was required to deliver 3,000 detailed, 14,500 visual and 400 underwater examinations each year. This included all the asset types covered by the structures' examination regime.

From the contents of the Strategic Plan and other documentation used by the Region to track delivery, there was clear evidence that the requirements of Standard NR/L3/CIV/006/1A were understood, and the processes detailed in that document were being followed. This included the tracking of the volume of reports awaiting evaluation linked to the CARRS in-box measure, and the delivery of Risk Assessments when a structure's non-compliance occurs. Based on the description of their processes there was a high degree of confidence that the Standard was being applied correctly.

The Region had been non-compliant to the Standard for many years, with a range of issues preventing adequate progress towards compliance during this time. However, the overall position was improving as the Region seeks to tackle a number of issues which had proved intractable thus far, with strong and unwavering support from the in-house Works Delivery team who provided most of the delivery resource for inspections and examinations. Furthermore, the imposition of the Escalator process on NR nationally, has had a galvanising effect on senior regional management and the structures issues, and the means to resolve them now had greater focus of attention than was the case hitherto. Subject to the current relatively settled and benign environment remaining, the Region was confidently predicting delivery in line with its Strategic Plan and achievement of broad compliance with Standard by the commencement of CP7.

4.3.1.2 Regional Constraints

The burden of operational constraints had impacted the Region for many years. The long-standing issue of access to the infrastructure had been exacerbated more recently by the new safety requirements within the Track Worker Safety Programme which had made possessions, and working requirements within possessions, more prescriptive, and had pushed more inspection and examination work into night-time hours, affecting both quantity and quality of work undertaken. All Regions had, to a greater or lesser extent, suffered from this issue. It appears that there is not enough access available to meet the needs of all the technical disciplines which require it, especially when compliance requirements necessitate access being timebound. Structures regularly 'piggy backs' on other disciplines' possessions but have found themselves 'victims' on the day/night when issues have arisen which affect the ability of all parties to undertake their work.

NW&C had suffered uniquely from the introduction of a new visual examination software (Polestar), to replace the one provided by the contractor who previously held this contract. Polestar had significantly under-performed, and substantial improvement in performance and capability had proved elusive thus far. A decision to transfer the Worcester area structures from Wales & Western Region to NW&C last year was also poorly managed, with limited asset data provided, and no delivery resources transferred. The new area was now fully integrated, but only after a difficult 12 months.

The personnel issues in NW&C were not unlike those experienced in other Regions, though NW&C was less affected by the CEFA contract change issues experienced elsewhere, as exposure to external contractors only affected a relatively small number of specialist activities, such as underwater scour examinations. A difficult labour market with overall shortages of skilled inspection staff was a key issue and had encouraged the NW&C team to examine initiatives which improved the productivity of scarce skilled resources in a sustainable way for the long term.

4.3.1.3 Behavioural Drivers and Constraints

NW&C, without the distraction and the turbulence of a CEFA contract change to worry about, had been able to focus on getting the best out of the resources it had, and concentrating on supporting the Works Delivery organisation to meet its obligations. The Structures team at the Region admitted that they had not always enjoyed a high degree of support or been given appropriate attention by senior management in the Region, but this had changed with the imposition of the ORR Escalator process. The Structures team would appreciate help particularly to resolve their IT issues, which had been a struggle for some years.

Despite being non-compliant to the Standard for many years, the Regional Structures team were not accepting of this position and remain highly motivated to overcome the current range of constraints and problems which impact performance. This would allow the Region to both tackle the backlog and reach a position of current compliance by the start of CP7.

4.3.1.4 Delivery Plan Suitability

Bottom-up planning to resolve long term constraints and compliance issues was the basis of the regional strategy. The regional team understood that to achieve this would require substantial change in the way things were done, and a significant improvement in a number of the areas of constraint cited earlier. However, based on delivery in the early months of the strategy, and an expectation of no adverse change in the nature or impact of the known constraints – particularly the access regime and the industrial relations situation, which was described as ‘fragile’ – there was high confidence that the strategy would deliver the planned outcomes.

4.3.1.5 Operational Impact

The Structures team was emphatic that day to day operations in the Region were completely unaffected by structures’ non-compliance to the Standard and did not envisage any circumstances where this would change. Where structures’ issues had led to imposition of temporary or emergency speed restrictions, these had been as a result of asset condition, and not because of failure to complete an inspection within the prescribed timescale. The ‘risk profile’ for structures was, and would, remain low, provided that good decision making and risk assessment on structures was based on a good and regular inspection ‘track record’, which the Region had struggled to achieve to the requisite level in recent years.

4.3.1.6 Regional Adoption of Technology

The Region articulated a view about technological developments within its strategy and was active in developing both the current technology for wider use, but also seeking out opportunities for the future. Use of drones was now embedded practice and was permitting much higher quality inspection on assets which had proved difficult to examine in the past – sea defences on the Cumbrian Coast was cited as an example. Similarly, the use of 3-D imaging using Lidar technology was another exciting development, as was the use of Videoray remotely operated vehicles for culverts and underwater examinations. These applications not only improved the quality of examinations, but they also dramatically reduced the risk to personnel from being exposed to moving rail traffic. The fact that the Region was able to devote time, energy and resource to such developments whilst managing a challenging ‘day job’ was extremely creditable. It was clear that the Region was adopting some technology applications as BAU and were incorporating these into normal examinations practice.

4.3.1.7 Changes to the Examination Framework

The strategic challenge for NW&C will lead to significant changes in the way that work is undertaken, and the nature of some of that work. A key initiative was the creation of ‘dual competency’ for STE01 and STE02 examiners to allow interchangeability and greater flexibility in the manner of reports completion. Similarly, a detailed review of the Risk Based Examination processes to reduce the number of structures on reduced Detailed Examination frequencies was another positive initiative.

4.3.2 Northwest and Central Heatmap

The following shows the Region’s assessment for each of the framework questions relative to the maximum and minimum scores achieved nationally.

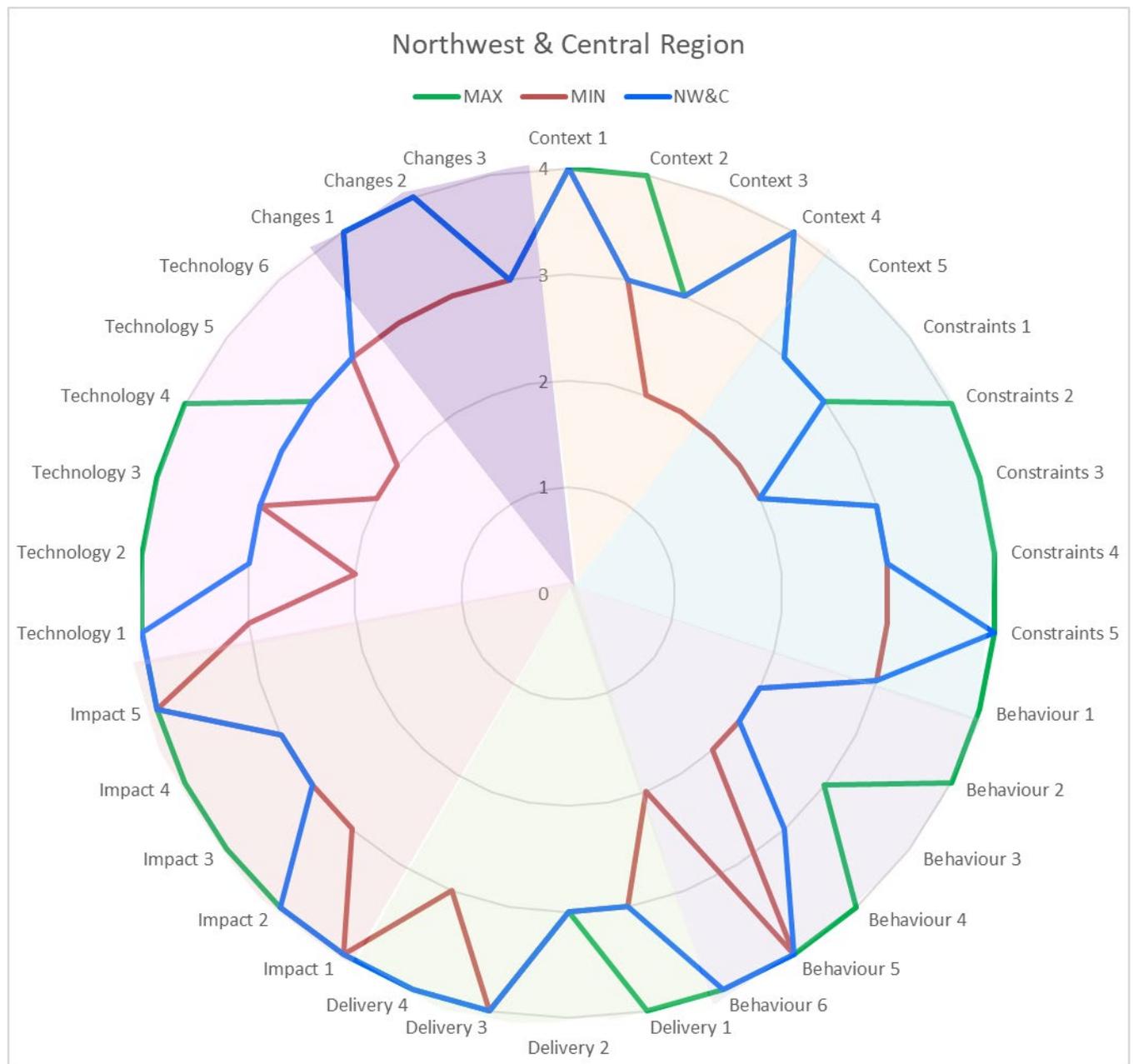


Figure 5: Northwest and Central Region Heat Map

4.3.3 Independent Reporter Opinion

The Regional Structures team, and their in-house Works Delivery partner, came across as a confident, competent, and well-balanced group, working hard to overcome a range of legacy constraints and issues, and determined to lift the Region out of long-term non-compliance to the Standard. The Regional Structures Examination Strategy launched in 2021 was a comprehensive plan to achieve much greater levels of compliance than seen previously and was tackling the

problem on all the necessary fronts – manpower resources, skills, productivity, methods of working, technological opportunities and innovation.

Achieving overall compliance to the Standard by the commencement of CP7 – a laudable but challenging target – would require most, if not all, of these initiatives to come good in the forecast timescale. Given that the constraints within which the team were working were largely unchanged – and, in the case of the impact from Track Worker Safety Programme, may yet become greater – and progress with Polestar was still too slow and lacked adequate IT expertise and support, it was likely that the delivery of the strategy would be achieved only over a longer timescale. The Region were unable to provide a definitive view, or demonstrate quantifiably, how technology will benefit them and reduce their levels of non-compliance. Whether the more active and overt support of the Regional Executive, which had been more forthcoming since the ORR’s application of the Escalator process, can help to overcome some of these more intractable problems, to expedite the planned recovery, remained to be seen.

In summary, whilst the initiatives in the Recovery Plan appeared to meet the requirements of the Standard, and the requirement to achieve compliance, there remained a significant question over whether the anticipated results over the period of the Plan would be deliverable within the forecast timescale, despite the best efforts of the team. The Reporter was unable to come to a definitive view of whether the Region would deliver to their Recovery Plan compliance timescales given the levels of uncertainty which currently surround the process.

4.4 Scotland’s Railway

4.4.1 Scotland’s Railway Theme Summary

The following section summarises the evidence presented by Scotland’s Railway over the course of the review.

4.4.1.1 Regional Context

Based on the data provided in the Region’s Recovery Plan it was indicated that the Region was required to deliver 2,400 detailed, 12,500 visual and 350 underwater examinations each year. This included all the asset types covered by the structures’ examination regime.

From the contents of the Recovery Plan and other documentation used by the Region to track delivery there was unmistakable evidence that the requirements of the Standard NR/L3/CIV/006/1A were understood and the processes detailed in that document were being followed. This included the tracking on the volume of reports awaiting evaluation linked to the CARRS ‘in-box’ measure, and the delivery of Risk Assessments when a structure’s non-compliance occurs.

During the engagement with the Region the impact of the introduction of the Temporary Non-Compliance TR61432⁵ was discussed. This demonstrated an understanding in the Region of the impact of the TNC in the context of the regime as defined in the Standard. The Region shared its views regarding the Standard and in particular the point was made that, based on work which had been undertaken in the Region, there was a question about the fitness of the current Standard in

⁵ Temporary Non-Compliance TR61432 Examination Tolerances was issued by Network Rail on 28th February 2021 and expires on 1st April 2022

terms of the link between compliance and risk. It was said that when risk-based examinations were introduced, the justification was initially to reduce costs. However, at that time the tolerance windows were not rigorously evaluated. The Region had proposed to change the tolerance windows to within the examination year but with a +/- six months period based on experience in the highways industry. This was believed to then allow the contractor to plan delivery more efficiently. However, this approach was not taken forward and the tolerances as originally proposed still existed in the Standard. Thus, with the varying periodicities of the examinations and the fact that these could change after every exam along with the compliance date it meant that it was viewed as being 'complicated' to plan. This level of complication was felt to mean that compliance was potentially undeliverable given the level of variations. It was also viewed by the Region that the tolerances were not backed-up by any safety justification. The analysis that they had done demonstrated that the safety risk associated with non-compliance did not justify the applied tolerances. This was seen as a major issue, and it was considered that if tolerances could be applied which were more linked to the real risk profile, then it would not just reduce the level of non-compliance, but it would also allow the Region to flex the examinations permitting it to plan more efficiently. It was also noted that the Region was supporting the WSP Tranche 1 workstream which was reviewing structures examination tolerances.

There was no doubt that the level of non-compliance in the Region had worsened with a spike in non-compliance levels when measured against the previous years' cyclical pattern. This was seen as being a result of the Amey cyber-attack and the process of changing contracts, even though the scope of the contract and the contractor had remained the same in Scotland. Nevertheless, the Region stated that their supplier was delivering to the specification, but they had forecast a limited roll-over to Year 4 despite having to deliver the Year 3 programme in nine months. The Region acknowledged that whilst the site and submission phases of examination were being managed effectively the evaluation element, undertaken within Network Rail, was now the bottleneck. This was evidenced in Appendix D of the Region's Recovery Plan.

Outside of the need to produce the Recovery Plan the Region believed that the impact of being on the Regulatory Escalator had increased Senior Management focus on the issue

4.4.1.2 Regional Constraints

The Region's response covered the three areas of: staffing, financial and access constraints.

In terms of resources the evidence from the Recovery Plan showed that there was a gap in the ability of Amey to staff their tendered quantum of resources. Based on evidence from the supplier it was confirmed that in the short-term this gap was being covered by agency staff with the training of fresh staff taking place in parallel. No financial constraints were identified by the Region in the short-term, but it was noted that the new Amey contract was significantly more expensive than the previous one and as such it was felt that this could lead to future financial pressure should the Region require to tighten spending.

Site accessibility was not considered to be a significant issue because of the geography of the Region, but it was noted that at locations where isolations were required these could be a particular issue because of the need to get these on the night.

A detailed view of site cancellations was not made available but was provided by the Region only in general terms. An understanding therefore of the level of cancellation was based on the Delivery Partner's view. The impression was gained that the level was not significant in terms of the overall programme. Amey confirmed that they lose a limited number of shifts on the night sharing that 99% of what was planned goes ahead. It was stated that the failures were mostly due to weather

conditions and not access or resource issues. Amey put this down to them adopting a more in-depth planning process which was overseen by a national Planning Manager who undertook a detailed review of all their regional plans to ensure robustness.

The Region and their supplier confirmed that there was little interdependency between their teams and the other Regions in terms of resources. The resourcing of the new contract had largely removed the sharing of resources meaning that Scotland had a more dedicated Amey team working for them than had been the case previously.

4.4.1.3 Behavioural Drivers and Constraints

Whilst Amey had not always been the examination contractor it was noted that the individuals who manage the contract from the supply side had moved from company to company as the contract had changed hands. As a result, there was clearly a firm understanding of the portfolio and the associated Standard. Whilst it was noticeable in the engagement with the supplier that the financial aspects of the contract were an understandable focus it was considered that the relationship between supplier and NR was healthy and was helping the Region deliver greater compliance.

There was evidence that the placing of the issue on the Regulatory Escalator had raised its profile in the Region and that there was more engagement with the Directors as a result. This was shown through the increased level of reporting that was being undertaken by the structures team and that non-compliance was being discussed at the Regional Quarterly Business Review meetings. The comment was also made that the higher cost of the current contract and any financial constraints in the Region may challenge that support in future years.

There was no evidence to conclude that the regional structures team felt that any level of non-compliance was acceptable however the “one size fits all” approach of the Standard was not seen as helping them achieve compliance.

Of all the Regions Scotland’s Railway was affected least by the TUPE process because of the use of a single contract and the continuity provided by Amey.

4.4.1.4 Delivery Plan Suitability

There was significant disruption to the Year 3 planning because of the Amey cyber-attack and the whole contract change process. The latter cost three months of delivery due to the need to close out activities associated with the old contract. The Region believed that the roll-over from Year 3 to Year 4 would be 18 detailed (0.75%) and 250 visual (2%) examinations. The Region was not able to provide a compliance forecast for the outcome of the examinations in Year 3. The opinion of the Region was that the situation in Year 3 would improve in terms of the site and submission figures but that there would be significant pressure on the CARRS ‘in-box’ figures at year end.

The Region was working on its Planning and Robustness (P&R) for Year 4 which would be available at the end of February 2022. The Region predict that the Year 4 results would get them back on track to the continual improvement they had been experiencing before the hiatus of Year 3. They admitted that no forecasting of compliance in Year 4 had yet been undertaken because of the “complexity of the variables” and the fact that P&R had not yet been completed. However, in the follow up session the Region's confidence regarding the delivery of the plan in Year 4 improved noting their ability to undertake early examinations in the first quarter of Year 4 because of the stand-still that had taken place in Year 3. This was further believed by the Region to be supported by Amey’s performance in terms of submission timescales and the going live of the delivery KPIs in the Amey contract.

4.4.1.5 Operational Impact

The view was expressed that there had been no operational impacts due to non-compliance. This was confirmed by the fact that there had been no TSR or PSRs imposed as a result on non-compliance of a structure. In addition, the view was expressed that the renewals workbank had not been directly affected by non-compliance in terms of its planning, but in providing design teams with the most up to date information regarding the structure it was believed that it did have a limited bearing. The Region considered that the impact on maintenance planning was low given that if there was an immediate need for remediation work then it would be picked up at the time of the site work. They also noted that the rate of degradation was generally so low as to not be impacted by non-compliance.

In terms of the wider impact on services, the Region considered the risk profile to be only loosely linked to non-compliance. As such the level of uncertainty regarding a structure's condition was not necessarily seen as being linked to non-compliance. It was also noted that several structures had been placed on an 'Additional Examination' regime where there was a known issue with condition. Based on these points it was considered by the Region that the safety impact was only tenuously linked to non-compliance.

4.4.1.6 Regional Adoption of Technology

The Region characterised their vision for the use of technology in the examination process as being the enabler to deliver quality improvements in terms of the examinations themselves. They also considered that technology alone was not going to deliver compliance. This was supported by a view that the current method of examination would only be replaced in the medium to long-term using technology but that there were currently several barriers to its introduction. Nevertheless, the Region was keen to adopt innovative technology to improve quality and efficiency where this was seen as beneficial.

The Region was moving forward by trialling several innovative technologies - like the use of cloud-based measurements and the use of more instrumentation on bridges. The underwater cameras used by Amey were noted as being expensive and this was seen as a barrier although it was acknowledged that the quality of the output was particularly good. Nevertheless, there was sufficient evidence that the Region was willing to trial innovative technologies where these improved quality and efficiency. A few of the initiatives which they were trialling were having benefits and were seen as possibly delivering greater efficiencies if they were deemed scalable.

The Region quoted the use of the systems which surround the Intelligent Infrastructure (II) initiative in their Recovery Plan. It was noted that the Region was previously involved in the development of CESAMS and as such was able to demonstrate an understanding of the benefits from such systems. The Region was clearly aware and driving the outputs of II to both their own systems and those of Amey, noting that Amey was contractually obliged to feed into the II initiative.

The Region gave an account of the technology it was using for specialist tasks. Each of these appeared to deliver benefits but that it was considered by them that the arrival of the Engineering Asset Management (EAM) tool which would tie these together to provide the overarching system approach. The timescales for the introduction of the EAM system were not known.

Regarding the introduction of more technology into BAU in the Region, it was the Reporter's view that the Region were focused on using technology to improve quality rather than as a tool to drive compliance. As such, the Reporter views this approach as sound but unlikely to deliver significant benefits in the short to medium term.

4.4.1.7 Changes to the Examination Framework

Looking to the future, the Region's focus on change was based on the development of the Track Workers Safety Programme (TWSP) which was felt could fundamentally affect the way in which examinations were delivered on site, and also the impact of the review of the Standard. This latter change was clearly linked to the WSP Tranche 1 work which had regional involvement and as a result they understood the benefits likely to come from that work but not the timescales which were described as being outside of their control.

4.4.2 Scotland's Railway Heatmap

The following shows the Region's assessment for each of the framework questions relative to the maximum and minimum scores achieved nationally.

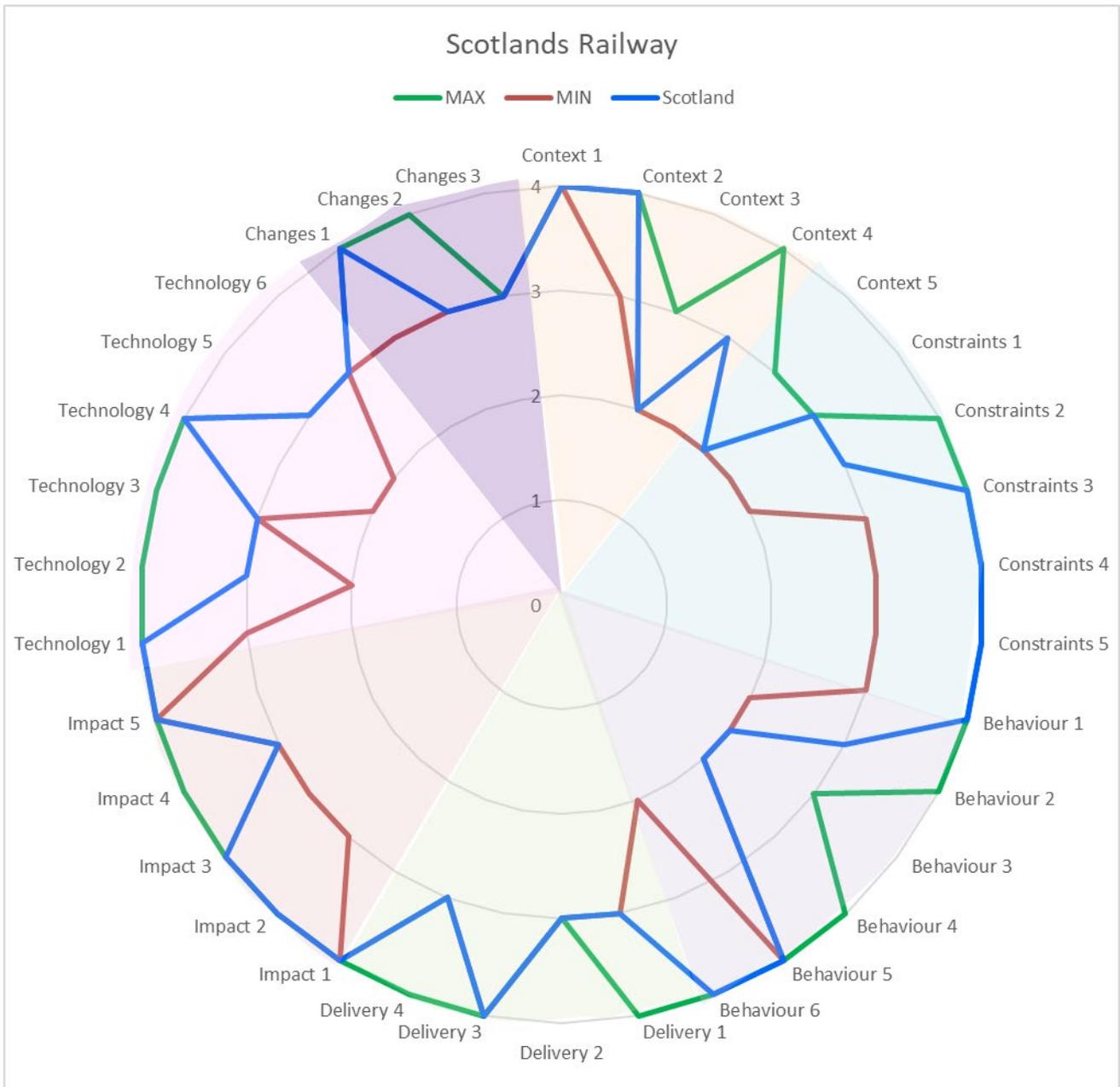


Figure 6: Scotland's Railway Heat Map

4.4.3 Independent Reporter Opinion

The Region and their delivery partners had long experience of working on the examination of the structures' portfolio in Scotland. As a result, they had a demonstrably good understanding of the issues with the portfolio and the processes associated with the Standard which they had been working to for a significant period. There was therefore a high degree of confidence that the Standard was being applied appropriately to the structure assets.

When probed on the constraints facing the Region impacting on the delivery of compliance it was noted that there had been continuity of supplier and contract scope through the recent contract change process which meant that the Region had suffered less than others in terms of the outcome of that process. The new contract placed penalties on the supplier to encourage delivery to laid down criteria for the site work and the submission of reports. It was noted that whilst this KPI regime was not commercially operational in Year 3 there had been a notable improvement in delivery by Amey in these two areas such that the bottleneck for compliance was now considered to rest within NR. In this regard it was notable that internally there were resourcing issues which were exacerbating this problem.

The Region was the only one to have adopted the Line of Route approach to visual examination delivery and this was seen to have had an obvious benefit in terms of the planning of access some years out. Whilst this, and the geographical nature of the Region's routes, facilitated the development of robust delivery plans it was noted that the spread of electrification in the Scottish Central Belt had imposed a further barrier in terms of the need for isolations at some sites. Whilst Amey was delivering under the contract now it was noted that they were using agency staff to cover for vacancies. As such there must be a risk that agency staff were not tied to the contract and could leave. In addition, it was notable that the age profile of examiners meant that this too was a risk. Overall, the view was gained that there were several risks around constraints but that these were understood and, particularly regarding staffing, there were plans in place to stabilise the position.

As a result, the overall picture regarding the Region's ability to deliver compliance to the timescales forecast in their Recovery Plan was by no means certain although it was the Reporter's opinion that the Region was in one of the best starting points of any to deliver compliance. Nevertheless, it is the Reporter's view that there were too many factors affecting the delivery of the Region's Recovery Plan's compliance deadline to be able to come to view on their certainty of achieving it. Primarily this was associated with the unknown impact of TWSP on the structures team within the current contractual and financial boundaries.

In terms of the adoption of technology the Region's approach was considered to be relatively cautious, though they had implemented several trials, but these were firmly based on delivering an improvement to the quality of the examinations rather than being used as the basis of a glidepath to compliance. Again, the structures team had been involved with the development of IT schemes within NR and it was considered that this involvement grounded their expectation of what benefits would come from the introduction on new systems. It is the Reporter's view that the adoption of technology in the Region would not deliver, in the short to medium term, a significant benefit in terms of compliance. The Region was unable to provide a definitive view or demonstrate a quantifiable position on how technology would benefit them.

In considering the changes on the horizon the Region's view was appropriately focused on the TWSP and the WSP work. It was clear that the balance of impacts of these two very significant initiatives would be important to the delivery of compliance in the future. The Region did not appear to be well sighted on the effect of TWSP in terms of the timing and degree of impact but was directly involved with the Tranche 1 work. This latter association with WSP was considered

extremely beneficial in terms of the experience brought by the Region to that process including their wider experience from the highway industry.

4.5 Southern Region

4.5.1 Southern Region Theme Summary

The following section summarises the evidence presented by the Southern Region over the course of the review.

4.5.1.1 Regional Context

Based on the Region's tabulation in their Recovery Plan, and the clarification provided at the meeting, it was considered that the structures team possessed a satisfactory level of understanding of the structures' portfolio and its make-up in the Region. The appropriate application of the Standard NR/L3/CIV/006/1A was also adequately demonstrated in the overall process that was evidenced in the documentation supplied as part of the review including the reports covering the management and reporting of non-compliance against both the Standard and the TNC.

The impact of the temporary non-compliance TR61432 was discussed with the team, and it was clear that whilst this had had an impact on the current year's level of non-compliance the Region felt that this was less than the disruption and issues which emerged through the new contract process. This comment was based on the supposition expounded by the Region that the introduction of TR61432 was for this purpose. However, in the longer-term there was a view that the work behind the temporary non-compliance was useful in changing the approach taken to examinations and the linkage to risk. The Region expressed strong views on the fitness of the current Standard and highlighted that the Tranche 1 work, led by the TA, was reviewing the examination intervals and tolerances which were clearly considered by the Region to be long overdue.

The Region demonstrated a good understanding of their level of non-compliance based on the evidence from the trackers and forecasts. The Region explained that prioritisation had been given to the submission of reports from the suppliers since this had developed into a backlog. It was stated that internally to NR the focus of the team was now on the reduction in examinations in the CARRS 'in-box'. This was clearly something which was under the structures team's direct control.

The impact of the new contracts was cited as being a significant factor in the worsening of compliance in Year 3, but there was a belief that "the waters would calm" on this and the benefits from the Region's contracting strategy and other planning initiatives would start to be felt. However, it was stated that the TWSP, whilst agreed as being necessary, represented a further constraint likely to increase the level of difficulty in achieving the current compliance requirements.

4.5.1.2 Regional Constraints

The evidence provided by the Region in the documentation submitted, and during the dialogue at the meetings, demonstrated a good understanding of the constraints and issues which they faced in terms of delivery. The team was noted as being particularly proactive in minimising programme disruption through the sharing of long-term horizons for the workbanks with their suppliers. Through their CEFA Manager the Region demonstrated a robust planning process which had reduced the level of on-site cancellations. It was also noted that the heightening of the profile of structures examinations through the Regulatory Escalator had also had a positive impact on the priority given by the Region to this activity.

Access was highlighted as the main constraint across the Region, and this was linked to the obvious intensity of traffic levels on routes within the Region.

Regarding the availability of resources to deliver the on-site inspections, the focus for non-delivery appeared to relate to the Xeiad contract, and the lack of a mobilisation period (caused by the new contract procurement process) and the lack of resources linked to the TUPE process which had impacted on particular Lots. Whilst there was an expectation in the Region that the seven Lot contracting strategy would in the medium-term deliver benefits the hiatus caused by it during Year 3 had significantly worsened the Regions overall delivery position. The point was made that despite the difficulties associated with the contract change process a lot of effort was being put into limiting the impact of the introduction of new contracts.

4.5.1.3 Behavioural Drivers and Constraints

The Region had decided to split the delivery of the structures' examinations workload into seven Lots. The splitting of the former solely Amey resources between the respective Lots had not worked seamlessly and as a result the Region has had to work hard to take account of the slow mobilisation on certain Lots. In addition, there was evidence that there remained a legacy requirement to integrate variations in process between the South-Eastern (Kent and Sussex Routes) and Wessex Routes.

It was clear from the schedule of reporting and meetings that took place in the Region that there was a lot of sharing of the levels of non-compliance with the senior team. It was also clear that there was a view that fixing the current 1% level of site non-compliance was exceedingly difficult and that this was recognised by the regional leadership team. This had led to a view within the Region that the issue of non-compliance was an industry-wide issue which could not be solved in this Region alone.

4.5.1.4 Delivery Plan Suitability

It was noted that the quantum of examinations contained in the Region's Recovery Plan had been based on the levels required to achieve compliance. The Region confirmed that the delivery plans going forward to Year 4 were resourced for the Amey delivery Lots, and partially resourced for the Xeiad Lots. There were plans in place to recover the resource situation within Xeiad through recruitment and training. The Region had shared its workbanks for the longer term with the contractors and it was noted that planning was underway in the Southeast to secure access and develop resource plans to meet these examination plans. The Region and the contractors had reacted to the future impact of the TWSP by looking to 'Worksite Xs' to support robust delivery.

Following detailed probing on the variations in process between the South-Eastern and Wessex Routes it was accepted by the review that any differences within the Region were being appropriately managed, and that further work was taking place to reduce this further. Nevertheless, whilst the Recovery Plan showed a glide path to a level of full compliance and a workbank delivery plan that had now been developed for Year 4 these two did not necessarily align, such that the anticipated outcome in terms of compliance for Year 4 was not yet certain.

4.5.1.5 Operational Impact

The evidence provided by the Region demonstrated a good degree of understanding of wider impacts with some relevant examples provided. There was also evidence that the increased profile of structures examinations, and the leverage they could apply in terms of signing a structure out of use, had been effective in reducing operational impacts.

The Region expressed the view that their renewal plans were not affected by non-compliance due to the long lead time planning required for such works. They also made the point that the critical factor was the quality of the examination and not necessarily the timeliness of its delivery since this was subject to a risk assessment. The point was emphasized that they were comfortable with their level of non-compliance regarding the delivery window, noting that compliance in terms of the quality of the examination was an entirely different matter.

The Region provided an account of its processes for monitoring the need for, and then completion of, risk assessments where required by their regional Compliance Engineer and how this was subsequently reported within the organisation.

4.5.1.6 Regional Adoption of Technology

Whilst there were several potential technological innovations discussed the Region as a whole had not yet developed a 'vision' for the place of technology in the future delivery of structures examinations. The view was expressed that it was too early to say what benefits could come from the use of technology to lead to a vision. Nevertheless, the Region's approach in this area was taken as being based on "a gentle exploration of available technology". They recognised that they should be better at moving to these technologies but believed that it must be done in a controlled manner. In this regard the Region provided a limited number of examples of technology applications which they used in BAU. Several potential uses of technology were discussed with the application of 'DifCam' being the most likely to deliver savings in terms of reduced tunnel possession times.

Regardless of the foregoing it was noted that the Region was undertaking some developmental work associated with the potential benefits from the use of cameras on trains. This was being done in conjunction with other Regions, however the benefits were not expected to be available in the short-term. The point was also made that the Region strongly believed that the advancement of the use of technology was a national matter stating that there was merit in the use of national resources to develop technology to the benefit of all Regions. They expressed frustration that the process of linking their databases to the suppliers' systems was taking a very long time. Intelligent Infrastructure was stated by the Region as being centrally managed and as such was out of their direct control. The comment was made by the Region that the front-line managers were fully occupied dealing with the day job and had little 'headroom' to innovate in this fashion.

The engagement with the Regions' delivery partners was more revealing about the use of technology which they felt had gone some way to improve efficiency. There was a strong view from the suppliers however that NR needed to do more to promote the use of technology either through updates to the Standard or by acquiring off-the-shelf packages. In the engagement with the suppliers, they specifically cited the potential use of QR codes for tracking defects, sonar for underwater examinations and cloud technology to measure asset degradation as areas where they believed off-the-shelf solutions could be adopted. However, it was their view that the Region appeared reluctant to invest time in appraising these solutions.

In terms of the Region's adoption of technology in BAU it was the Reporter's view that in this Region any such significant adoption was some way off based on their reliance on central support for its introduction and the lack of 'headroom' in the team to get involved with this sort of innovation.

4.5.1.7 Changes to the Examination Framework

The focus of the Region's response to changes to the examination framework was the impact of the WSP Tranche 1 work, which was considered to be "potentially huge". It appeared that there were

hopes of a notable change in the examination approach coming out of this work; noting that TR61432 was considered to represent “a taster” of the outcome of this work. The fact that the Tranche 1 work was on-going by WSP meant that the impact of its implementation was not clear at this time to the Region, but it was believed that it would see a shift away from the current compliance windows to something more risk based.

4.5.2 Southern Region Heatmap

The following shows Southern Region’s assessment for each of the framework questions relative to the maximum and minimum scores achieved nationally.

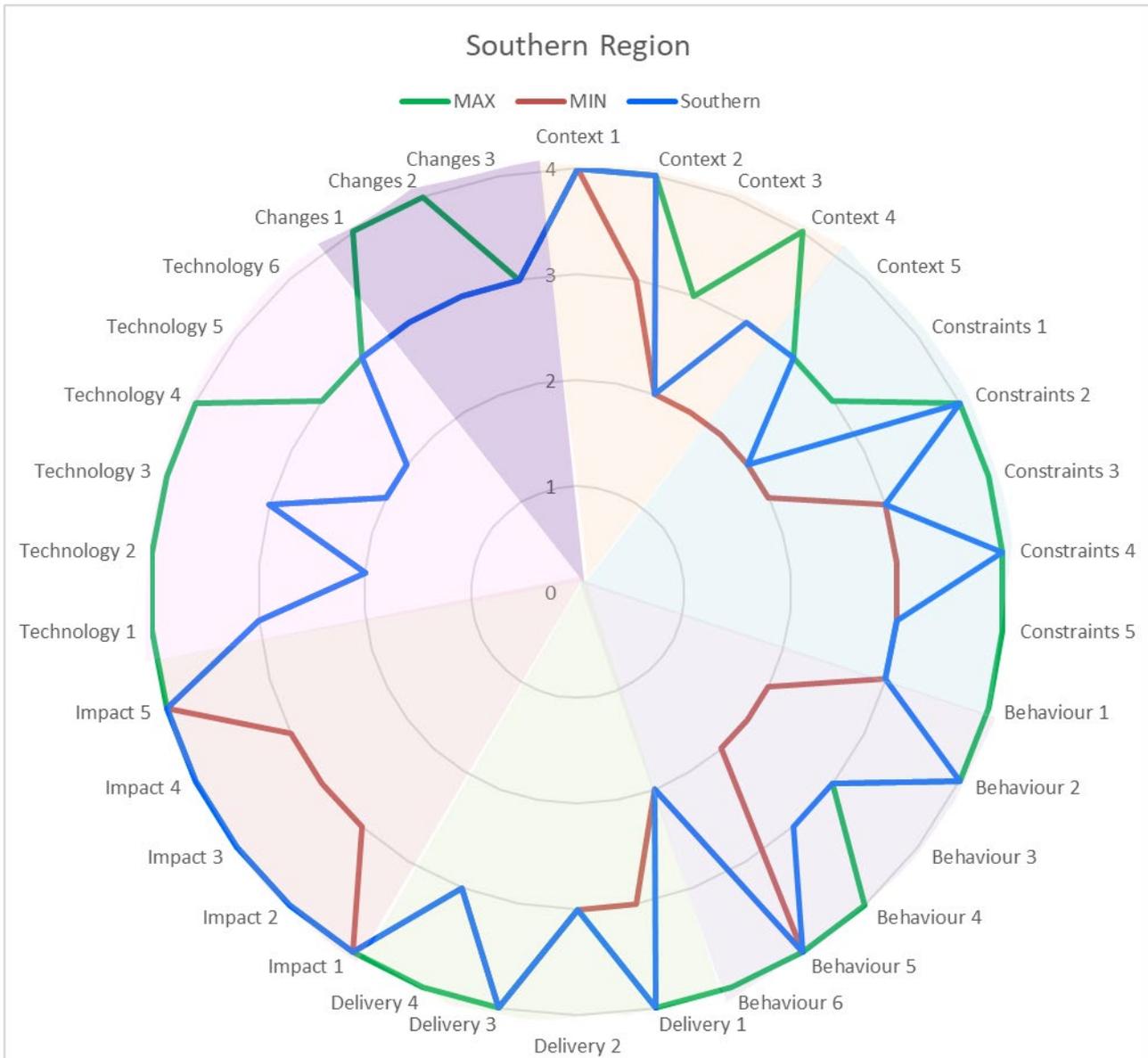


Figure 7: Southern Region Heat Map

4.5.3 Independent Reporter Opinion

As with other Regions the engagement with the structures team and the suppliers led to a view that the respective representatives were sufficiently experienced and knowledgeable about the assets in the Region to develop appropriate plans to deliver their workbanks within the confines of the requirements of the Standard and the constraints imposed on them in terms of access and resources.

As noted above the Region adopted a procurement strategy involving the splitting of the previous single contract into seven Lots. The outcome of the process was that the entire scope was divided between two contractors. The resulting TUPE exercise linked to the late contract award meant that Xeiad were without resources and had to scramble to get agency staff to cover the gap. It was therefore concluded that the internal procurement processes generated a significant constraint in terms of ability of Xeiad to deliver in Year 3 due to the lack of a mobilisation period and the lack of staff transferring to cover the Culvert Lot. Whilst acknowledging that the process to award and mobilise the new contracts was within NR's control the regional structures teams felt that they had had little control over the process of awarding the contracts. It was however the opinion of the Reporter that despite the disruptive involvement of NR's procurement processes the Region set the framework for the new contracts and therefore had a hand in the regime which delivered the TUPE issues. In addition, whilst the Reporter is not suggesting that the whole procurement process was not fit for purpose, the way it played out in terms of the specifics of the new CEFA contracts had some flaws and as a result a legacy of issues. It was considered therefore that there was room for lessons to be learned from this experience.

The Region evidenced, and strongly argued, the point that they considered there to be issues with the current Standard leading to difficulties in achieving compliance but not necessarily leading to increased risk. This view was based on the periodicity nature of the visual examination regime in particular, and recognition that there was a limited amount that the Region could do to move to a compliant position given the constraints associated with access.

The view was therefore taken by the Reporter that the Region had taken appropriate steps to plan the future year's delivery noting that it had provided its contractors with the longest horizon in terms of the workbanks in future years of any Region. However, whilst the Region was able to identify several initiatives which had been put in place to make their planning and delivery more robust at this stage, given the question surrounding the Wessex Structures General contract, there remained some doubt whether the assumptions as outlined remained valid.

In summary, whilst the high-level figures in the Recovery Plan appeared to meet the requirements of the Standard there remained a significant question over whether the anticipated result of the delivery over the period of the Plan would be deliverable despite the best efforts of the team. The Reporter was unable to come to a definitive view of whether the Region would deliver to their Recovery Plan compliance timescales given the levels of uncertainty which currently surround the process.

In terms of technological innovation and application the Region's approach was characterised as being "slow and steady". In particular, the Region, more so than any other, considered the development of systems and technology to be a matter for pan-regional consideration and not something that could be developed locally. It was therefore clear that technology was not at the forefront of their plans going forward. This approach was considered somewhat insular in terms of moving to better quality outputs using technology but nevertheless was not necessarily seen as a direct impact on the Region's levels of compliance. The Region was unable to provide a definitive view or demonstrate a quantifiable position on how technology would benefit them and reduce their levels of non-compliance.

4.6 Wales and Western Region

4.6.1 Wales and Western Region Theme Summary

The following section summarises the evidence presented by the Region over the course of the review.

4.6.1.1 Regional Context

Split equally between the two routes the Region delivered around 1,500 detailed examinations, 14,000 visual examinations and 600 underwater to achieve compliance. The workbank was distributed across four different suppliers within the Region as follows:

Wales

- Bridges and Retaining Walls: Amey
- Tunnels and Culverts: Inspire
- Under Water: GW Marine

Western

- All Assets: Xeiad

The Routes had undergone different procurement processes to move from the old CEFA contract. Wales Route transitioned in Year 2 of CP6 and Western Route in Year 3. The evidence presented by the Region showed a stark contrast in site and submission compliance across the two Routes. With Wales achieving near to historical non-compliance levels and demonstrating progress towards compliance whilst Western was experiencing higher than historical levels of non-compliance. The Region highlighted how they have had to use Wales Route partners to ensure high risk structures were examined on the Western Route to prevent them going non-compliant.

The workbank was distributed to delivery partners through the P&R process with compliance dates forming the baseline plan. The delivery partner that was interviewed highlighted the benefit of undertaking this process in achieving site compliance in Year 2 of the contract compared to Year 1 where the award date did not allow this to happen. The Region evidenced that in Western this process was not undertaken in its normal guise due to the contract delay.

The Region provided evidence that the risk-based approach applied to the detailed examinations and the tolerances window met the needs of the business and were reasonable given the degradation profiles of assets between detailed examinations. With regards to visual examination the Regions' view was that the tolerance periods for compliance needed to be reviewed given the risk associated with the frequency with which the asset was looked at.

4.6.1.2 Regional Constraints

Resourcing was not a concern now within Wales. Amey reduced their workload without losing resource while Inspire had some resource development to undertake in Year 1 of the contract but this was managed and was now fully resourced. Evidence from the supplier indicated that the relative lack of competition, by being the only Route going through contract change, made this easier to do.

Within Western the supplier was under-resourced at STE02 and within the planning team though they were undertaking training programs to bring new resources onboard. The Region had undertaken the role of STE02 to ensure that examinations could be signed off within the 28-day period as required. The Region was supporting Xeiad during the planning and robustness process to plan and book access as the contractor's planning team was further developed.

The Region evidenced that there had been changes to working practices due to the Track Worker Safety initiatives that had been introduced. The ban on open line walking had been managed however, the delivery team evidenced that the crossing line process had not yet been fully deployed. Which was having knock on effects with regards to the time taken to undertake each examination particularly affecting cross linear assets such as culverts.

The supplier noted that historically, and in the first year of the contract, that enabling works had been an issue and had led to on-site failure of examinations or having to request for line blocks to gain access. However, the enabling works manager had now been brought into the conversations between the supplier and Region which had improved communication and reduced these instances in Year 2 in Wales. This approach was part of wider attempts to mitigate onsite failure by using train borne cameras to undertake pre-site visits and ensure access was possible. In line with TWSP the supplier noted that ensuring enabling works were undertaken it had ensured safe walking routes were provided.

The Region and supplier did not see constraints affecting one asset type more than another. Tunnels were planned in a more cyclical nature which reduced access constraints and the approach of bringing in maintenance teams during the same possession was regarded as best practice within the wider organisation.

Resources were not shared outside of the Region by Inspire for visual and detailed examinations due to the volume and scale of work which requires STE04s to be locally based. At the STE02 level both Region and supplier evidenced that these were shared depending on demand across this Region and other Regions where they operated.

Mitigation of these constraints included developing a cyclical programme for as many assets as possible to enable pre-planning of access and allowing assets to be grouped using a 'line of route' approach. A similar approach had been used on tunnels to reduce access requirements already and lessons learned were being applied.

4.6.1.3 Behavioural Drivers and Constraints

The Region evidenced that a good working relationship was in place and critical to the delivery of the examination programme. Both parties interviewed were operating from a shared vision of achieving compliance and delivering the workbank. The supplier outlined that achieving compliance was critical for them to grow their business. The TUPE process had allowed a maintenance of relationships and transfer of skills which had reduced turbulence. The supplier was complimentary of the collaborative nature that Wales and Western had with them in addressing issues.

The placement of examinations on the Regulatory Escalator had promoted examinations in recent months. Though they were not seen as a priority across the business they were now receiving more priority and appeared on the Chief Engineer's reports. The Region highlight that the executive leaders primary concern was the performance and safety of the railway, consequently unless examination non-compliance was impacting these factors the Region felt that the level of engagement was reasonable.

The Regional executives were looking to understand why the examinations were on the Regulatory Escalator and the process to move down the steps within the escalator. They were not however involved in the development of strategy or day to day monitoring of the compliance position, which was appropriate given the current state of non-compliance and the improving state within the Region. The Region demonstrated that if safety was being impacted by non-compliance, then this would be escalated to the executive team, as needed, but given the risk profile associated with the network at this time it was not necessary. The risk assessment process was used to assess and mitigate any risk arising from non-compliance according to Standards NR/L3/CIV/006 and NR/L3/CIV/021. Assets that had known issues were prioritised for inspection if they became non-compliant and the risk assessment process managed safety of the network to ensure performance.

Weekly reporting of examination compliance and examination progress was made by suppliers to the Region. Contractual KPIs monitored performance against submission of a report within 28 days of site examination. Non-compliance to this resulted in a formal warning; progress was monitored weekly against the KPI. To incentivise the supplier, the Region had structured payments on the contract 60/40 with respect to site and submission. This could be flexed depending on performance against compliance to promote adherence.

The regional team categorically did not accept that non-compliance was the norm within the structures team. As writers of the Standard, they should aim to achieve compliance and understand why the Regulator held them against this. However, the Region did believe that there was a level of non-compliance within a year that could be accepted given the risk associated with visual examinations non-compliance. Some level of non-compliance was planned into the workbank due to resourcing and access constraints, this would normally be around 1-2/% for a normal year and was removed as the year progresses.

4.6.1.4 Delivery Plan Suitability

The Region did not tend to interfere with the planning of the workbank and left this up to the suppliers to develop as they understand their resource constraints and plan the access. Plans were developed by the supplier based on staff availability and ensured a smooth workbank that met delivery needs; moving forward suppliers would have the pre-planning time and a full year to deliver the work bank and achieve historic levels of non-compliance was the minimum that should be achieved in Year 4.

Strategic assets that needed to be prioritised were done so, particularly for detailed examinations. Assets were prioritised if the examination was programmed outside of the compliance period or was cancelled as there was a safety critical need to understand where the asset was in its lifecycle even following a risk assessment. Asset type did not affect the prioritisation of an examination as prioritisation was based on perceived risk to an asset.

4.6.1.5 Operational Impact

The Region evidenced that there was no effect on the day-to-day operations or impact on service as a result of non-compliance. The Region stated that the biggest impact was on staff's day to day activities trying to manage the non-compliance. It was estimated that non-compliance mitigation and impact took up 15% of time for the compliance team, 10% contracts management team, 15% to route asset manager and 20% to the asset engineering due to undertaking risk assessments for non-compliant structures in addition to the examination sign off requirement.

There was no impact on the renewal work bank given the long-time scales that renewal workbank was planned over, with evidence provided to show that the CP7 Year 5 workbank was currently

being planned. The business was required to ensure that any maintenance activity was required to take place within 52 weeks so any late compliance for submission and sign off had no impact on this requirement as long as the works were completed in the time window.

The Region was clear that given the timescales between both visual and detailed examination the short length of the tolerance window did not increase the risk posed to the network when a site examination fell outside the compliance window.

The Region was conducting risk assessments as directed by Standards NR/L3/CIV/006/1A and NR/L3/CIV/021 when site examination fell outside of the tolerance window. Evidence highlighted that there were no outstanding risk assessments within the Region at this time.

4.6.1.6 Regional Adoption of Technology

The Region and suppliers within Wales and Western Region were embracing the use of technology to improve the quality of examinations and meet compliance periods. The Region and suppliers both saw the use of technology as improving the quality of examination and supporting examiners. They were exploring three different areas of technology - Surface Condition, Sub Surface Condition and Geological Condition. The supplier outlined how they were using technology to reduce the need for desilt / dewatering activities and undertake examinations which was resulting in reduced costs and the impact of jetting a culvert which could cause damage. It also reduced the environment impact of the using water jets. Evidence from the Region showed an efficiency saving of £185,728 since the start of the contract. The Region had developed the Asset Coast System with JBA Consulting which gave engineers a more holistic view of complex coastal assets. The new contract had brought a specialist team in to deliver the examinations which had resulted in an efficiency of £253,631.

The supplier referenced that they saw the use of technology, such as drones, as providing safety benefits by removing examiners from the track and removing the need for examiners to cross live lines. This supported the goals of the TWSP.

System improvements such as CES were supported by the Intelligent Infrastructure (II) programme with the II team directly supporting to ensure that CES interfaced with delivery partner systems effectively. The roll out of CES had been pushed back to ensure that issues were resolved by the II team and delivery partners. Given the current state of compliance deployment of CES could have an impact on the submission and sign of examinations and the Region did not want to experience similar issues to those when Amey's ALARM system went down.

CES and SES were used to allow the better transfer of information between contractors and internal teams. The Regions believed that the CARRS system was no longer fit for purpose with the type of data that now needed to be processed as part of the examination process. The supplier echoed this statement as they retained any images or video files produced during examinations. This could lead to a lengthy process if images were required to support the findings by asset engineers to detail maintenance work as the Region did not hold the data. Most of the on-site technology was already being deployed at scale or in trail phase to understand the capability and use, with drone mounted cameras supporting culvert visual exams where appropriate from April 2022.

4.6.1.7 Changes to the Examination Framework

No fundamental changes to the framework and how the Region operate were evidenced. However, increased technology and examiner resources would enable better quality examinations to be undertaken.

With more resources available suppliers would be able to meet the needs of the workbank, estimate that Xeiad needed 10-15% more resources to deliver the workbank. The current contracts were to deliver to the Standard (Wales) and Technical Specification (Western). Any required changes to the Standard would require a contractual change. The changes to ways of working, brought about by technology and TWSP, development of the resource base in Western would allow management of risk both for assets and that posed to examiners in a pragmatic fashion. This would move the Region towards what they describe as a level of tolerable non-compliance based on funding and resourcing constraints they were currently operating under.

The Region was unclear on what the targets were within the Regulatory Escalator and how they could move down the escalator as they improve, or up if needed, and would like clarity on this to help them work with senior executives to develop sustained change. Highlighting that delivering a one-year wonder was not what the Region needed and building a robust process that delivers sustainable compliance was the goal.

4.6.2 Wales and Western Region Heatmap

The following shows the Region’s assessment for each of the framework questions relative to the maximum and minimum scores achieved nationally.

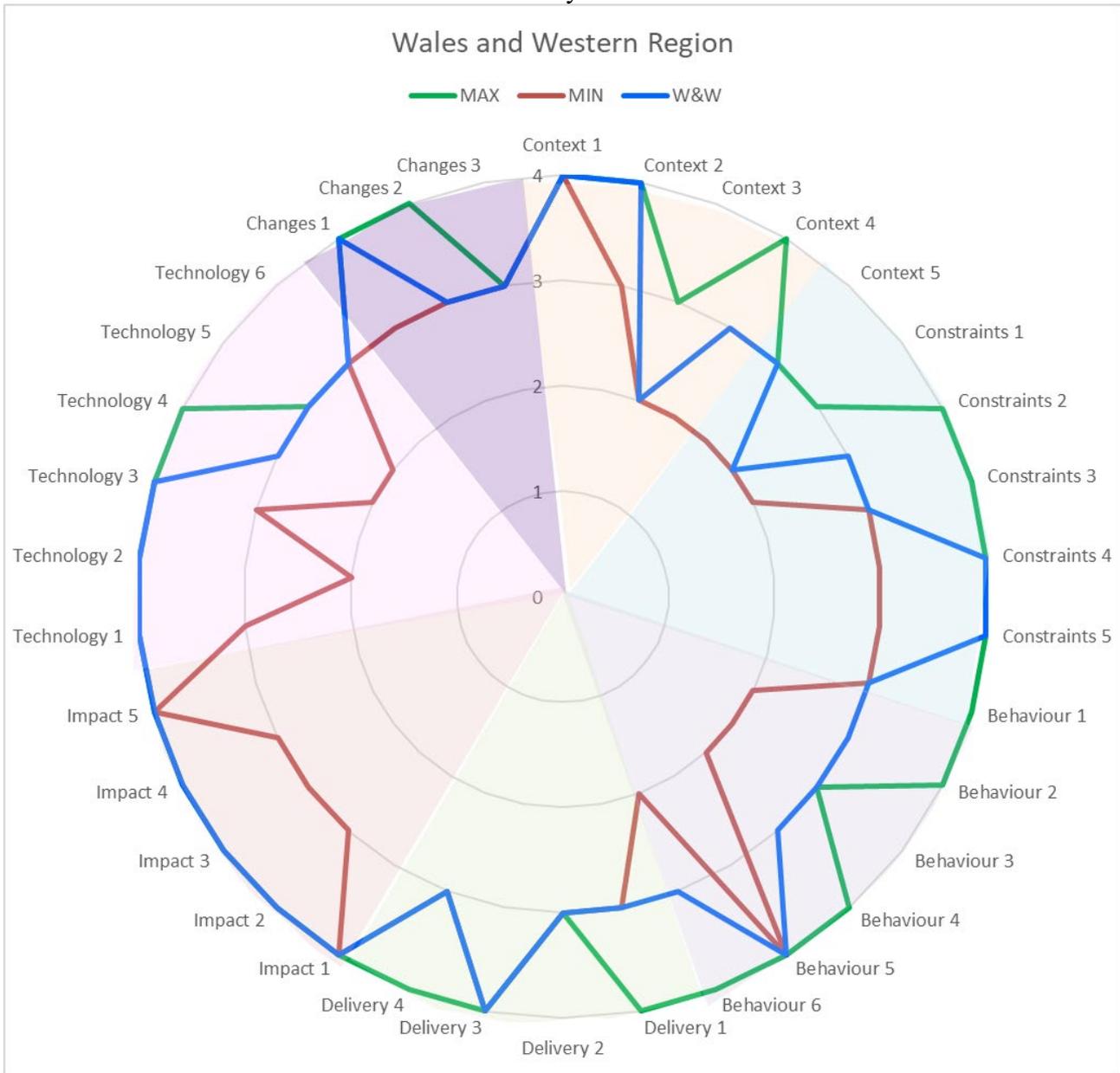


Figure 8: Wales & Western Region Heat Map

4.6.3 Independent Reporter Opinion

The contrasting evidence of non-compliance, and the impact of resourcing and access constraints on the two Routes within the Region clearly highlighted the impact that the changing of contracts had had on delivery. Delivery of examinations in the Western Route had been hampered by a lack of planning process, resource constraints, a truncated operational period, and a backlog of non-compliance. Some of these issues were experienced in the previous year when the Wales Route moved contracts. It was unclear if these issues could have been fed into the national procurement process but given the national issues in the Reporter’s opinion the Region could not have avoided them. Progress towards compliance seen in the Wales Route gives the review confidence that if resourcing issues could be solved the Region would move towards a compliant position.

The Reporter was confident that the Region was developing a process that would drive continuous improvement towards compliance and that there was genuine belief and desire to achieve this from regional teams and their suppliers. A pragmatic use of technology was demonstrated by the Region which would support track worker safety initiatives, drive examination compliance, and increase the efficiency and effectiveness of transferring data into the Region from suppliers.

Through the assessment of the data provided and the workshops undertaken with stakeholder the review was confident that non-compliance was not impacting on the safety of the network and that risk was being managed appropriately and with due process, while non-compliance was not impacting operational activities and performance. In the review's opinion this brought into question if the Standard was meeting the needs of the business to manage risk. The TNC put in place by the Technical Authority provided an indication that safety was not impacted by the non-compliance as tolerance periods had been extended without changing the risk profile. This was particularly relevant to visual examinations where unfortunately the Region had seen non-compliance for a number of years but had not experienced safety or operational issues.

5. National Observations and Opportunities

5.1 Overview

This section of the report provides a high-level summary of the evidence and opinions formed by the Independent Reporter over the duration of the project. For detailed evidence, plus a summary of the observations refer to Appendix B section ‘All Region Ratings’.

5.1.1 National Heat Map

Figure 9 provides a summary of the maximum and minimum assessments for each of the framework questions at a national level.

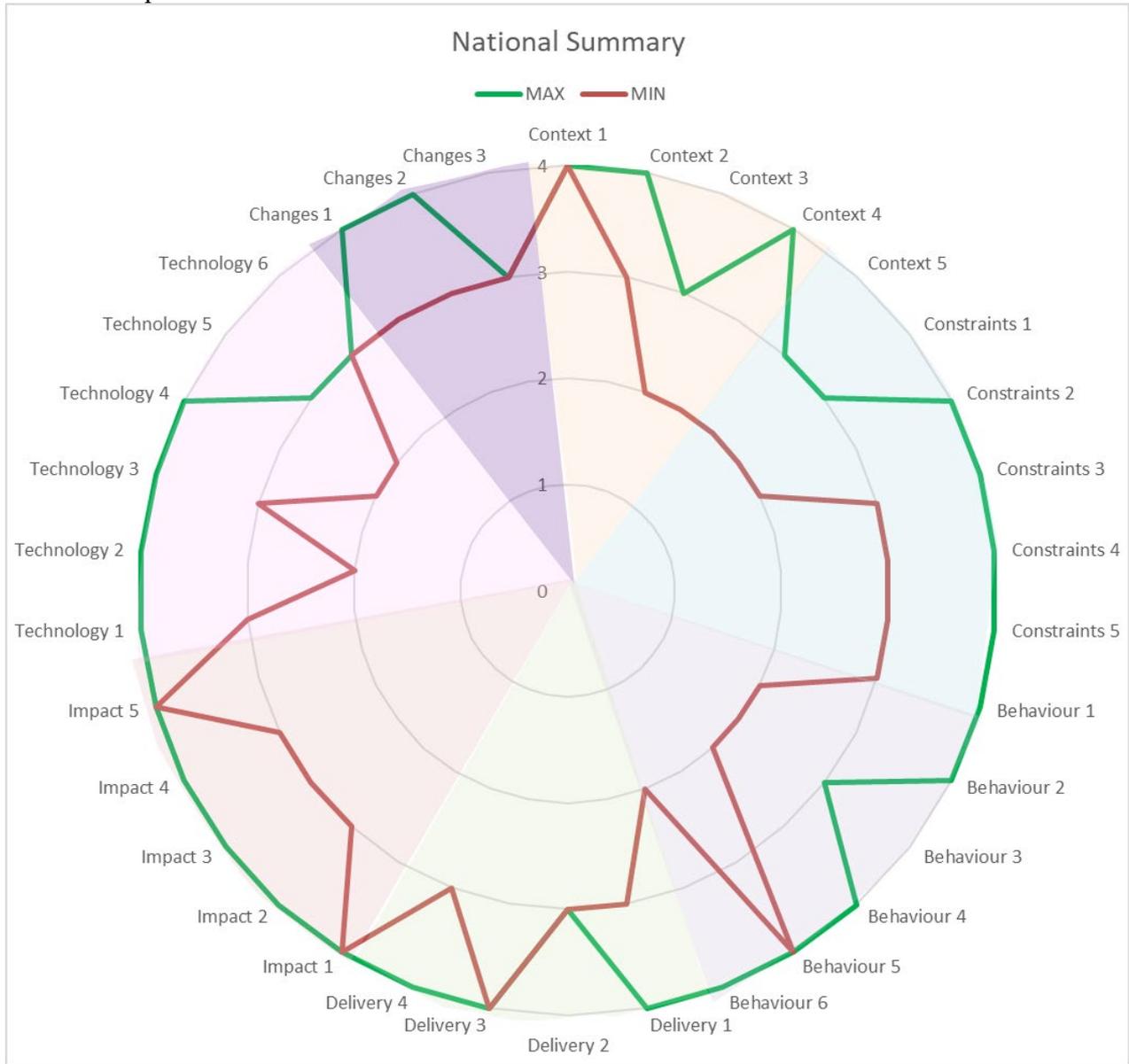


Figure 9: National Summary Maximum vs Minimum

5.1.2 Regional Results

Table 11 provides a visual demonstration of the strengths and weakness evidenced through the review across the Regions. It shows the assessment made of each Regions' position with regard to each of the framework questions. Full details of each of these assessments is provided in Appendix B on the individual 'Regional Analysis' pages.

Table 11: Regional Confidence Matrix

Topic	Question	Eastern	NW&C	Scotland	Southern	W&W
Context 1	With respect to your organisation's scope of work how many assets are covered by the examination regime and how do these split into the various types e.g., bridges, culverts, retaining walls, tunnels, coastal/river defences, ancillary structures etc	4	4	4	4	4
Context 2	How do you apply the requirements of Standard NR/L3/CIV/006/1A?	4	3	4	4	4
Context 3	To what extent does the Standard complement your processes and fit your needs, and what issues do you have with the process as outlined in the Standard? How is compliance to the Standard tracked and what is your current level of non-compliance for the examination / submission / evaluation stages of the process?	2	3	2	2	2
Context 4	How does the current level of non-compliance compare to the historical position?	2	4	3	3	3
Context 5	What has been the impact on the process following structures examinations being placed on the Regulatory Escalator?	3	3	2	3	3
Constraints 1	Given your level of non-compliance what constraints across the process are causing this and to what degree are the types of constraint impacting on the non-compliance e.g., financial, staffing (numbers and competence / training), contractual, site accessibility/possession (including reliance on others for access), planning, information systems, fluctuations of inspection work bank volumes etc.?	2	3	3	2	2
Constraints 2	What are the levels of cancellation of examination activities due to lack of resources or access constraints?	2	2	3	4	3
Constraints 3	How do the identified constraints affect the different asset types across your portfolio and how is this managed?	4	3	4	3	3
Constraints 4	To what extent are resources for examinations shared nationally?	4	3	4	4	4
Constraints 5	What do you believe could be done to reduce the impacts of the identified constraints?	4	4	4	3	4
Behaviour 1	To what extent does the relationship with external contractors or an internal delivery organisation, as appropriate, associated with the structures' examination process impact on the level of non-compliance?	3	3	4	3	3
Behaviour 2	Within the organisation how much of a priority are structures examinations (do other disciplines understand the importance of structures examinations as a safety critical activity)?	3	2	3	4	3

Topic	Question	Eastern	NW&C	Scotland	Southern	W&W
Behaviour 3	What role does the leadership team in your organisation play in monitoring and directing action to reduce non-compliance?	3	2	2	3	3
Behaviour 4	To what extent is the level of non-compliance reported within the organisation, what KPIs are used to track compliance, and how do these link to any incentives?	4	3	2	3	3
Behaviour 5	To what extent is non-compliance accepted as the norm in the organisation?	4	4	4	4	4
Behaviour 6	What impact has the TUPE transfer of staff had on delivery and behaviour?	3	4	4	2	3
Delivery 1	How has the future plan for delivery of examinations been developed and what is the evidence basis to ensure the future examination plan is achievable e.g., milestones, tracking delivery, resource allocation?	4	3	3	4	3
Delivery 2	What assumptions have been made in the development of the delivery plan in terms of resources and other identified constraints including booked access arrangements?	3	3	3	3	3
Delivery 3	How does the type of asset (e.g., bridge, culverts, retaining walls etc.) affect examination process priorities?	4	4	4	4	4
Delivery 4	What is the anticipated result of the plan in terms of the outcome of a reduction in non-compliance, and how will this be monitored and reported?	4	4	3	3	3
Impact 1	How does the current level of non-compliance affect day-to-day operations?	4	4	4	4	4
Impact 2	To what extent has the lack of examination input affected your ability to build a reliable maintenance and renewal workbank?	3	4	4	4	4
Impact 3	What do you believe to be the risk profile to 'day to day' operations caused by the level of non-compliance in terms of the uncertainty regarding structures' condition across the network?	4	3	4	4	4
Impact 4	What subsequent action is taken by your organisation when following the process in Figure 1 of NR/L3/CIV/006 leading to the requirement to carry out a risk assessment in accordance with NR/L3/CIV/0021?	4	3	3	4	4
Impact 5	What do you believe is the safety impact of any structures' examination non-compliance?	4	4	4	4	4
Technology 1	What is your organisation's vision for the use and benefits from the application of technology in this area?	4	4	4	3	4
Technology 2	How is the use of technology built into the examination process and what quantified benefits have been identified from its use (specific, measurable, and time-bound benefits)?	3	3	3	2	4
Technology 3	What new technology is being used / trialled by your organisation in this area, what barriers exist and how is technology best practice / experience shared nationally?	4	3	3	3	4
Technology 4	How does the current examination process link to the Network Rail Intelligent Infrastructure transformation?	3	3	4	2	3

Topic	Question	Eastern	NW&C	Scotland	Southern	W&W
Technology 5	What systems does your organisation use and how are these inter-connected in terms of the line of sight from the asset inventory, through the examination process to the outcome in terms of planning maintenance and renewal?	3	3	3	2	3
Technology 6	What is the timescale and process for moving any new technologies into BAU?	3	3	3	3	3
Changes 1	What are the proposed changes to the current examination framework (as a result of both internal and external factors)?	4	4	4	3	4
Changes 2	What are the specific benefits anticipated to accrue from the changes, how will these be measured and to what timescales will they be delivered?	3	4	3	3	3
Changes 3	What is the expected impact of these changes on the current level of non-compliance over time, and how will it impact specific elements or outputs of the examinations process (e.g., quality of reporting etc.)?	3	3	3	3	3

5.2 National Summary of Themes

A national summary of each of the themes is provided in the following sub-sections. For a detailed summary of each question contained within the review framework refer to Appendix B ‘All Regions Ratings’ section.

5.2.1 Context

All Regions had, to a greater or lesser extent, a history of non-compliance to the Standard stretching back several years. Whilst the factors at play, and the severity of constraints, differed between the Regions, and even differed over a period of time within each Region, the combination of constraints on access to undertake examinations, inadequate levels of skilled resource available to the Regions, and a Standard which failed to take adequate account of this environment, were the primary reasons for failure to comply. There was some evidence to suggest that senior management in the Regions were not sufficiently engaged with the structures examination issues to provide the necessary support to the teams, and more recently, the issues thrown up by the processes deployed for the CEFA contract renewals had caused disruption to work.

All Regions were pursuing a risk-based approach, as permitted, though not advocated by the Standard. The Regions questioned the relationship between risk and the examination tolerance windows laid out in the Standard, especially as the Standard did not factor in such matters as asset condition and age. The Standard did not therefore meet the needs of the Regions in respect of visual examinations.

There was little evidence that examinations undertaken outside the tolerance window increased risk – the structures assets were overwhelmingly long life and deteriorate only slowly over a long period of time – and it was questionable whether time-based visual examinations were appropriate. The current arrangements in the Standard for visual examinations were not considered to be risk-based, and the Standard was not fit for purpose in that respect.

The problem of non-compliance had been significantly exacerbated by the poorly managed procurement of new CEFA contracts. The process ran late, awarded contracts late, enacted the TUPE arrangements for staff transfer after contracts award, and provided almost no mobilisation period, leaving the new contractors with a resource shortfall, no forward plans, and a backlog of examinations from day one.

The Regulatory Escalator reference by ORR had driven an increase in, and improved, reporting, and galvanised the regional leadership teams in their efforts to achieve compliance to Standard. The process was however opaque – it was unclear how Regions could move up or down the Escalator ratings, or indeed off the Escalator completely, and greater degree of clarity of process was required.

5.2.2 Constraints

The constraints faced by the regional teams were largely common across the UK, and had overall, not diminished despite the best efforts of the structures teams to eliminate, or at least better manage the constraints. Undoubtedly, the CEFA contract award process had exacerbated both the impact and intensity of constraints in those Regions with heavy reliance on contractors for their examinations work.

Whilst there was good evidence from the Regions of their efforts to deal with their constraints, the reality was that constraints continued to have a big impact, particularly limits on access to undertake examinations, and the uncertain but increasing threat posed by the TWSP. Manpower resources and skills were scarce, with long lead times to correct the resourcing position. The national contracts renewal process across NR meant that every Region and every contractor was facing resource shortages simultaneously, distorting the labour market and driving up costs.

The problem of on-site failure to undertake planned examination work appeared to be a significant contributor to the non-compliance position nationally but was poorly understood by the Regions. Better monitoring and management offered an opportunity to improve a situation which was within the gift of the Regions.

5.2.3 Behaviours

Leadership support in the Regions was generally at an appropriate level, either overtly or on a “available, if needed” basis. None of the Regions’ structures teams accepted, condoned, or were content with, non-compliance to the Standard, and all offered strong evidence of their pursuit of overall compliance. The need for challenging but achievable targets was highlighted as necessary to protect morale and motivation.

The TUPE process within contract mobilisation had been disruptive on a number of levels, and the impact of this was still being played out in the Regions.

5.2.4 Delivery

Delivery of examinations remained heavily impacted by the constraints highlighted earlier, which would only ease in the medium term, especially in respect of recruitment and training for new Examiners. All Regions adopted a similar approach in ensuring that “difficult to plan” jobs were factored into the plan early, and were prioritised, though compliance with tolerance windows, was even so, a challenge. The evidence provided gives confidence that non-compliance was not impacting on the planning and delivery of renewal and maintenance programmes. This was in part

due to the long-term approach to renewals planning that is adopted. Emergency work to manage risk is conducted within the statutory time frame.

5.2.5 Impact

Non-compliance to the Standard was not an issue affecting day-to-day train services on any Region, and the risk of impact was very low. Furthermore, non-compliance had little or no impact on the planning for maintenance or renewal works. All Regions were undertaking risk assessments in response to the requirements of the Standard.

5.2.6 Technology

The Regions had different attitudes and approaches to technology and its application as an aid to meeting overall objectives. Regions were trialling or using a range of different applications, both in respect of data systems software (such as Polestar) and data gathering tools (such as drones, remote underwater vehicles, 3D cameras, etc.). National policy appeared to be that “Regions lead, Technical Authority supports”. This could lead to inconsistent and sub-optimal application of technology solutions compared with what might be achieved by national level development, funding and application, applied to issues which were broadly the same or similar in every Region.

All Regions called for an update of the CARRS database, to create a modern, user-friendly, end-to-end system.

5.2.7 Changes

No significant changes to practice were currently proposed while the Technical Authority and Regions examine the working of the Standard. The Regions generally supported the proposed move to ‘Line of Route’ examinations, although it was acknowledged that transition to such a methodology would have a short to medium term impact on compliance levels across Regions.

5.3 Summary of Key observations nationally

Table 12 outlines the key observations that were subsequently built on to develop the recommendations shown in Section 6. These were agreed where appropriate by all parties (Technical Authority, ORR, and the Independent Reporter) during the course of the commission.

Table 12: Key Observations and Opinion

No.	Observation Topic and Description
1	<p>Frequency of Visual Examinations and Risk-Based Thinking</p> <p>The tolerance windows for examinations are currently under analysis as part of the TA led study of the Standard. The evidence provided by the Regions (e.g. undertaking detailed risk assessments to the Standard) indicated a limited link between risk [of asset failure] and exacting compliance to the tolerance windows. However, it was acknowledged that there needed to be a time constraint placed on the process to allow monitoring of performance. This was particularly relevant in the case of visual examinations where the Standard prescribed a time-based approach to visual exams. This approach may have been appropriate when the Standard was first introduced but it was considered that this did not reflect the current whole life asset management approach which should be undertaken by the Regions.</p> <p>In the reviewers' opinion a risk-based approach was not being undertaken for visual examinations which consequently did not align risk and compliance with each other. It was considered that the Standard could be reviewed to ensure compliance is appropriately reflecting asset performance risk.</p>

No. Observation Topic and Description

2 Contract Change Process

It was considered that Regions have been hampered by the poorly founded contractual change process to move contracts from the old Civils Examination Framework Agreement (CEFA) to the new regional contractual models. A period of contractual mobilisation, that would be expected given the scale of the undertaking, was not implemented. This prevented suppliers and Regions from developing their workbanks through the appropriate systems. Also in some cases, as a result of the TUPE process, the level and scale of resources moving was not understood in advance of contract award, to support planning of workbanks. Consequently, this hampered the Planning & Robustness (P&R) process, which Regions consider as a key assurance process to deliver workbanks, that was not able to be properly undertaken.

Following this, the late award of the contracts (noting a three-month delay) during which the old contract supplier did not undertake site examinations, not only compressed the timescale for delivery by new suppliers but forced a start from a position of significant regional non-compliance.

In the Reporter’s opinion and based on the evidence presented by the regional structures’ teams alone, the contractual change process appears to have been handled poorly and did not support structures managers in delivering examinations. Although engagement with NR’s procurement functions did not take place as part of the review, it was considered that the approach to this contractual change process, which was applied regionally, should be reviewed and that lessons learned should be shared widely through procurement teams to ensure they are implemented for future contractual changes across the Regions. The evidence presented by the Regions indicated that the contractual change issues were/are endemic suggesting fundamental issues with the process implemented at both national and regional levels.

3 Explanation of the Regulatory Escalator

The Regulatory Escalator process was seen to have driven increased reporting within the regional delivery and structures asset management teams. There was evidence that the regional leadership were also more aware of the process and the safety critical nature of structures examinations. However, it was considered that Regions and their leadership were unclear how the Regulatory Escalator levels were set, the boundaries between the levels, and what criteria were used to determine position / level on the Escalator.

It was therefore considered that the Regulatory Escalator process and its in-built criteria should be more widely shared within NR to ensure clear understanding of the process. This would allow targets to be set for improvement.

No. Observation Topic and Description

4 Constraints Leading to Non-Compliance

Access and resourcing constraints were noted as providing further complication through the introduction of the Track Worker Safety Programme (TWSP). The Regions stated that there was a degree of uncertainty over the impact of the TWSP but that they believed it would adversely impact the traditional ways of delivering structures examinations. This was considered by them to limit the availability of track access and lead to the need to undertake more night-time working. They recognised that any move to increase night working would impact quality, access, examiner resources, industrial relationships, and the cost of examinations. They also observed that such a move brought about its own safety issues. It was clear that Regions were aware of these challenges, but with not all the procedures yet in place to support TWSP, they still faced uncertainty over the short to medium term, with implications for examinations delivery. Evidence of derogations to TWSP within Regions suggested that fundamental changes to the way of working would be required, but the details were still not clear to the Structures teams and consequently they did not understand the impact this would have, other than in broad terms. The impact of the full implementation of TWSP was considered by the review to be extremely significant in terms of the ability to achieve compliance under the current Standard.

Following contract award, suppliers and Regions identified that they were under-resourced across certain examiner competency requirements. Regional contracts do specify resource levels, but these were currently not being met. This led to the need for considerable recruitment and training initiatives to develop the resource pool. This national issue was compounded by the fact that the procurement process had been undertaken across all Regions simultaneously, with each now competing against each other for resources, and in some Regions with their own suppliers.

5 Linking Data to Compliance

On site failures occur when the planned examination dates (visual and detailed) are not met. It was observed that these did not always lead to non-compliance since early identification of failure could be mitigated through careful replanning of the examination within the tolerance window.

It was noted that the tracking of on-site failures did not differentiate between those that led to non-compliance and those that were mitigated to maintain compliance. This example was just one area where data was recorded and tracked by the Regions but there was limited insight around how it impacted compliance.

It was considered that the tracking of on-site failures affecting compliance directly and the causes of these should be part of the Regions' reporting pack to better understand causation and impact.

No. Observation Topic and Description

6 Acceptance of Non-Compliance

The Regulatory Escalator had clearly raised awareness outside the structures teams as to the importance of examinations leading to senior teams in the Regions being more supportive to drive change. At no point during the review did the regional structures teams give the impression that non-compliance was accepted, and the review observed a genuine desire for continuous improvement and to reach a position of compliance. Regions were however experiencing resourcing constraints which were preventing compliance at this time but the move to new contracts did raise confidence that they could make progress towards that goal. At an organisational level there was less confidence that non-compliance was not accepted given the number of initiatives that are now being considered each of which is likely to impact on the level of compliance.

It was considered that work should be done to ensure realistic targets are set on the journey towards compliance to ensure continued buy-in and drive continuous improvement.

7 Risks to Delivering a Compliant Workbank

Access, resourcing, and the Track Worker Safety Programme were concerns for delivering a compliant workbank. Access was an ongoing challenge to the Regions as structures examinations were not given the priority over other asset classes. Access challenges were and will be an ongoing issue and the Regions' pre planning process aims to mitigate these. It was observed that Regions had a clear view of the resourcing that they required to deliver their planned workbanks. However, there was a significant risk to them reaching compliance if these levels were not realised. The Regions understood this and were monitoring availability of resources and ensuring that suppliers had plans in place to maintain the required levels of competency through upskilling or training new staff, as appropriate. The impact of the Track Worker Safety Programme on the delivery and the additional resources that maybe required to deliver the workbank were yet unclear. A transition to night-time working would increase the level of resourcing necessary to deliver the workbank plan.

No. Observation Topic and Description

8 National Approach to Technology

The technical specification drafted into the new supplier contracts allows Regions and their suppliers to develop and trial new technology to support the delivery of examinations. The work done by the TA was seen to support the Regions in implementing technology trials and develop the evidence required to embed new ways of working. However, it was clear that it was ultimately up to the individual Regions to drive the new technology that was on the market and that the TA were promoting. Regions had different views on the benefits and use of technology and how this should be introduced, and this has inevitably led to inconsistency in the confidence ratings assigned by the Reporter team.

The Intelligent Infrastructure programme and other software-based initiatives were driven through the central function, however, for site examination techniques, i.e., drone mounted cameras, there was no consistent national approach. Irrespective of the devolved status of NR, it is unfortunate that the similar - indeed, identical - problems being faced by 5 Regional Structures teams and nine or so contractors, were not being addressed by a centrally driven, funded and resourced programme which in the opinion of the Independent Reporter would result in greater efficiency and effectiveness.

It was considered that the adoption of a coordinated national approach to identify technological benefits and address emerging issues would be beneficial. This would support collaborative engagement to solve the issues that all Regions face and make the process of the roll out of such initiatives more efficient.

9 Communication of the Intelligent Infrastructure Workstream

The TA indicated that as technology had been made available, such as Structure Examination Systems (SES) and CEFA Enabling Solution (CES), that it was up to the Regions to determine how they adopted these into day-to-day working. The TA was clear that given the devolved nature of NR it was not their role to mandate the use of such systems.

Nevertheless, Regions did comment on the need for an upgraded Civils Asset Register and Reporting Systems (CARRS) system such that it could meet the current needs of the business regarding data capture, transfer and manipulation. The road map for the Intelligent Infrastructure transformation showed that an update to the CARRS systems was planned. Though not strictly related to compliance, updates to the CARRS system were seen as good asset management and would support the business needs.

It was considered that the upgrading of CARRS would greatly improve the data capture, storage, and manipulation that Regions required to support the introduction of other technological solutions.

No. Observation Topic and Description

10 Develop Cross Regional Communication Mechanisms

All five Regions were notably striving to achieve the same goal with the same challenges and constraints present in varying degrees. The different delivery models in place across the Regions should allow for innovation and drive best practice and the sharing of any lessons learned; it was considered that this would lead to improved compliance. Although the Regions attended the Community of Practice meetings it was unclear how effective these were at driving sustainability of delivery and collaboration to develop new ways of working.

It was considered that a review of the terms of reference of these meetings may be useful to ensure that they were used to drive best practice to support all Regions on the journey towards compliance.

11 Line of Route Working Approach

The current standard rolling examination date process moves the due date based on the previous examination. This created issues with planning and developing sustainable, efficient, and environmentally friendly workbanks. Regions, excluding Scotland who already operate this way, expressed a desire to move to 'line of route' working. The evidence suggests that the Line of Route approach had been successful in Scotland. The reasons for the lack of its wider adoption were not clear; based on the engagement with other Regions, they were clearly aware of the benefits that could be obtained. It was considered by the review that the hurdle of moving to this way of working was a constraining factor given the likely impact in the medium term on compliance of doing so.

It was considered that undertaking the examinations based on geography and proximity would reduce the travel required by examiners, reduce planning complexities, and provide consistency to both delivery and planning teams. An investigation into the benefits, compliance impact and feasibility of such approach should be carried out by NR as part of the Tranche⁶ work. It was expected that such a transition would have an immediately detrimental impact on non-compliance in the short-term. This would need to be modelled by NR and the outcomes shared with the ORR.

⁶ The Technical Authority are leading a review of Structures Examination methodologies as part of being placed on the regulatory escalator. The work consists of four Tranches: Examination Frequency and Tolerance, Risk Assessment for Non-Compliance, Examiner Competency Requirements and Regional Recovery and Sustainability Plans. Each tranche of the first three tranches is supported by a Region with each of the Regions developing a recovery and sustainability plan.

6. Recommendations

6.1 Overview

The purpose of the review was to identify, inter alia, the root cause of non-compliance, the achievability of the plans, and the wider implications of non-compliance.

From the early engagement with the Regions and their delivery partners it was clear that there were a number of issues which, in their own ways, were contributing to the issue of non-compliance in structural examinations. Whilst certain of these issues were more pronounced in some Regions than others it was observed that all featured to some degree across the country. This pattern became particularly apparent when the individual regional assessments were brought together and were reviewed as part of the moderation process.

The regional evidence and the Reporter observations which came out of the individual reviews were shared at a tripartite meeting with the ORR and NR. The discussion at the meeting focused on the emerging issues and how these could be tackled. The main areas for improvement were noted as:

- The fitness of purpose of the Standard;
- The setting of realistic targets;
- The understanding of the levels on the Regulatory Escalator;
- Commonality in reporting;
- The sharing of best practice; and
- The potential benefits of moving to ‘line of route’ examination delivery.

Out of each of these a Recommendation has been drafted which is shown in the section 6.2.

6.2 Recommendations

Based on the suggested improvement themes in Table 12, the following are the Recommendations that were agreed at a joint workshop in March 2022 between the ORR, Network Rail Technical Authority, and the Independent Reporter team.

Table 13: Recommendations

No.	Recommendation to Network Rail	Benefits	Evidence of Implementation	Recommendation Champion	Due Date
#25529/01	<p>Review of Time-Based Approach to Visual Examinations</p> <p>Review time-based approach to visual exams and assess the cost and benefits of moving these to a risk-based approach.</p>	Visual examinations frequencies are better aligned to asset risk and as a result resources are better focused	Review of visual examination frequency tolerance.	Technical Authority	TBC
#25529/02	<p>Develop and Monitor Realistic Targets</p> <p>A review should be undertaken of the targets for reducing the level of non-compliance to make them more realistic whilst challenging such that they drive continuous improvement and behaviour change. This is suggested to be in the form of a glide-path to full compliance taking account of factors within the regional structures teams' control to reach full compliance.</p>	Provides improved and sustained motivation within delivery teams	Demonstrated in Regional Improvement Plans	Regional Structures Teams	TBC
#25529/03	<p>National Dashboards</p> <p>Network Rail should develop clear metrics that measure delivery failure across the Regions to capture the causation and impact on non-compliance and the mitigations put in place to manage change.</p>	Evidence causes of non-compliance and communicates good practice; provides consistent, comparable reporting across the Regions	Demonstrated in Regional Improvement Plans	Regional Structures Teams	TBC

No.	Recommendation to Network Rail	Benefits	Evidence of Implementation	Recommendation Champion	Due Date
#25529/04	<p>Line of Route Working</p> <p>Network Rail should investigate the benefits, compliance impact and feasibility of moving to a ‘line of route’ delivery approach taking account of modelled impacts on levels of compliance during the transition period.</p>	Potential to reduce turbulence in workbank planning and provide greater fixture of compliance dates; reduces on site travel improving qualitative as well as quantitative delivery efficiency	Feasibility report on the line of route working including ensuring appropriate staffing is available to deliver the change.	Technical Authority	TBC

The four Recommendations are framed to:

- Enhance the ‘doability’ of the primary structures’ examination requirement;
- Improve the reporting, awareness and understanding of the delivery failures which compound the non-compliance problem; and
- Stimulate awareness and encourage the adoption of good practice across regional boundaries.

A review of the Standard, as outlined in recommendation 25529/01, to address concerns around its fitness for purpose, acceptance of the need for targets to be achievable (even if challenging), and greater clarity around the ORR’s Escalator, would all help to sustain the morale and motivation of the teams involved at regional level, and support the drive to manage difficult, long-term constraints.

6.3 Conclusions and Summary

Network Rail Regions are not meeting all the requirements of the Standard across the three levels that they are being monitored against for structures examinations by the ORR. This has seen all Regions placed on the Regulatory Escalator.

Through engagement with the regional structure's teams this independent review has come to the view that the current spike in non-complaint position was linked to issues associated with the new contract procurement exercise. The long-term position of non-compliance is considered to stem from parts of the Standard, tolerance windows and time-based examinations, that are not appropriate to the business needs in addition to historic issues with access prioritisation. These issues continue to exacerbate and indeed impact the current non-compliant position observed across Regions.

The placement on the Regulatory Escalator has seen positive engagement from senior leadership where required to support the regional structures teams particularly around access constraints. While it has also stimulated a process led by the Technical Authority to critically review areas of the Standard. The work being undertaken to review the Standard has only begun relatively recently however it is believed that initiatives like the WSP work aim to address these issues. Nevertheless, the historical issues affecting non-compliance have clearly all been within the control of NR but it was stated that the tolerances and frequencies were considered a 'sacred cow'. This review found that none of the Regions' structures teams accepted, condoned, or were content with, non-compliance to the Standard, and all offered strong evidence of their pursuit of achieving a compliant position.

Evidence provided showed that non-compliance to the Standard is not affecting day-to-day train services in any Region, and the risk of asset failure was low. The evidence provided demonstrated that examinations undertaken outside the tolerance windows had little impact on risk profiles of structures and [hence a disconnect with business needs and performance metrics]. Examination non-compliance does not affect the planning for maintenance or renewal works given the long planning cycles that Network Rail operate.

A pragmatic use of technology was demonstrated by the Regions to support the impact of track worker safety initiatives, drive examination compliance, and increase the efficiency and effectiveness of transferring data into the Region from suppliers. Regions highlighted that technology would drive examination quality and drive decision making capability.

The Recovery and sustainability plans provided by Regions demonstrated the processes and approaches each Region was undertaking to move towards a compliant position. Early evidence shows that progress is being made across the three facets of compliance monitoring, resource development and introduction of technology. Nevertheless, it is the Reporter's view that the plans have not been sufficiently embedded and there are a number of factors affecting delivery (e.g., the introduction of TWSP, and resource levels) which prevents the review coming to a definitive view of whether the Regions would deliver to their Recovery Plans to the timescales they have outlined.

A.1 Statement of Work

Independent Reporter Framework Statement of Works

1.0 COMMISSION INFORMATION	
Project Name:	Review of Structures Examinations Compliance
Bravo Sourcing Request Number:	#25529
Network Rail Contact:	Kara Chester/Louisa Allen
Network Rail Department:	Planning & Regulation
SoW Number:	0013
Network Rail PO Number:	[insert NR PO# when available]
Commission Value:	[insert the SoW value after this has been agreed with the supplier]
Supplier Name:	[insert the name of the selected supplier after appointment]
Main Supplier Contact:	[name and email address of the main supplier contact]

This Statement of Work (SoW) is the contractual vehicle for defining, authorising and commissioning a piece of work to be undertaken under the Independent Reporter Framework. The SOW has six sections:

- 1 Commission Information*
- 2 Commission Overview*
- 3 Scope of Services and Deliverables*
- 4 Knowledge Transfer*
- 5 Resource & Commercial Details*
- 6 Invoicing*

This SoW is entered into under and in accordance with the terms of the Independent Reporter Framework dated 1 February 2020 between Network Rail, the Office of Rail and Road, and the Supplier and includes and incorporates any special Terms and Conditions and any other amendments captured in this SoW.

Any dispute surrounding this SoW will be resolved in accordance with the Terms and Conditions outlined in the Framework Agreement.

Ownership and use of any Intellectual Property Rights shall be in accordance with the Framework Agreement Terms and Conditions.

Change control procedures are to be applied as set out in the Terms and Conditions of the Framework Agreement.

2.0 COMMISSION OVERVIEW

2.1 Background

Structures examinations and evaluations are critical activities that impact on safety and asset management. Network Rail standard NR/LS/CIV/006/1A requires compliance with the timescales for structures examinations and evaluation.

In 2011, ORR identified a structures examination backlog across Network Rail. ORR's Railway Safety Directorate issued a national Improvement Notice and the issue was placed on the Regulatory Escalator. By the time the examination backlog was removed from the escalator, the backlog for site examinations had been reduced but not eliminated. The improvement has plateaued and in some areas the backlog has worsened. ORR is concerned that the current level of non-compliance appears to be treated as an accepted norm by Network Rail.

Failure to complete the examination and evaluation process may result in faults remaining undetected or detected but not assessed by a competent person. An undetected fault cannot be evaluated by a competent Engineer, repaired or removed. It may therefore be a precursor to a structural failure. A structural failure can be catastrophic. Failure to appropriately understand assets introduces uncertainty into the railway system and may impact on Network Rail's ability to plan maintenance and renewal activities. This may lead to poor performance due to emergency or temporary speed restrictions (ESRs or TSRs). Additionally, route capability including route availability may be negatively affected.

2.2 Business Objectives and Priorities

ORR wishes to understand for both examination and evaluation the following:

1. The reasons for the non-compliance, the extent to which these are understood by the Regions and the actions being taken to address non-compliance.
2. Identify and assess the approach of the remedies to address the long-standing non-compliance and backlog issues, whether ORR or Network Rail based, through analysis of the ways of working and the current regional delivery frameworks.
3. The likely success of the approach being taken by regions' and the Technical Authority to providing a sustainable, compliant outcome.

3.0 SCOPE OF SERVICE AND DELIVERABLES

3.1 Key requirements

For each region the Independent Reporter shall provide an assessment of the planned future delivery of the structure's examination and evaluation Programme.

The assessment shall address the following questions:

1. Does the region understand the root causes for the drivers of its non-compliance and backlog for both examination and evaluation identified within ORR's Targeted Assurance Review.
 - a) The reporter should also comment upon any other elements that impact the regions ability to deliver examinations and evaluations
2. The Reporter shall identify and map the behavioral drivers behind compliance and non-compliance and report on their assessment. This should include, but not limited to, formal mechanisms found in regulation, contracts, or company policies, as well as culture and behavioral matters identified in the Targeted Assurance Review (TAR) (e.g., incentives (such as performance management, KPIs), reputation, culture, social pride, etc.). It should also consider what influence ORR has on people's decision making. We would expect this work to entail:
 - a) Engaging with relevant actors (e.g., regions, contractors, technical authority) to understand what incentives they believe are driving their decision making
 - b) Qualitatively assessing the different incentives at play – which are stronger or weaker, which are promoting compliance or non-compliance, how are they interacting
 - c) Mapping the incentives according to the qualitative assessment.
3. Assess, report and comment on whether the regions current plans are achievable, sustainable and appropriate. Specific reference should be made to whether they:
 - a) Would achieve compliance with the standard
 - b) Are appropriately resourced in terms of time and money
 - c) Have appropriate senior level engagement
 - d) Have an appropriate reporting structure in place
 - e) Address the root causes that are driving non-compliance
4. Analyse, report and comment t on how the regions consider the wider implications of not undertaking examinations, including but not limited to:
 - a) safety risk
 - b) long-term asset management
 - c) the use of other internal resources
 - d) additional activities associated with non-compliance reporting
5. Analyse report and comment on the use of and adoption of technology:
 - a) Are the regions making use of what technology already exists
 - b) What barriers to technology adoption exist

	<ul style="list-style-type: none"> c) Do the regions have a clear vision of what they want from technology d) Comment on engagement with the supply chain and the ability of the supply chain to help achieve compliance e) Are the regions clear about converting technology into BAU <p>6. Assess, report and comment on the plan(s) for changing the current examination framework, this should include:</p> <ul style="list-style-type: none"> a) current proposals for changing the framework b) process for considering future proposals.
3.2 Key skills	<p>It is essential that the successful Bidder has the resource with the desired skills and experience for this project. Bidders will need to demonstrate how they meet the key following skills and experience:</p> <ul style="list-style-type: none"> • have access to suitable tools and software in order to provide the detailed analysis • technical experience and application of data accuracy and reporting • capable of producing a reliable and efficient method for analysis and assessment • the ability to work collaboratively with key stakeholders at all levels • The ability to draft and finalise high quality reports
3.3 Key deliverables	<p>The required deliverables are:</p> <ul style="list-style-type: none"> • two weekly progress update reports; • a presentation of draft findings and any recommendations to be discussed at a meeting with Network Rail and ORR; • a draft report (for comment by ORR and Network Rail) covering the issues set out in the scope section above, to be provided by the end of January 22; and • a final report by end of February 2022 that addresses comments provided by ORR and Network Rail on the draft report. <p>Key Note:</p> <ul style="list-style-type: none"> -The review is expected to cover all 5 Regions; Southern, NW&C, Wales & Western, Eastern and Scotland -Each regional plan is expected to be reviewed to assure that they can deal with long standing issue and bring matters into compliance
3.4 Proposed approach	<p><i>[To be Inserted at contract award stage]</i></p> <p>[Demonstrate and detail the proposed approach for the project, covering all areas of the projects scope and clearly state the requirement(s)]</p>
3.5 Schedule & timings	<p>Contract Start Date: 15 November 2021*</p> <p>Contract End Date: 28 February 2021*</p> <p>*These are indicative dates and will be agreed once the contract has been awarded and the PO has been approved.</p>



OFFICE OF RAIL AND ROAD



3.6 Relationship applicable for performing the duties under this statement of works contract

Data Controller and Data Processor.

The only processing that the Supplier is authorised to do is listed as in Appendix 1 and may not be determined by the Supplier.

4.0 KNOWLEDGE TRANSFER

4.1 Knowledge Transfer

It is essential that all knowledge obtained during the course of this review is transferred back to Network Rail. This would be enabled through presentations to Network Rail in the “proposed approach” (above) and through the drafting of the report. It should be clear how and why recommendations are being made so that value is added to Network Rail in the commission of this review.

5.0 RESOURCE & COMMERCIAL DETAILS

5.1 Supplier Resource

[Inserted at contract award stage]

[Key personnel which will be engaged in the commission, along with their responsibilities. Details should include sub-contractors, if sub-contractors are being utilised for the delivery of this contract commission]

In the event of “key personnel” becoming unavailable the supplier agrees to provide a replacement of equal standard and status within 48 hours of notice.

5.2 Pricing Schedule

This contract is based on a FIXED PRICE contract commission

[cost breakdown inserted at contract award stage]

All prices detailed are exclusive of VAT which will be charged at the prevailing rate.

5.3 Payment Milestones

n/a

This contract is being let on a fixed price contract, payable on completion.

5.4 Place of work

Due to the current COVID-19 situation most of Reporter’s work will be conducted from their own office or remotely.

If the situation is to change there is potential for work at:
Network Rail, Elder Gate, Milton Keynes MK9 1EN.

Network Rail will be following the very latest guidance set by the Government in relation to COVID-19 measures. Currently the Authority is utilising remote working facilitated by video-conferencing platforms such as Microsoft Teams. Therefore, it is anticipated that the Supplier will be able to adapt to similar measures.

5.5 Expenses	<p>For the purpose of this contract, business travel expenses to any of Network Rail’s offices other than Milton Keynes, if this becomes necessary, may be claimed in accordance with Network Rail’s Business Travel and Expenses Policy.</p> <p>The Supplier shall endeavour to minimise travel and expense costs throughout the duration of the contract.</p>
5.6 Contract Variations	<p>Variations to this Statement of Work contract may be permitted in accordance with Clause 88 of the Utilities Contract Regulations (modification of contracts during their term).</p> <p>All variations to this Statement of Work contract must be agreed in writing under a restated statement of works document, duly signed by all parties</p>

6.0 INVOICING

6.1 Invoice Details	<p>Network Rail operates a strict “NO PO – NO PAYMENT” policy.</p> <p>Invoices are to be raised on completion of the contract or in accordance with the milestone payments [where applicable] set out in this SOW.</p> <p>Invoices should contain the following information as a minimum:</p> <ul style="list-style-type: none"> • Purchase Order number • SOW number as detailed in Section 1.0 • Project Title and description <p>Business expenses should be invoiced as a separate line and supported with receipts, as described in terms and conditions of the framework agreement and the Network Rail Business Expenses Policy.</p> <p>Please be aware that failure to provide the information above may potentially cause a delay in processing the invoice.</p> <p>Our preference wherever possible, is for invoices to be submitted via EDI. Alternatively, invoices may be submitted By email - invoices@networkrail.co.uk By post – Network Rail Accounts Payable, PO Box 4145, Manchester M60 7WZ</p>
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This Statement of Work will be executed as per the Terms and Conditions agreed in the Independent Reporter Services Framework Agreement.

[supplier name to be completed at contract award]

Signed:.....

Name (CAPS):.....

Position:.....

Date:.....

NETWORK RAIL

Signed:.....

Name (CAPS):.....

Position:.....

Date:.....

[This SOW does not require further contract signatures from the ORR]

ANNEX 1 – Protection of Personal Data

Where Data Controller and Data Processor applies

The Supplier shall only process personal data as detailed below:

Description	Details
Data Protection Officers	<p>Network Rail: Fiona McConachie, The Quadrant, Elder Gate, Milton Keynes, Buckinghamshire, MK9 1EN</p> <p>Supplier: inserted at contract award stage</p>
Subject matter of the processing	The processing is needed to ensure that the Processor can effectively deliver the services under the framework contract.
Duration of the processing	The duration of processing refers to the duration of the contract, as specified in the call-off contract
Nature and purposes of the processing	<p>The nature of the processing means any operation such as collection, recording, organisation, structuring, storage, adaptation or alteration, retrieval, consultation, use, disclosure by transmission, dissemination or otherwise making available, alignment or combination, restriction, erasure or destruction of data (whether or not by automated means).</p> <p>The purpose might include (but not limited to): statutory obligation, arranging Stakeholder meetings, data research and analysis and compliance with Network Rail's Business Travel and Expenses policy.</p>
Type of Personal Data being Processed	This may include (but is not limited to): name, address, job title, location, email address, telephone number, images, cost centre number biometric data.
Categories of Data Subject	Examples include (but is not limited to): staff (including sub-contractors, volunteers, agents), customers/ clients, suppliers, students, apprentices, members of the public, users of a particular website.
<p>Plan for return and destruction of the data once the processing is complete</p> <p>UNLESS requirement under union or member state law to preserve that type of data</p>	On completion of the processing (interpreted as being contract expiry) the supplier shall cease to use the personal data and shall arrange for it's prompt and safe return to Network Rail, or destruction if instructed by Network Rail, of all Personal Data.

A.2 Evidence Pack

JOB TITLE	#25529 Review of Structures Examination Compliance
JOB NUMBER	284739-00
DATE	18/03/2022
DESCRIPTION	All Regions Assessment and Evidence Pack

CONTENTS

Sheet	Description
Cover	This page, includes, project particulars and a list of contents
Notes	A summary of the document purpose; a list of assumptions and considerations
Documents Register	A list of documents provided by Network Rail / ORR and included in this review
AllRegions>>	Section divider for all Region summary of review
AllRegionsRatings	A comparison of the assessment ratings across all Regions
All Regions Heat Map	Radar diagram for combined Regional results showing maximum and minimum ratings
Individual Region Heat Maps	Radar diagrams showing theme outcome for each Region
Route_RegionEvidence>>	Section divider for Regional evidence packs
EastRegionEvidence	Detailed assessment evidence, findings and opportunities for Anglia Route
EasternRegionHeatMap	Analysis radar diagram for Eastern Region
NorthWest&CentralEvidence	Detailed assessment, evidence, findings and opportunities for North West & Central Region
NorthWest&CentralHeatMap	Analysis radar diagram for North West & Central Region
ScotlandEvidence	Detailed assessment evidence, findings and opportunities for Scotland Region
ScotlandHeatMap	Analysis radar diagram for Scotland Region
SouthernRegionEvidence	Detailed assessment evidence, findings and opportunities for South East Route
SouthernHeatMap	Analysis radar diagram for Southern Region
W&WRegionEvidence	Detailed assessment evidence, findings and opportunities for Western Route
Wales&WesternHeatMap	Analysis radar diagram for Wales and Western Region

#25529 Review of Structures Examination Compliance

Notes

(1) Purpose of document

The purpose of the document is to capture and present the findings of the review of structure examination compliance. It was produced by the Independent Reporter under the Independent Reporter Services Framework Agreement for CP6.

(2) Key Assumptions

Only documents provided by Network Rail Regions/Routes were included in this review. These are listed on the 'Documents Register' tab. Further evidence was collated during discussions with the Regions/Routes representatives, as appropriate.
The HS1/Network Rail High Speed route is out of the scope of this review

(3) Basis of assessment

The purpose of this review is, for each Region, to provide an assessment of the causes of structure examination non-compliance, the extent to which this is understood by the Regions and the action being taken to address non-compliance. Identify and assess the approach of the remedies to address long-standing non-compliance and backlog issues experienced by Regions. Comment on the likely success of the approach being taken by Regions' and Technical Authority to provide a sustainable, compliant outcome.

The geographical location of Network Rail's Regions is illustrated here:

<https://www.networkrail.co.uk/running-the-railway/our-regions/>

(4) Confidence Rating Key

The following confidence levels were used in the numerical assessment of the evidence collated against each assessment topic forming part of the evaluation. Evidence were collated either from the documentation listed below or from discussions with Regional representatives.

Confidence Rating	Description
4	Evidence presents a clear understanding with no identifiable area of weakness or inconsistency in the approach.
3	Evidence presents a reasonable understanding but with some gaps, inconsistencies, or weakness in some areas in the approach.
2	Evidence presents significant gaps in understanding, inconsistencies and weakness identified in the approach.
1	Evidence incomplete and limited understanding shown with major inconsistencies and gaps identified in the approach.
0	Insufficient information provided.

(5) Abbreviations

ALARM	Asset Logistics and Report Management
CAM	Civil Asset Management Framework
CARRS	Civils Asset Register and Reporting System
CEFA	Civil Examination Framework Agreement
CESAMS	Civil Engineering Structures Asset Management System
CES	CEFA Enabling Solution
CP	Control Period
DEAM	Director of Engineering and Asset Management
DRAM	Director Route Asset Management
EREC	Eastern Region Examination Contract
NR	Network Rail
ORR	Office of Rail and Road
P&R	Planning & Robustness
RAM	Route Asset Manager
SES	Structures Examination System
STE	Safety, Technical and Engineering
TA	Technical Authority
TCMI	Tunnel Condition Marking Index
TNC	Temporary Non-Compliance
TUPE	Transfer of Undertakings Protection of Employment Act
TWSP	Track Worker Safety Programme

(6) Sources of evidence and related documents

No	Date Received	Region	File Name	Description
E001	24/12/2021	Eastern	S1 - exam actuals and forecasts (2021.12.17 RA and Exam NC weekly)	Examination Delivery Non compliance Status for Visual and Detailed against forecasted delivery. Excludes temporary non-compliance
E002	24/12/2021	Eastern	S1 - NC graph bar Eastern to P09	Visualisation of non-compliance by site non compliance (broken down by detailed visual and underwater) and submission broken down by Amey and non Amey from Y2 P11 W04 -Y4P06W4(predicted)
E003	24/12/2021	Eastern	S2 - Description of Eastern Contractual arrangement	Contractual arrangements delivery Model split into Visual and Delivery Examinations including explanations and opportunities
E004	24/12/2021	Eastern	S3 - CP6Y3 One Pager Template CV006	CP6 Y3 Non compliant exams over Period 1-period 13 split by detailed, visual and underwater
E005	24/12/2021	Eastern	S3 - One Pager EC-EM-NE CP6 Y3 (audit)	Period 6-9 CP6 Non Compliant exams with temporary non compliance provided
E006	24/12/2021	Eastern	S4 - Exams Inbox allocation process	Explanation of exam report allocation process
E007	24/12/2021	Eastern	S5 - Eastern Region - Exam Non comp - Recovery Plans - Final draft	Draft Recovery Plan evaluating non compliance trends, recovery approach, planning and delivery technology and contractor performance
E008	18/01/2022	Eastern	Eastern Region - Examination Delivery Strategy - Final	Delivery Strategy Final
E009	23/02/2022	Eastern	Eastern On Site Failures	Raw data for cause of On site Failures
NWC001	10/01/2022	North West and Central	NW&C - Examination Strategy Recovery Plan - Version 1.1	Regional strategy plan for examination recovery including roadmap and December progress update.
NWC002	10/01/2022	North West and Central	NC Profile Y2 and Y3 at Yr3P9 - Visual - NWC	Current programme for visual exams on the non compliance profile and glide path
NWC003	10/01/2022	North West and Central	NC Profile Y2 and Y3 at Yr3P9 - Detailed - NWC	Current programme for detailed exams on the non compliance profile and glide path
NWC004	10/01/2022	North West and Central	NWC Structures Assurance Pack 2021.22 Yr3 P7	Period 7 Assurance Report to report examination delivery with safety, team overview, renewals and examination non compliance broken down by visual and detailed exams.
NWC005	10/01/2022	North West and Central	NWC Structures Assurance Pack 2021.22 Yr4 P8	Period 8 Assurance Report to report examination delivery with safety, team overview, renewals and examination non compliance broken down by visual and detailed exams.
NWC006	10/01/2022	North West and Central	NWC Structures Assurance Pack 2021.22 Yr4 P9	Period 9 Assurance Report to report examination delivery with safety, team overview, renewals and examination non compliance broken down by visual and detailed exams.
NWC007	10/01/2022	North West and Central	Overall Yr3P7 Vis Board	Period 7 Overall Visual Board showing forecast exams and completed exams (for visual, detailed and underwater exams)
NWC008	10/01/2022	North West and Central	Overall Yr3P8 Vis Board	Period 8 Overall Visual Board showing forecast exams and completed exams (for visual, detailed and underwater exams)
NWC009	10/01/2022	North West and Central	Overall Yr3P9 Vis Board	Period 9 Overall Visual Board showing forecast exams and completed exams (for visual, detailed and underwater exams)
NWC010	10/01/2022	North West and Central	P7 Outstanding Reports	Email with Outstanding reports due for visual and detailed showing 20 oldest reports for period 7
NWC011	10/01/2022	North West and Central	P8 Outstanding Reports	Email with Outstanding reports due for visual and detailed showing 20 oldest reports for period 8
NWC012	10/01/2022	North West and Central	P9 Outstanding Reports	Email with Outstanding reports due for visual and detailed showing 20 oldest reports for period 9
NWC013	10/01/2022	North West and Central	RE CARRS Signoffs Weeks 0612 to 1212 (P9Wk4)	Weekly signoffs and summaries on an area basis for 06/12 to 12/12
NWC014	10/01/2022	North West and Central	RE DE and LW and VE RAs	Detailed Exam, Underwater Exam and Visual Exam Risk Assessments
NWC015	10/01/2022	North West and Central	RE Inbox Report 13/12/2021	CARRS Inbox Report for 13/12/2021 with priority outlined.
NWC016	10/01/2022	North West and Central	RE Non Combined Exam Reports Inbox	Combined Exam Reports summary
NWC017	10/01/2022	North West and Central	RE RBE Review Required - Weekly Top Tens - P9Wk4	Top10 Priority Assets and Review of high priority reviews.
NWC018	10/01/2022	North West and Central	RE NWC Structures Examination Visualisation - Yr3P7Wk1 (we 250921)	Exam Reports in Progress split by route and site work non compliance for Yr3P7Wk1
NWC019	10/01/2022	North West and Central	RE NWC Structures Examination Visualisation - Yr3P7Wk2 (we 021021)	Exam Reports in Progress split by route and site work non compliance for Yr3P7Wk2
NWC020	10/01/2022	North West and Central	RE NWC Structures Examination Visualisation - Yr3P7Wk3 (we 091021)	Exam Reports in Progress split by route and site work non compliance for Yr3P7Wk3
NWC021	10/01/2022	North West and Central	RE NWC Structures Examination Visualisation - Yr3P7Wk4 (we 161021)	Exam Reports in Progress split by route and site work non compliance for Yr3P7Wk4
NWC022	10/01/2022	North West and Central	RE NWC Structures Examination Visualisation - Yr3P8Wk1 (we 231021)	Exam Reports in Progress split by route and site work non compliance for Yr3P8Wk1
NWC023	10/01/2022	North West and Central	RE NWC Structures Examination Visualisation - Yr3P8Wk2 (we 301021)	Exam Reports in Progress split by route and site work non compliance for Yr3P8Wk2
NWC024	10/01/2022	North West and Central	RE NWC Structures Examination Visualisation - Yr3P8Wk3 (we 061121)	Exam Reports in Progress split by route and site work non compliance for Yr3P8Wk3
NWC025	10/01/2022	North West and Central	RE NWC Structures Examination Visualisation - Yr3P8Wk4 (we 131121)	Exam Reports in Progress split by route and site work non compliance for Yr3P8Wk4
NWC026	10/01/2022	North West and Central	RE NWC Structures Examination Visualisation - Yr3P9Wk1 (we 201121)	Exam Reports in Progress split by route and site work non compliance for Yr3P9Wk1
NWC027	10/01/2022	North West and Central	RE NWC Structures Examination Visualisation - Yr3P9Wk2 (we 271121)	Exam Reports in Progress split by route and site work non compliance for Yr3P9Wk2
NWC028	10/01/2022	North West and Central	RE NWC Structures Examination Visualisation - Yr3P9Wk3 (we 041221)	Exam Reports in Progress split by route and site work non compliance for Yr3P9Wk3
NWC029	10/01/2022	North West and Central	RE NWC Structures Examination Visualisation - Yr3P9Wk4 (we 111221)	Exam Reports in Progress split by route and site work non compliance for Yr3P9Wk4
NWC030	10/01/2022	North West and Central	RE NWC Tunnels Examination Visualisation - Yr3P7Wk1 (we 250921)	Email comprising Exam Reports in Progress for Tunnels and site work non compliance for Yr3P7Wk1
NWC031	10/01/2022	North West and Central	RE NWC Tunnels Examination Visualisation - Yr3P7Wk2 (we 021021)	Email comprising Exam Reports in Progress for Tunnels and site work non compliance for Yr3P7Wk2
NWC032	10/01/2022	North West and Central	RE NWC Tunnels Examination Visualisation - Yr3P7Wk3 (we 091021)	Email comprising Exam Reports in Progress for Tunnels and site work non compliance for Yr3P7Wk3
NWC033	10/01/2022	North West and Central	RE NWC Tunnels Examination Visualisation - Yr3P7Wk4 (we 161021)	Email comprising Exam Reports in Progress for Tunnels and site work non compliance for Yr3P7Wk4
NWC034	10/01/2022	North West and Central	RE NWC Tunnels Examination Visualisation - Yr3P8Wk1 (we 231021)	Email comprising Exam Reports in Progress for Tunnels and site work non compliance for Yr3P8Wk1
NWC035	10/01/2022	North West and Central	RE NWC Tunnels Examination Visualisation - Yr3P8Wk2 (we 301021)	Email comprising Exam Reports in Progress for Tunnels and site work non compliance for Yr3P8Wk2
NWC036	10/01/2022	North West and Central	RE NWC Tunnels Examination Visualisation - Yr3P8Wk3 (we 061121)	Email comprising Exam Reports in Progress for Tunnels and site work non compliance for Yr3P8Wk3
NWC037	10/01/2022	North West and Central	RE NWC Tunnels Examination Visualisation - Yr3P8Wk4 (we 131121)	Email comprising Exam Reports in Progress for Tunnels and site work non compliance for Yr3P8Wk4
NWC038	10/01/2022	North West and Central	RE NWC Tunnels Examination Visualisation - Yr3P9Wk1 (we 201121)	Email comprising Exam Reports in Progress for Tunnels and site work non compliance for Yr3P9Wk1
NWC039	10/01/2022	North West and Central	RE NWC Tunnels Examination Visualisation - Yr3P9Wk2 (we 271121)	Email comprising Exam Reports in Progress for Tunnels and site work non compliance for Yr3P9Wk2
NWC040	10/01/2022	North West and Central	RE NWC Tunnels Examination Visualisation - Yr3P9Wk3 (we 041221)	Email comprising Exam Reports in Progress for Tunnels and site work non compliance for Yr3P9Wk3
NWC041	10/01/2022	North West and Central	RE NWC Tunnels Examination Visualisation - Yr3P9Wk4 (we 111221)	Email comprising Exam Reports in Progress for Tunnels and site work non compliance for Yr3P9Wk4
NWC042	10/01/2022	North West and Central	NWC Weekly Report 20-21 2021.09.25 Yr3P7Wk1	Week Report Summary communicating safety, top NCs focused on exam NC and summarised by route, along with status, targets, Risk assessment and CARRS inbox status for Yr3P7Wk1
NWC043	10/01/2022	North West and Central	NWC Weekly Report 20-21 2021.10.02 Yr3P7Wk2	Week Report Summary communicating safety, top NCs focused on exam NC and summarised by route, along with status, targets, Risk assessment and CARRS inbox status for Yr3P7Wk2
NWC044	10/01/2022	North West and Central	NWC Weekly Report 20-21 2021.10.09 Yr3P7Wk3	Week Report Summary communicating safety, top NCs focused on exam NC and summarised by route, along with status, targets, Risk assessment and CARRS inbox status for Yr3P7Wk3
NWC045	10/01/2022	North West and Central	NWC Weekly Report 20-21 2021.10.16 Yr3P7Wk4	Week Report Summary communicating safety, top NCs focused on exam NC and summarised by route, along with status, targets, Risk assessment and CARRS inbox status for Yr3P7Wk4
NWC046	10/01/2022	North West and Central	NWC Weekly Report 20-21 2021.10.23 Yr3P8Wk1	Week Report Summary communicating safety, top NCs focused on exam NC and summarised by route, along with status, targets, Risk assessment and CARRS inbox status for Yr3P8Wk1
NWC047	10/01/2022	North West and Central	NWC Weekly Report 20-21 2021.10.30 Yr3P8Wk2	Week Report Summary communicating safety, top NCs focused on exam NC and summarised by route, along with status, targets, Risk assessment and CARRS inbox status for Yr3P8Wk2
NWC048	10/01/2022	North West and Central	NWC Weekly Report 20-21 2021.11.06 Yr3P8Wk3	Week Report Summary communicating safety, top NCs focused on exam NC and summarised by route, along with status, targets, Risk assessment and CARRS inbox status for Yr3P8Wk3
NWC049	10/01/2022	North West and Central	NWC Weekly Report 20-21 2021.11.13 Yr3P8Wk4	Week Report Summary communicating safety, top NCs focused on exam NC and summarised by route, along with status, targets, Risk assessment and CARRS inbox status for Yr3P8Wk4
NWC050	10/01/2022	North West and Central	NWC Weekly Report 20-21 2021.11.20 Yr3P9Wk1	Week Report Summary communicating safety, top NCs focused on exam NC and summarised by route, along with status, targets, Risk assessment and CARRS inbox status for Yr3P9Wk1
NWC051	10/01/2022	North West and Central	NWC Weekly Report 20-21 2021.11.27 Yr3P9Wk2	Week Report Summary communicating safety, top NCs focused on exam NC and summarised by route, along with status, targets, Risk assessment and CARRS inbox status for Yr3P9Wk2
NWC052	10/01/2022	North West and Central	NWC Weekly Report 20-21 2021.12.04 Yr3P9Wk3	Week Report Summary communicating safety, top NCs focused on exam NC and summarised by route, along with status, targets, Risk assessment and CARRS inbox status for Yr3P9Wk3
NWC053	10/01/2022	North West and Central	NWC Weekly Report 20-21 2021.12.11 Yr3P9Wk4	Week Report Summary communicating safety, top NCs focused on exam NC and summarised by route, along with status, targets, Risk assessment and CARRS inbox status for Yr3P9Wk4
NWC054	10/01/2022	North West and Central	Exam Lifecycle	Examination Lifecycle Stages Detailed
NWC055	10/01/2022	North West and Central	LNW Risk Assessments Further Guidance v1.0	Risk Based Examination Briefing clarifying challenges, summary on position and new processes from Feb/March 2018
NWC056	10/01/2022	North West and Central	LNW Structures RAM Team Guidance Note - Compliance Date Editing v0.1	Exam compliance presentation to ORR (Nov 20)
NWC057	10/01/2022	North West and Central	NWC SharePoint Exams Page	Explanation to ORR of non-compliance background, history and current action plan
NWC058	10/01/2022	North West and Central	Polestar Report Backlog Strategy v3	Proposal to TA to combine STE1 & STE2 for "dual competence" to streamline exams & improve productivity
NWC059	10/01/2022	North West and Central	Polestar SES Backlog TV 2021.12.16 revision	Detailed Non compliance across all assets in CP6 Y3
NWC060	10/01/2022	North West and Central	RBE Management Briefing 2018.02.22 - update 2019.02.28	Visual Non compliance across all assets in CP6 Y3
NWC061	10/01/2022	North West and Central	Exam Compliance presentation to ORR (Nov 20)	Working Draft of Scotland's Railway Recovery and Sustainability Plan with NC, delivery of CP6Y3 or CP7Y2, risks and planning
NWC062	10/01/2022	North West and Central	ORR Q & A - NW&C Response, Jan 21	Inbox report showing Non compliance across varying time periods
NWC063	28/01/2022	North West and Central	Examination Recovery Strategy	Scotland Route Non compliance and compliance across visual, detailed and underwater exams.
S001	05/01/2022	Scotland	CP6Y3 - Detailed NC Profile	Detailed and Visual Non compliance summary and progress from CP5Y5 to CP6Y3
S002	05/01/2022	Scotland	CP6Y3 - Visual NC Profile	Finalised Recovery Plan and Sustainability Plan from risks issues, planning and delivery, tenanted arches and actions.
S003	05/01/2022	Scotland	20211213 - Scotland's Railway Recovery + Sustainability Plan v1 - Working Draft	TNC extending tolerances
S004	05/01/2022	Scotland	NR CARRS Inbox Report 20211217	Demonstration of internal reporting of non-compliance
S005	05/01/2022	Scotland	SCO Route Compliance One-Sheet	Meeting Actions for CP6 YR3 - December 2021. Aim to review alignment of NR GJ database with XEAD Workbank
S006	05/01/2022	Scotland	SCO Year CP6Y3 Progress sheets	Meeting Actions of CEFA Structure General Meeting 08-12-2021
S007	11/01/2022	Scotland	20220111 - Scotland's Railway Recovery + Sustainability Plan, v2 signed	Meeting Actions of CEFA Tunnel CP6 YR3 including general issues, programme, resource and examinations
S008	05/01/2022	Scotland	Temporary Non-Compliance TR61432	CEFA Structure General Meeting December 2021 with planning processes, resources and year 4 planning
S009	24/02/2022	Scotland	CEng Assurance redacted.	Periodic report commenting on the discrepancies to previous period's data (changes on Operational status, owner, asset type new assets added) (South East) in 11/11
S010	24/02/2022	Scotland	QBR page redacted.	Periodic report commenting on the discrepancies to previous period's data (changes on Operational status, owner, asset type new assets added) (South East) in 14/10
E001	15/12/2021	Southern	CEFA Culvert Meeting December 21 - 07.12.21	Periodic report commenting on the discrepancies to previous period's data (changes on Operational status, owner, asset type new assets added) (South East) in 15/09
E002	15/12/2021	Southern	CEFA SE Region Structure General Delivery meeting 08-12-2021	Weekly report on current CARRS Inbox data and previous week's sign offs / rejections (Regional)
E003	15/12/2021	Southern	CEFA Southern Tunnels Meeting - 12.10.21	Weekly report on current CARRS Inbox data and previous week's sign offs / rejections (Regional)
E004	15/12/2021	Southern	CEFA Wessex Region Structure General Delivery meeting 10-12-2021 (001)	Weekly report on current CARRS Inbox data and previous week's sign offs / rejections (Regional)
E005	15/12/2021	Southern	South East - Assets Added to Not Present In 11-11 Count	CEFA Structure General Meeting December 2021 with planning processes, resources and year 4 planning
E006	15/12/2021	Southern	South East - Assets Added to Not Present In 14-10 Count	Periodic report commenting on the discrepancies to previous period's data (changes on Operational status, owner, asset type new assets added) (South East) in 11/11
E007	15/12/2021	Southern	South East - Assets Added to Not Present In 15-09 Count	Periodic report commenting on the discrepancies to previous period's data (changes on Operational status, owner, asset type new assets added) (South East) in 14/10
E008	15/12/2021	Southern	2021-10-04 Exam Progress Update	Periodic report commenting on the discrepancies to previous period's data (changes on Operational status, owner, asset type new assets added) (South East) in 15/09
E009	15/12/2021	Southern	2021-11-08 Exam Progress Update	Weekly report on current CARRS Inbox data and previous week's sign offs / rejections (Regional)
E010	15/12/2021	Southern	2021-12-06 Exam Progress Update	Weekly report on current CARRS Inbox data and previous week's sign offs / rejections (Regional)
E011	15/12/2021	Southern	Rejected Exams Report South East 20211105	Weekly report on current CARRS Inbox data and previous week's sign offs / rejections (Regional)
E012	15/12/2021	Southern	Rejected Exams Report South East 20211008	biweekly report on Exam rejections (Regional) for 05/11/21
E013	15/12/2021	Southern	Rejected Exams Report South East 20211130	biweekly report on Exam rejections (Regional) for 08/10/21
E014	15/12/2021	Southern	Risk Assessments CP6 Y3 P07	biweekly report on Exam rejections (Regional) for 30/11/21
E015	15/12/2021	Southern	Risk Assessments CP6 Y3 P08	Periodic report on the emerging end of period 7 Risk Assessment status (Regional)
E016	15/12/2021	Southern	Risk Assessments CP6 Y3 P09	Periodic report on the emerging end of period 8 Risk Assessment status (Regional)
E017	15/12/2021	Southern	2021-09-06 Southern NR Upload Failures	Periodic report on the emerging end of period 9 Risk Assessment status (Regional)
E018	15/12/2021	Southern	2021-10-11 Southern NR Upload Failures	Periodic/hoc reports on the upload failures sent to AMEY to resubmit report
E019	15/12/2021	Southern	2021-11-09 Southern NR Upload Failures	Periodic/hoc reports on the upload failures sent to AMEY to resubmit report
E020	15/12/2021	Southern	CP6 Y3 Sussex & Kent HCE Task List 20-05-2021	Sussex and Kent HCE Task List for Control Period 6 Y3 20/05
E021	15/12/2021	Southern	SC CP6 Y3 Programme	Southern Control Period 6 Y3 Programme including completion dates
E022	15/12/2021	Southern	South East Non Compliance Period 8 data	South East Non Compliance Information for Period 8 and Improvements
E023	15/12/2021	Southern	Wessex CP6 Year 3 HCE Workbank 14-12-2021v1	Wessex Compliance Delivery Workbank Report with dates and future dates in CP6 Year 3
E024	15/12/2021	Southern	Wessex Non-Compliance Details Sheets 14.12.21	Wessex Non-Compliance Delivery Workbank for period 8
E025	15/12/2021	Southern	Combined graphs P08	Kent and Sussex Non Compliance and Compliance Graphs for P1-P8
E026	15/12/2021	Southern	CP6 YR3 One Pagers Wessex ORR P8	Detailed Non compliance report one pager for Wessex for CP6, YR3 period 1-13 including detailed exams, visual exams and underwater exams
E027	15/12/2021	Southern	LOTS - xlsx	Breakdown of the Contract Lots - Regional SE and Wessex
E028	15/12/2021	Southern	ORR NC Graphs WSX	Non Compliance Graphs for Wessex CP6 YR3 Detailed and Visual for P03-P08
E029	15/12/2021	Southern	Reporting One Pager - Kent - CP6 Yr3	Non Compliance One Pager Report CP6, YR3, P01-P13, detailed exams, visual exams and underwater exams for Kent
E030	15/12/2021	Southern	Reporting One Pager - Sussex - CP6 Yr3	Non Compliance One Pager Report CP6, YR3, P01-P13, detailed exams, visual exams and underwater exams for Sussex
E031	15/12/2021	Southern	Tenanted Arches Tracker v0.5	Tenanted Arches Compliance with Examination Progress and Detailed Tracker, main document used to plan and deliver the examination programme. The tracker contains relevant asset information including NR asset info, tenanted arches (commercial property identified), Control perimeter status, vacancy status (which is updated bi-weekly by Arch Co) and lining status
E032	15/12/2021	Southern	Wessex Thursday Catch Up 09-12-2021	Meeting Actions from One Hour Structures Catch Up 09/12/21 for Wessex addressing urgent issues, rejections, compliance exams and enabling works.
E033	15/12/2021	Southern	Spence Weekly Lookahead Programme	visual tool to plan in arch examination works which require lining removal and reinstatement resource. See Southern TA Trackers for more information
E034	15/12/2021	Southern	Southern TA Trackers	Detailed information for Spence Weekly Lookahead Programme and Tenanted Arches Tracker
E035	23/12/2021	Southern	Southern Region Recovery + Sustainability Plan (For Issue v2.3)	Recovery Plan for Southern Region
WW001	19/12/2021	Wales and Western	Temporary Non-Compliance TR61432	TNC extending tolerances
WW002	19/12/2021	Wales and Western	ecm 27078_1_SIGNED	Framework Agreement for Civil Examination - Wales and Western Lot 9
WW003	19/12/2021	Wales and Western	ecm 27080_2_SIGNED	Framework Agreement for Civil Examination - Wales and Western Lot 8
WW004	19/12/2021	Wales and Western	Wales CP6 Y3 P6-8 One Pager Template - Standard NC	Standard Non Compliance P06-P08 Wales for Control Period 6 Summary
WW005	19/12/2021	Wales and Western	Wales CP6 Y3 P6-8 One Pager Template - TNC	TNC P06-P08 Wales for Control Period 6 for Wales Summary
WW006	19/12/2021	Wales and Western	Western CP6 Y3 P6-8 One Pager Template - Standard NC	Standard Non Compliance P06-P08 Western for Control Period 6 Summary
WW007	19/12/2021	Wales and Western	Western CP6 Y3 P6-8 One Pager Template - TNC	TNC P06-P08 Western for Control Period 6 for Western Summary
WW008	19/12/2021	Wales and Western	W&W CEFA Regional Recovery Plan	Recovery and Sustainability Plan First version Unsigned covering delivery, plan and risks and issues.
WW009	19/12/2021	Wales and Western	Week 33 - Wales Examined to Date 191121	Week 33 Amey Wales Examination Plan and Progress to date 19/11/2021 for CP6 Year 3
WW010	19/12/2021	Wales and Western	Week 34 - Wales Examined to Date 261121	Week 34 Amey Wales Examination Plan and Progress to date 26/11/2021 for CP6 Year 3
WW011	19/12/2021	Wales and Western	Week 35 - Wales Examined to Date 031221	Week 35 Amey Wales Examination Plan and Progress to date 03/12/2021 for CP6 Year 3
WW012	19/12/2021	Wales and Western	BC and ANC Programme WK34 Update	Inspire Progress Week 34 Plan and progress CP6 YR3 for BC and ANC for Wales
WW013	19/12/2021	Wales and Western	Y3 Tunnel Programme WK34 Update	Inspire Wales Examination Plan and Progress to date for week 34 for CP6 Year 3
WW014	19/12/2021	Wales and Western	Progress Report, Week 34	Inspire Wales Tunnel Plan and Progress to date for week 34 for CP6 Year 3
WW015	19/12/2021	Wales and Western	BC ANC Programme 21_22	Inspire Progress Week 35 Plan and progress CP6 YR3 for BC and ANC for



JOB TITLE

#25529 Review of Structures Examination Compliance

JOB NUMBER

284739-00

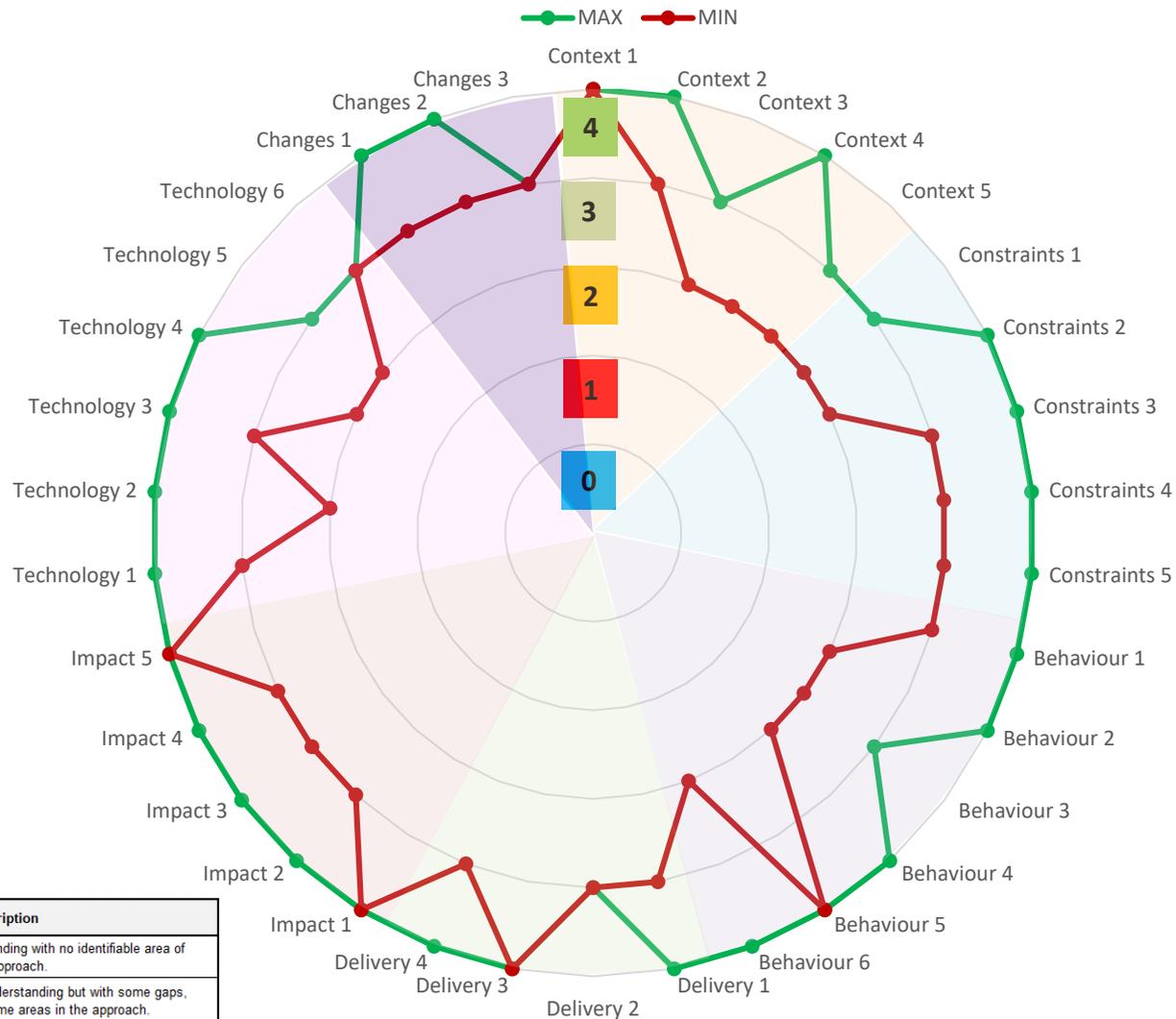
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DESCRIPTION

Summary of Regional Performance

Topic	Ref	Question	Eastern	NW&C	Scotland	Southern	W&W	MAX	MIN	DELTA	National Picture of Findings	Observation and Opportunity
Context 1		With respect to your organisation's scope of work how many assets are covered by the examination regime and how do these split into the various types e.g. bridges, culverts, retaining walls, tunnels, coastal defence, ancillary structures etc.	4	4	4	4	4	4	4	0	All Regions demonstrated a clear understanding of their visual and detailed examination workbooks and how these have been developed. Regions clearly communicated the bespoke nature of each of their delivery models and how the workbooks are distributed to suppliers.	
Context 2		How do you apply the requirements of Standard NRS/CI/006/TA	4	3	4	4	4	4	3	1	Regions applied the requirements to undertake visual and detailed examinations using a risk based approach as outlined in Standard NRS/CI/006/TA. Planned examination dates were issued to suppliers based on the compliance requirements outlined in CIV 006. In line with CIV 006 the risk assessment process was undertaken to manage any change to the risk profile due to a structures examination entering a non-compliant position. Regions had different mechanisms for managing the prioritisation of risk assessments. The Standard outlines a risk based approach to determine the frequency of detailed examinations. Regions demonstrated that this was meeting their needs as a provision asset specific determination of managing risk in an appropriate manner. However, the relationship between the risk and the tolerance windows associated with detailed examination was repeatedly cited as being unclear. The TNC applied by the Technical Authority increased the tolerance periods for all stages of the detailed examination process after no perceived increase in risk was demonstrated. The Regions and Technical Authority are in the process of reviewing these tolerance windows as part of the Trencher 1 exercise being delivered by VSP.	The tolerance windows for examinations are under review as part of the TA led review of the Standard. The evidence provided by regions showcased, in our opinion, a limited link between risk and non-compliance, notwithstanding there is a need to constrain the process to allow monitoring of performance. There was limited evidence provided to show that undertaking an exam outside of the tolerance windows increased the risk profile of an asset. This is particularly the case for visual examinations where the standard prescribes a time based approach to Visual exams. This broad-brush approach may have been appropriate when the Standard was first introduced but does not reflect the current whole life asset management approach undertaken by the regions or the available asset information. In our opinion a risk-based approach is not being undertaken for visual examinations and the current standard is not fit for purpose in its current form. The TA and Regions should work to understand risk profiles for different asset and construction types and adopt a less prescriptive approach to frequency of visual examinations from a risk based not time based perspective.
Context 3		To what extent does the Standard complement your processes and fit your needs, and what issues do you have with the process as outlined in the Standard? How is compliance to the Standard tracked and what is your current level of non-compliance for the examination / submission / evaluation stages of the process?	2	3	2	2	2	3	2	1	Visual examinations were undertaken on an annual basis for all structure assets. The evidence presented demonstrated that the current Standard did not advocate a risk based approach for planning visual examinations. The evidence presented highlighted that this blanket approach did not consider asset status as condition and construction type and did not represent a risk based approach to asset management. There was a consensus across the Regions that the Standard did not currently meet their needs with regards to visual examinations.	Regions have been hampered by the poorly founded procurement process that was implemented in more contracts from the old CEFA contract to the new regional contractual models. Evidence presented by the Regions highlighted that the lack of an appropriate mobilisation period did not allow suppliers to develop workbooks and secure resources in advance of contract award. This prevented any planning being undertaken through the normal PMR process to develop which would have enabled sustainable and robust work programmes to be developed. Following on from this, the late award of the contracts by three months, in which Arney did not undertake site examinations, not only compressed the time available for suppliers but they were forced to start from a position of significant non-compliance. As expected, the TUPE process led Regions to have limited sight of the resourcing levels that they would receive upon the contracts commencing. Following contract award suppliers and Regions have identified in a number of cases that they are under resourced in certain grades of examiner. This has led to the need for considerable recruitment and training initiatives to develop the resource pool. This resource issue is compounded by the fact the procurement process has been undertaken across all regions simultaneously with each now competing with against others for resources, and in some regions with their own suppliers, given the geographical nature for examinations. The national tendering of the new contracts has prevented lessons being learned from the procurement process which could be used to improve the process across Regions in a phased roll out. The procurement process requires review and lessons to be shared and implemented for future contractual changes across Regions.
Context 4		How does the current level of non-compliance compare to the historical position?	2	4	3	3	3	4	2	2	Across Network Rail Regions collectively year 3 of CPI has seen the highest level of non-compliance since the beginning of the CEFA contract 13 year ago. The cause of this non-compliance was a combination of several factors which impacted Regions' ability to meet the requirements of the Standard in terms of compliance. This was tracked across three stages (site inspection, report submission and evaluation sign off) for both visual and detailed examinations. Regions provided evidence to demonstrate the level of compliance across each of these stages. It was noted that there were variations across the Regions in terms of compliance for each of the stages. The mobilisation of new contracts has caused significant issues with delivering the workbooks. New suppliers were not issued with workbooks until the day of contract issue with no time to properly mobilise resources and develop delivery plans. During the procurement process the contracts were delayed by three months when the incumbent did not undertake examinations. This led to a backlog that the new contract holders were then required to deliver. This in turn led to many risk assessment being undertaken by asset engineers reducing their ability to deal with other issues.	Regions have been hampered by the poorly founded procurement process that was implemented in more contracts from the old CEFA contract to the new regional contractual models. Evidence presented by the Regions highlighted that the lack of an appropriate mobilisation period did not allow suppliers to develop workbooks and secure resources in advance of contract award. This prevented any planning being undertaken through the normal PMR process to develop which would have enabled sustainable and robust work programmes to be developed. Following on from this, the late award of the contracts by three months, in which Arney did not undertake site examinations, not only compressed the time available for suppliers but they were forced to start from a position of significant non-compliance. As expected, the TUPE process led Regions to have limited sight of the resourcing levels that they would receive upon the contracts commencing. Following contract award suppliers and Regions have identified in a number of cases that they are under resourced in certain grades of examiner. This has led to the need for considerable recruitment and training initiatives to develop the resource pool. This resource issue is compounded by the fact the procurement process has been undertaken across all regions simultaneously with each now competing with against others for resources, and in some regions with their own suppliers, given the geographical nature for examinations. The national tendering of the new contracts has prevented lessons being learned from the procurement process which could be used to improve the process across Regions in a phased roll out. The procurement process requires review and lessons to be shared and implemented for future contractual changes across Regions.
Context 5		What has been the impact on the process following structures examinations being placed on the Regulatory Escalator	3	3	2	3	3	3	2	1	The evidence provided by the Regions highlighted that following structure compliance being placed on the Regulatory Escalator there had been no fundamental changes in the process used by them to drive compliance. It was however noted that a number of Regions an increased frequency of reporting of compliance was now required from external and internal delivery teams.	The Regulatory Escalator process has driven increased reporting within the Regional delivery and structures asset management teams. There was evidence that the Regional leadership are also more aware of the process and safety critical nature of the structure examinations. However, Regions and their suppliers are unclear as to how the Regulatory Escalator levels work and the boundaries between the levels and what criteria are used to determine their position on the Escalator. There is therefore a view that the Regulatory Escalator process and its full criteria should be more widely shared to promote understanding and drive improvement.
Constraints 1		Given your level of non-compliance what constraints across the process are causing this and to what degree are the types of constraint impacting on the non-compliance e.g. financial, staffing (numbers and competence / training), contractual, site accessibility/permission (including reliance on others for access), planning, information systems, fluctuations of inspection work bank volumes etc.?	2	3	3	2	2	3	2	1	There was a strong commonality in the nature and impact of constraints across the Regions. It was noted that NW&C and Scotland had experienced less impact as a result of resourcing issues due to the stability in the delivery teams. In general the compressed timelines that the new contract award created had increased the impact of the delivery constraints. Overall the Regions reported a clear understanding of the constraints they were working under and were able to evidence the work they are undertaking to mitigate their impacts as best as possible. Nevertheless the identified constraints do have a significantly detrimental impact on the levels of compliance.	Access and resourcing constraints have been further complicated by the introduction of the Track Worker Safety Programme. The Regions stated that there was a degree of uncertainty over the impact of the TUPE but that they believed it would impact traditional ways of working to undertake structure examination. This will limit the availability of resources and the need to undertake more night time working. It was recognised that any move to increase night working will impact quality, access, examiner resources, industrial relationships and the cost of examinations. It was also observed that a move to night working brought about the cost of safety issues. It was clear that Regions are addressing these challenges but not all procedures in place to support the TUPE they still face uncertainty over the short to medium term implications for examination delivery. Following contract award suppliers and regions have identified that they are under resourced across certain grades of examiner. This has led to the need for considerable recruitment and training initiatives to develop the resource pool. This resource issue is compounded by the fact the procurement process has been undertaken across all regions simultaneously with each now competing with against others for resources, and in some regions with their own suppliers, given the geographical nature for examinations.
Constraints 2		What are the levels of cancellation of examination activities due to lack of resources or access constraints?	2	2	3	4	3	4	2	2	Access and resourcing constraints are the primary issues faced by Regions in delivering the requirements of the Standard. Resourcing has been a greater challenge for certain Regions given the contractual change they have undergone over Year 3 of CPI. Resourcing issues are a national issue and training is required to develop a sustainable level of resourcing at STEJ level. Nevertheless the delivery plans developed by suppliers has taken account of available or made assumptions regarding the use of agency staff. This has resulted in a low level of cancellation of work due to staff shortages with the exception of the CIV019 impacts which are considered to be temporary. Access is considered an ongoing challenge that Regions given the overall needs of the business. However, there has been some evidence of delivering in congested parts of the network it was clear that this experience was not shared across all regions and also showed that in some cases Structures Examination was not considered to be a priority and therefore their work was expeditious in access for alternative works was required.	On site failures occur when the planned examination date is not met. These do not always lead to non-compliance as early identification of failure can be mitigated through careful planning. The tracking of on-site failures doesn't differentiate between those that lead to non-compliance and those that don't. Clear reporting of on-site failures on compliance would improve regional understanding of where their levels of non-compliance is coming from, and also show the good work they are doing to mitigate failures and keep compliance on track.
Constraints 3		How do the identified constraints affect the different asset types across your portfolio and how is this managed?	4	3	4	3	3	4	3	1	Regions provided evidence that constraints are not specific to certain asset types but impact across the portfolio. It was noted however that asset location and adjacent infrastructure could impact the planning and completion of examinations.	
Constraints 4		To what extent are resources for examinations shared nationally	4	3	4	4	4	4	3	1	There was no evidence that Regions share resources at a national level. As such they require the delivery partners to ensure that the resources outlined in their contracts are available and submitted against their needs. Deliverable and resource regional boundaries were the primary constraint across the STEJ level. It was noted that STEJ resources tend not to be shared outside Regions due to the need to maintain examiner geographical proximity to asset locations.	
Constraints 5		What do you believe could be done to reduce the impacts of the identified constraints	4	4	4	3	4	4	3	1	The Regions provided evidence to show that they have robust plans in place to mitigate the impact of the identified constraints. This includes the adoption of more robust planning systems (PMR) to validate delivery programmes and the sharing of longer term horizon workbooks to mitigate the booking of access to the network. There was also evidence of regular and structured dialogue between the structures planning teams and delivery partners to monitor delivery and take actions as necessary. In response to staffing shortages the Regions and their delivery partners have put in place training schemes to develop the examination resources required to meet the needs of the Standard. In certain Regions it was noted that they are utilising technology to support and mitigate access constraints.	
Behaviour 1		To what extent does the relationship with external contractors or an internal delivery organisation, as appropriate, associated with the structures examination process impact on the level of non-compliance.	3	3	4	3	3	4	3	1	By taking evidence from both the Regional teams and the suppliers it was clear that there is a good working relationship between those involved in structures examinations. Whilst there were new relationships being built up as a result of the new contracts in certain Regions a lot of the players involved had long standing relationships which impacted in a positive way in terms of the understanding of the portfolio and the processes.	
Behaviour 2		Within the organisation how much of a priority are structures examinations (to other disciplines) understand the importance of structures examinations as a safety critical activity?	3	2	3	4	3	4	2	2	In general the evidence provided across the Regions showed that examinations were being given the appropriate level of priority by other asset classes and being recognised as a safety critical activity.	
Behaviour 3		What role does the leadership team in your organisation play in monitoring and directing action to reduce non-compliance?	3	2	2	3	3	3	2	1	The role that leadership teams provided across the different Regions varied. Some Regions saw significant support from their senior leadership and in others there was less involvement. This was not taken as an indication of the lack of engagement from leadership but rather the focus of the leadership team was different across the Regions. The comment was made that whilst the senior team in the Region were not directly overseeing the examination process it was felt that should the need arise the structures team could lead on that support.	
Behaviour 4		To what extent is the level of non-compliance reported within the organisation, what KPIs are used to track compliance, and how do these link to any incentives?	4	3	2	3	3	4	2	2	Evidence was presented that non-compliance against the Standard was monitored on a weekly basis by Regional teams with delivery (internal/external) reporting on the number of late and submitted examinations each week. KPIs for external contractors monitor the submission of examination reports with 28 days of issue in addition it was noted that monthly reporting of non-compliance was provided to the ORR.	
Behaviour 5		To what extent is non-compliance accepted as the norm in the organisation?	4	4	4	4	4	4	4	0	All Regions categorically disagreed with the statement that non-compliance was accepted within the organisation. The Regions state to deliver compliance but the current constraints they face and the requirements of the Standard mean that some level of non-compliance were seen as being inevitable at the current point in time.	The regulatory escalator has raised awareness outside the structures teams as to the importance of examinations and senior teams are supporting regions to drive change. At no point during the review did regions give the impression that non-compliance is accepted, it was a genuine desire for non-compliance to be reduced and to reach a position of compliance. Regions are experiencing constraints which are preventing compliance at this time but the move to non-compliance does bring confidence that they can progress towards the goal. It is the role of the independent Reporter that work should be done to ensure realistic targets are set on the journey towards compliance to ensure continued buy in and drive continuous improvement.
Behaviour 6		What impact has the TUPE transfer of staff had on delivery and behaviour?	3	4	4	2	3	4	2	2	The TUPE process impacted different Regions to varying extents depending on their individual contractual/delivery strategy. There was no evidence presented to show that there had been any behavioural change in the staff though the impact of the process. However, the move of certain staff to new employers did have an impact in some of their induction into new roles and submitted examinations each week. KPIs for external contractors monitor the submission of examination reports with 28 days of issue in addition it was noted that monthly reporting of non-compliance was provided to the ORR.	
Delivery 1		How has the future plan for delivery of examinations been developed and what is the evidence basis to ensure the future examination plan is achievable e.g. milestones, tracking delivery, resource allocation?	4	3	3	4	3	4	3	1	The Regions evidenced that a fundamental level of the workbooks were based on the procedures and requirements of the Standard. This dictates when assets should be examined based on their condition and risk, and forms the basis of the year by year workbooks for visual and detailed examinations. A number of Regions shared future workbooks more than one year in advance and this supported the booking of long lead time possessions. It was considered that workbooks sustainability required Regions to have the correct level of regular and structured dialogue between the structures planning teams and delivery partners to monitor delivery and take actions as necessary. The well evidenced mature working relationship between the structures team and their suppliers was also considered to be highly beneficial.	
Delivery 2		What assumptions have been made in the development of the delivery plan in terms of resources and other identified constraints including booked access arrangements?	3	3	3	3	3	3	3	0	The Regions evidenced that a fundamental level of the workbooks were based on the procedures and requirements of the Standard. This dictates when assets should be examined based on their condition and risk, and forms the basis of the year by year workbooks for visual and detailed examinations. A number of Regions shared future workbooks more than one year in advance and this supported the booking of long lead time possessions. It was considered that workbooks sustainability required Regions to have the correct level of regular and structured dialogue between the structures planning teams and delivery partners to monitor delivery and take actions as necessary. The well evidenced mature working relationship between the structures team and their suppliers was also considered to be highly beneficial.	Regions have a clear view of the resourcing that they require, however, there is a significant risk to regions reaching compliance if these resourcing levels are not met. The Regions are addressing these challenges but not all procedures in place to support the TUPE they still face uncertainty over the short to medium term implications for examination delivery. Following contract award suppliers and regions have identified that they are under resourced across certain grades of examiner. This has led to the need for considerable recruitment and training initiatives to develop the resource pool. This resource issue is compounded by the fact the procurement process has been undertaken across all regions simultaneously with each now competing with against others for resources, and in some regions with their own suppliers, given the geographical nature for examinations.
Delivery 3		How does the type of asset (e.g. bridge, culverts, retaining walls etc.) affect examination process priorities	4	4	4	4	4	4	4	0	The majority of the Regions presented credible plans which outlined timescales for the reduction in non-compliance and how this would be supported and monitored. Regions outlined how resource and non-compliance levels were identified enabling suppliers to have the full year to deliver rather than starting from a position of non-compliance. In general it was noted that Regions will not be compliant, but on a par with previous years, until the last six months of year 4 of CPI but have demonstrated on a whole trajectory to reach the goal.	
Delivery 4		What is the anticipated result of the plan in terms of the outcome of a reduction in non-compliance, and how will this be monitored and reported	4	4	3	3	3	4	3	1	The majority of the Regions presented credible plans which outlined timescales for the reduction in non-compliance and how this would be supported and monitored. Regions outlined how resource and non-compliance levels were identified enabling suppliers to have the full year to deliver rather than starting from a position of non-compliance. In general it was noted that Regions will not be compliant, but on a par with previous years, until the last six months of year 4 of CPI but have demonstrated on a whole trajectory to reach the goal.	
Impact 1		How does the current level of non-compliance affect day-to-day operations	4	4	4	4	4	4	4	0	Regions demonstrated that the current levels of non-compliance did not affect the day to day operations of train services on the Network. The management of risk from non-compliance is a constrained model for the risk assessment and the risk posed to the network and train services could continue to operate as normal.	
Impact 2		To what extent has the lack of examination input affected your ability to build a reliable maintenance and renewal workbook	3	4	4	4	4	4	4	3	Regions evidenced that the current levels of non-compliance did not affect the day to day operations of train services on the Network. The management of risk from non-compliance is a constrained model for the risk assessment and the risk posed to the network and train services could continue to operate as normal. Maintenance planning could be affected if information was not provided in a timely fashion but Regions plan the maintenance workbooks based on the information available from previous years. Emergency works were noted as having a set time span that they must be completed in upon finding in the defect where a proactive and responsive position was taken by all Regions.	
Impact 3		What do you believe to be the risk profile to day-to-day operations caused by the level of non-compliance in terms of the uncertainty regarding structures condition across the network	4	3	4	4	4	4	4	3	Regions demonstrated that the current levels of non-compliance did not affect the day to day operations of train services on the Network. The management of risk from non-compliance is a constrained model for the risk assessment and the risk posed to the network and train services could continue to operate as normal. Maintenance planning could be affected if information was not provided in a timely fashion but Regions plan the maintenance workbooks based on the information available from previous years. Emergency works were noted as having a set time span that they must be completed in upon finding in the defect where a proactive and responsive position was taken by all Regions.	
Impact 4		What subsequent action is taken by your organisation when following the process in Figure 1 of NRS/CI/006 leading to the requirement to carry out a risk assessment in accordance with NRS/CI/002/1?	4	3	3	4	4	4	3	1	All Regions undertake the risk assessment process in line with CIV 006 and CIV 021. With different Regions approaching how they undertake and prioritised risk assessment based on exam type and risk.	
Impact 5		What do you believe is the safety impact of any structures' examination non-compliance?	4	4	4	4	4	4	4	0	All Regions did not see any direct link between the safety impact on structures and non-compliance. Across the Regions risk and hence safety are managed in a proactive manner to ensure potential risk is understood when assets go non-compliant. Site examination and compliance was seen as the most critical element to safety and risk with Regions working to achieve site compliance targets. Risk and hence safety was considered lower when non-compliance was at the submission and sign off stages.	
Technology 1		What is your organisation's vision for the use and benefits from the application of technology in this area?	4	4	4	3	4	4	3	1	Regions had different views on the purpose and goal of technology which they categorise into two frames. Firstly systems and software for recording and transferring of data, with the second data gathering tools to improve quality and effectiveness of examinations. Software tools improve the data transfer, from delivery teams, increasing the quality of examinations and improving the ability of regions to access and use data for management and reporting examinations. While hardware, like drone mounted cameras, were seen as improving the information that could be gathered, remote boots on ballast as part of the TVM initiative but are fundamentally supporting tools and don't replace examiners. The combination of these forms of technology will support the safe, efficient and quality delivery of examination workbooks, particularly visual exams, to deliver team and improve the information available to the structures asset management team when planning, maintenance and underlying risk assessments.	The technical specification drafted into the new supplier contracts allows regions and their suppliers to develop and trial new technology for delivering examinations. The TA work support regions to implement technology trials and develop the evidence required to embed new ways of working. However, it was clear that it is ultimately up to the individual regions to drive the new technology that is on the market and that the TA are promoting. Regions have different views on the benefits and use of technology and how this should be introduced, this has led to inconsistency in the confidence ratings. In our opinion having a coordinated national approach to solve technology issues would enable collaborative engagement to solve issues that all regions face.
Technology 2		How is the use of technology built into the examination process and what quantified benefits have been identified from its use (specific, measurable and time-bound benefits)?	3	3	3	2	4	4	2	2	Technology was being utilised in different ways by Regions to support visual and detailed examinations. The use of drone and train mounted cameras supported both the planning and execution of exams. Across the network Regions were relying on technology to undertake examinations and some had qualified the cost and time benefits that they are seen as a result. The described approach by Network Rail to technology was to support the Regions to that technology with the support of the TA but they were not required to develop or integrate it into their BAU. It was noted that the technical specification of the contracts provided the room for Regions to undertake their own R&D and push suppliers to introduce new technology.	
Technology 3		What new technology is being used / trialed by your organisation in this area, what barriers exist and how is technology best practice / experience shared nationally	4	3	3	3	4	4	3	1	It appeared that there was limited sharing of resources apart from through the Community of Practice meetings that the TA arrange. Regions were not working together on the deployment of new technology but did share what they were doing. The use of vehicle (e.g. drones and train) mounted cameras and sensor technology was actively pursued across all Regions with some driving how these could be incorporated to improve ways of working and integrated alongside the Track Worker Safety Programme. It was noted that barriers existed to implementing the use of and drones on specific areas of track but Regions were working to understand how non-compliance could be mitigated. Cost was seen as a barrier to entry with duplicated examinations being to be undertaken to mitigate the quality of technological delivery.	
Technology 4		How does the current examination process link to the Network Rail Intelligent Infrastructure transformation	3	3	4	2	3	4	2	2	The intelligent infrastructure system was seen as supporting Regions in the development of new systems such as SES and CES. These systems aimed to improve the transfer of data from delivery teams to asset management teams. The systems supported examiners in undertaking exams on site and submitting them to review by SES and STE 01. SES and CES systems were going through on the ground trials though it was noted that these had been rolled out in some Regions for feedback and testing. The TA outlined that implementation of these systems was to be undertaken at a Regional level given the devolved nature of the business. Accordingly different Regions had different views on how and when the systems should be implemented.	The TA has indicated that as technology is made available, such as the systems SES and CES, that it is up to the regions to determine how they adopt them into day-to-day working and that given the devolved nature of Network Rail it is not the TA's role to mandate their use. Nevertheless, Regions did comment on the need for an upgraded CARRS system such that it can meet the current needs of the business with regard to data capture, transfer and manipulation. The next map for the II transformation shows an update to the CARRS systems is planned which in our opinion would greatly improve the data capture, storage and manipulation that regions require.
Technology 5		What systems does your organisation use and how are these interconnected in terms of the line of sight from the asset inventory, through the examination process to the outcome in terms of planning maintenance and renewal	3	3	3	2	3	3	2	1	The CARRS system was used by all Regions to host asset information, examination information was added into CARRS to support asset engineering in making maintenance and renewal decisions. There was however no end to end system in place across Regions to manage the transfer of data. Regions outlined that CARRS was out of date given todays business requirements but that they understood the enormity of the task to develop and implement system change but noted that the need should not be shied away from. The current state of system changes with the Intelligent Infrastructure transformation meant there was a significant number of systems to implement before the system could be implemented. CES, SES and Polarstar support the transfer of information from site to asset management teams but were not currently linked or integrated with CARRS due to the data handling ability of that system.	
Technology 6		What is the timescale and process for moving any new technologies into BAU?	3	3	3	3	3	3	3	0	For some Regions site technology was already being utilised and additional use of visual aids were being made available in time for Y4 of CPI. Regions were being invited to line to support delivery teams with Polarstar 2 being rolled out for digital delivery teams in NW&C and Eastern. The systems supported by the II transformation were noted as being in the early phases of full deployment. All Regions expressed the need for caution when implementing systems at this time given the turbulence in compliance recording this would cause and the need for potentially turning off and new systems oncoming.	
Changes 1		What are the proposed changes to the current examination framework (as a result of both internal and external factors)?	4	4	4	3	4	4	3	1	It was noted that there were currently no proposed changes to the examination process. Regions and the Technical Authority were engaged in a process of investigating the Standard and surrounding procedures in the Trencher work. This process was challenging the current ways of thinking and was expected to result in changes to the examination frameworks. The work to understand the relevance of tolerance periods, examiners responsibility and skills, and the report scanner had the potential to reduce the operation frameworks that Regions had in place. It was considered that this work would need contractual changes to support appropriate integration.	All five Regions are striving to achieve the same goal with the same challenges and constraints present in varying degrees in all regions. The different delivery models in place across regions should allow for innovation and drive best practice, sharing any lessons learned will improve compliance across all regions. Though the regions attend the Community of Practice meetings it is unclear as to how effective these are at driving sustainability of delivery and collaborative working to develop new ways of working. Reviewing the terms of reference for these meetings and ensuring they are used to drive best practice in our opinion will support all regions on the journey to compliance.
Changes 2		What are the specific benefits anticipated to accrue from the changes, how will these be measured and to what timescales will they be delivered?	3	4	3	3	3	4	3	1	Regions had different views on the purpose and goal of technology which they categorise into two frames. Firstly systems and software for recording and transferring of data, with the second data gathering tools to improve quality and effectiveness of examinations. Software tools improve the data transfer, from delivery teams, increasing the quality of examinations and improving the ability of regions to access and use data for management and reporting examinations. While hardware, like drone mounted cameras, were seen as improving the information that could be gathered, remote boots on ballast as part of the TVM initiative but are fundamentally supporting tools and don't replace examiners. The combination of these forms of technology will support the safe, efficient and quality delivery of examination workbooks, particularly visual exams, to deliver team and improve the information available to the structures asset management team when planning, maintenance and underlying risk assessments.	The current standard rolling examination date process, due date moving based on previous examination, has created issues with trying to plan and develop sustainable, efficiency and environmentally friendly workbooks. All Regions, excluding Scotland who already operate this, have expressed a desire to move to the time of route working. By undertaking the required examinations based on geography and proximity would reduce the travel required by examiners, reduce planning complexities, provide consistency of delivery and planning team. An investigation into the benefits, compliance impact and feasibility of such approach should be investigated by Network Rail as part of the Trencher work. The ORR should be prepared for an impact on non-compliance if moving to a similar approach is considered the right thing to do and not penalise Regions during this transition period as long as risk can be shown to continue to be managed appropriately.
Changes 3		What is the expected impact of these changes on the current level of non-compliance over time, and how will it impact specific elements or outputs of the examinations process (e.g. quality of reporting etc.)?	3	3	3	3	3	3	3	0	Regions had various timelines for reaching a position of sustainable compliance with all achieving a position of compliance prior to the year 1 of CPI. Regions were driving quality of examination as a high priority as poor quality of exam was perceived as a great risk, particularly for detailed examinations, then non-compliance as such. The Sustainability and Recovery Plans developed by the Regions focused on the management of constraints and a return to normal planning and operational timescales which would have a significant impact on compliance.	

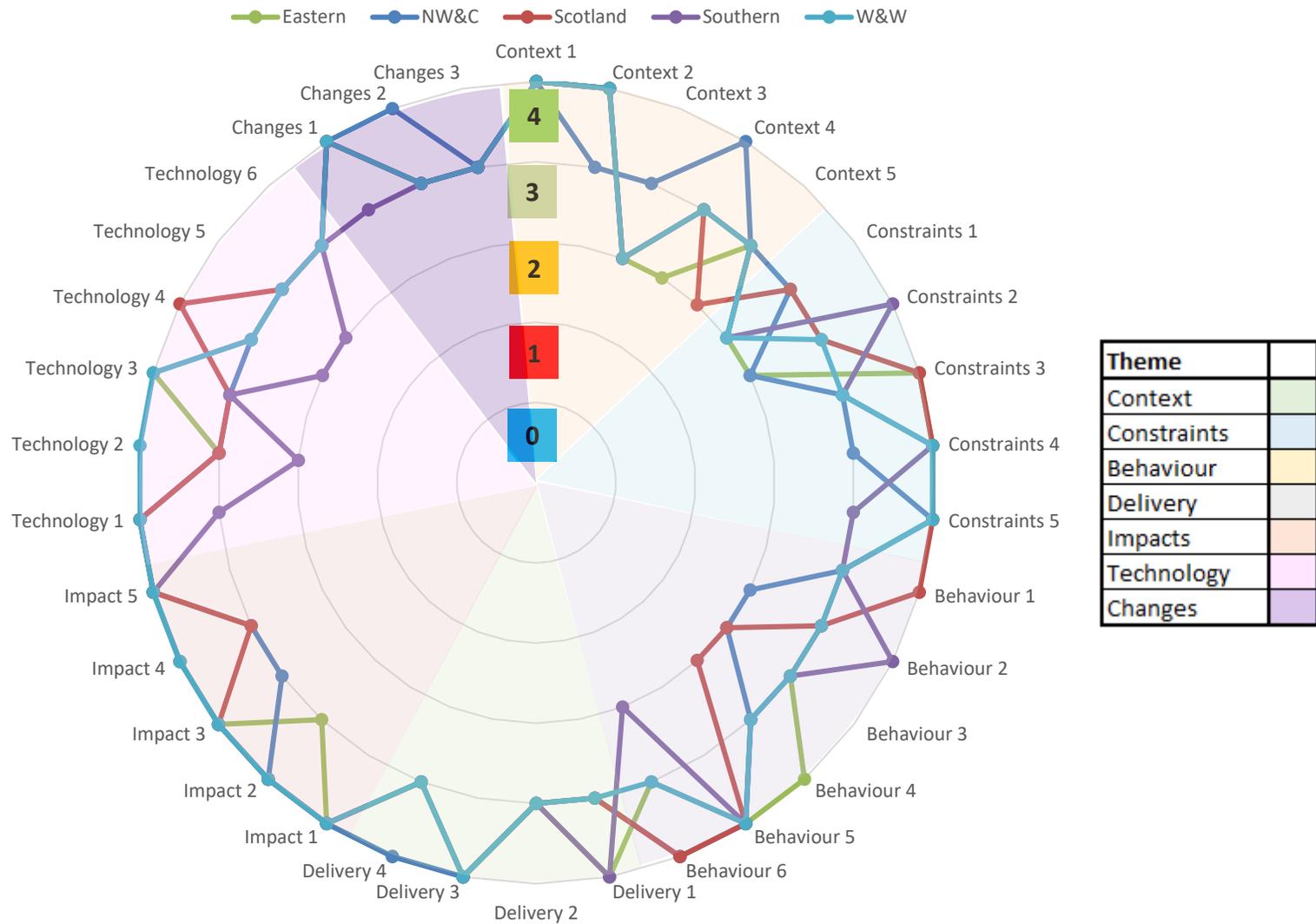
#25529 Review of Structures Examination Compliance All Regions Max & Min Heatmap

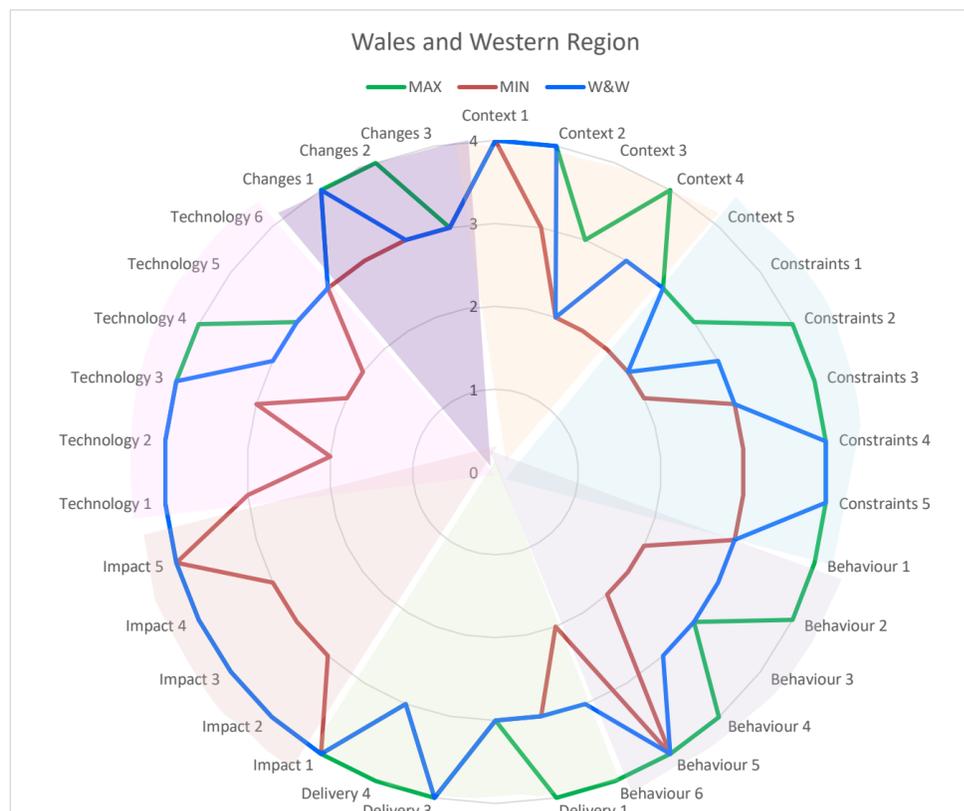
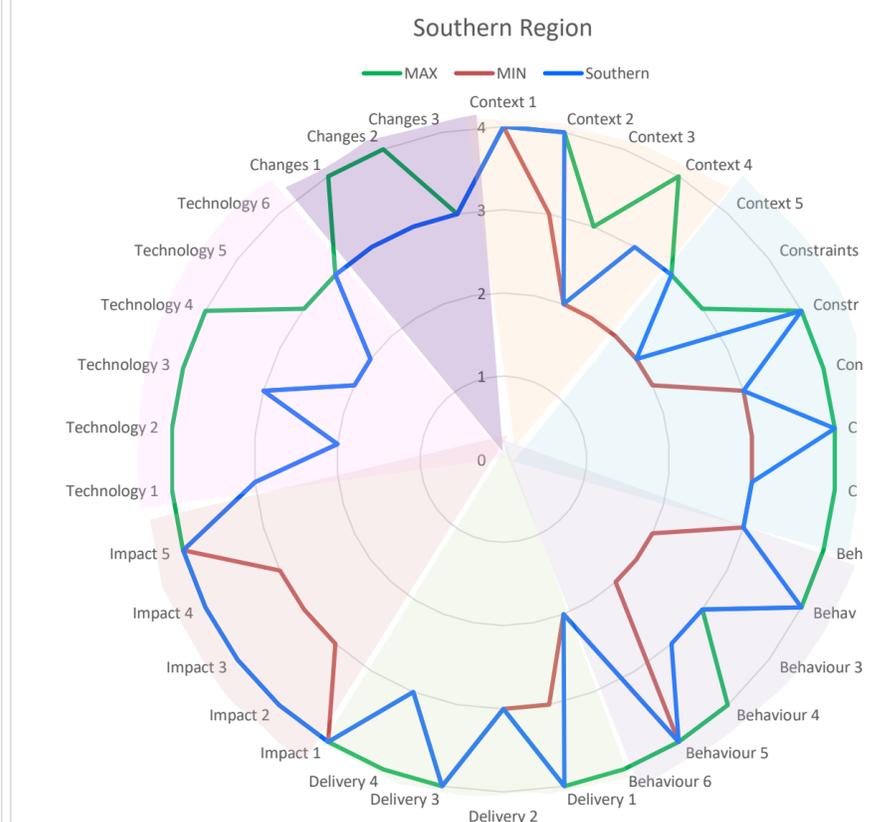
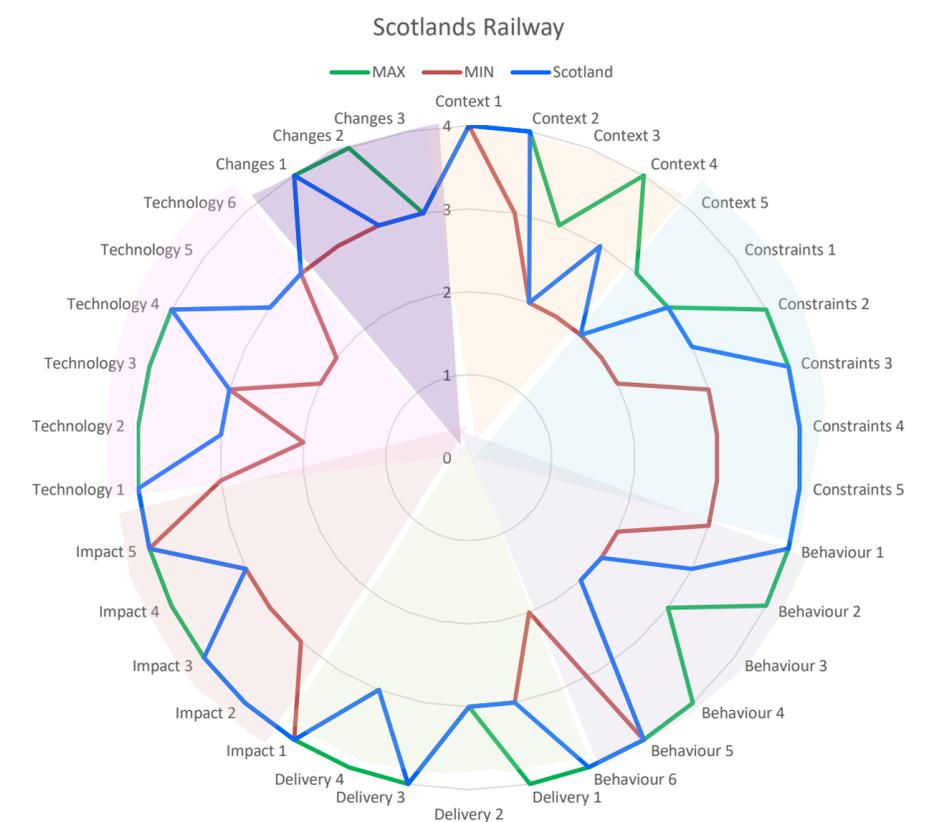
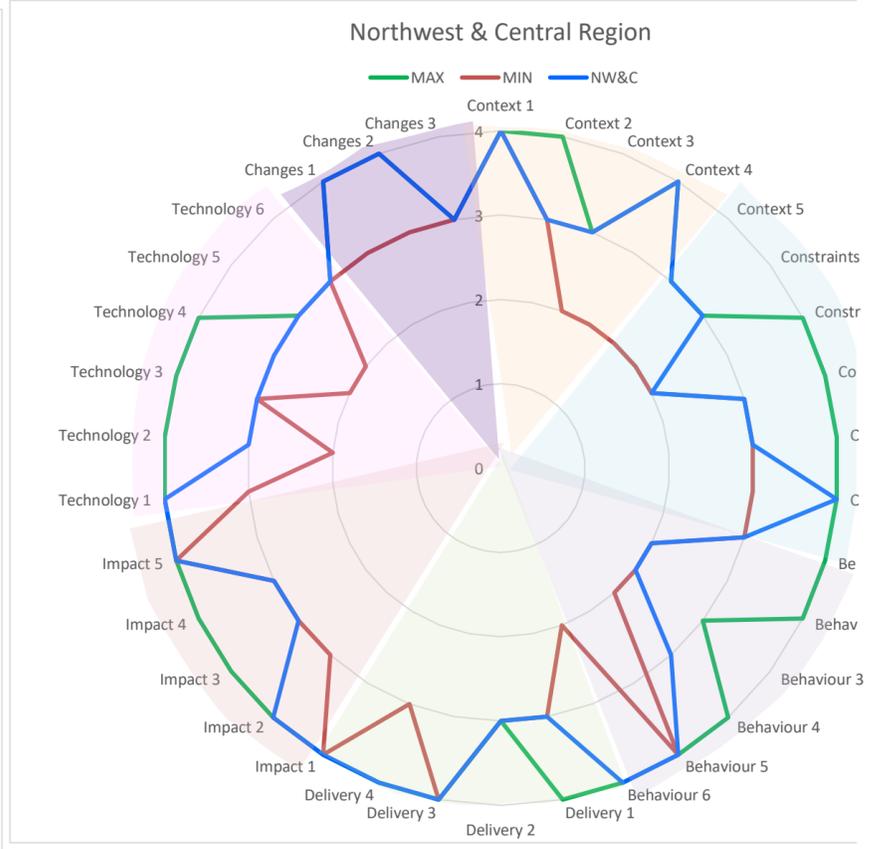
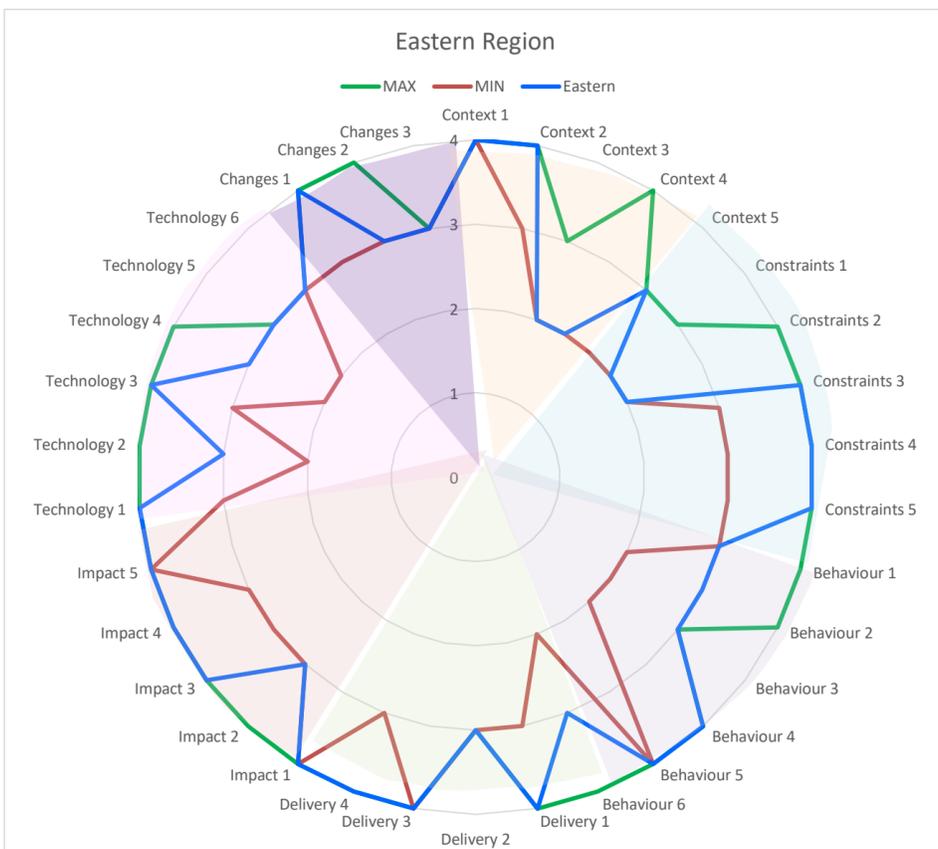


Confidence Rating	Description
4	Evidence presents a clear understanding with no identifiable area of weakness or inconsistency in the approach.
3	Evidence presents a reasonable understanding but with some gaps, inconsistencies, or weakness in some areas in the approach.
2	Evidence presents significant gaps in understanding, inconsistencies and weakness identified in the approach.
1	Evidence incomplete and limited understanding shown with major inconsistencies and gaps identified in the approach.
0	Insufficient information provided.

Theme	Color
Context	Light Purple
Constraints	Light Blue
Behaviour	Light Yellow
Delivery	Light Green
Impacts	Light Orange
Technology	Pink
Changes	Light Purple

#25529 Review of Structures Examination Compliance All Regions Max & Min Heatmap





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JOB TITLE

#25529 Review of Structures Examination Compliance

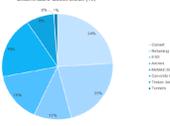
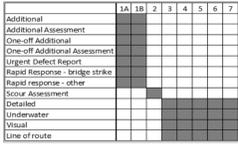
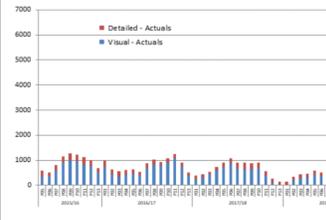
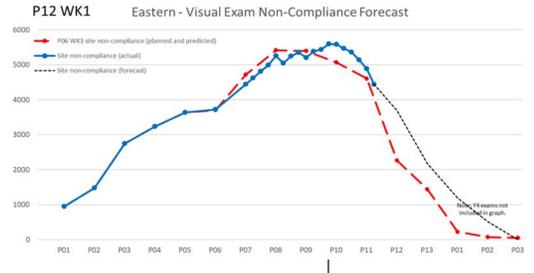
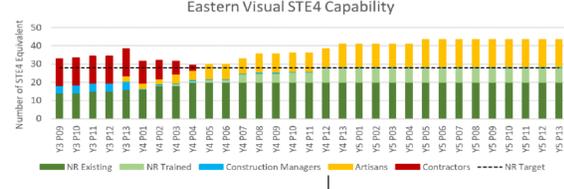
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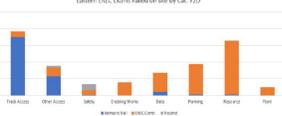
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DESCRIPTION

Evidence from Individual Regions

Topic	Ref	Question	Doc. Ref	Evidence form Documents	Queries	Evidence form Regional Stakeholders	Evidence from Delivery Stakeholders	Assessment (24 02 2022)	Evidence Assessment Summary	Opportunity for Network Rail
Context 1		With respect to your organisation's scope of work how many assets are covered by the examination regime and how do these split into the various types e.g. bridges, culverts, retaining walls, tunnels, coastal/river defences, ancillary structures etc	E007	<p>The Eastern Regions consists of 6855 Bridges and 9421 Other Asset. The asset stock is split out accordingly: 24% Culverts, 22% Ret Wall, 11% ESS, 15% Arches, 19% Metallic Bridges, 8% concrete Bridges, <1% Timber Bridges, 1% Tunnels.</p> <p>The region has to conduct circa 22600 Visual Examinations and 3300 Detailed and Tunnel Examination per annum. The VE contract, deliver in house also considers reconnaissance, bridge strikes and is not limited to the pre planned VE's required.</p> 	How do Risk Assessments factor into the planning of the work bank.	<p>As per the standard every structure within the region requires a visual examination if it is not undergoing an additional examination scheme or requiring a detailed examination. The internal delivery teams undertake the visual examination workbank with external delivery partners Bridgeway/Keaid.</p> <p>Had to lean on the risk assessment process as we have gone through the period of contractual change to manage the non compliance, using the weekly business process reviews to monitor non compliance and the work with delivery teams to understand which assets require risk assessments. Have clear the backlog of risk assessment that arose during the period of contractual change and underperformance on VEs particularly.</p>	<p>Asset list is provided by the compliance team. The internal delivery team are given an annual asset task list for visual and additional exams which they aim to deliver.</p> <p>The detailed examinations are delivered by two suppliers Xeaid and Bridgeway with the work bank split 50/50 between the two suppliers.</p> <p>Across the region they are supported by CAM supplied STE4 resource.</p>	4	<p>The region has a clear understanding of the asset stock and the number of examination that are required by the standard to be undertaken.</p> <p>The internal delivery team aim to deliver the circa 22600 Visual Examinations, while the External Delivery partners deliver circa 3300 Detailed and Tunnel Examination per annum. Split evenly between the two contract holders.</p>	
Context 2		How do you apply the requirements of Standard NR/L3/CIV/006/1A		<p>As per the standard both internal and external delivery partners are held to account to perform against the compliance tolerances and process outlined in the standard. However, the region have implemented a report prioritisation process to manage the reviewing of submitted reports.</p> <p>Assets are categorised across eight priority levels which are related to the safety risk associated with the report/examination type and structure class. This process is implemented to ensure safe management when report can't be process within the tolerances mandated by NR/L3/CIV/006/1A.</p> 	<p>Is the Internal Delivery team tracked against the STD or the TNC?</p> <p>How does the prioritisation process work when you have such a high level of non compliance? i.e. how does time come into the equation or do 7s keep getting pushed to the bottom. What share of the non compliance is made up of grades 5-7 say.</p>	<p>The standard is applied to manage the safety of the asset. To manage the level of risk and provide a framework to the sign of and review of examinations by engineers the region use the grades in all circumstance to prioritise risk and ensure that those examinations that relate to the high risk levels are signed off first. The process is automated within the CARES inbox to send engineers reports that were requiring sign off. The process does not speed up the time to undertake all the examination sign off but it directs resource to the most at risk assets systematically.</p> <p>No, as a region we only report against the TNC to the ORR and have ensure that the external and internal delivery teams track against the standard.</p>	<p>The compliance team provide the workbank and the tolerance for each asset to the delivery team. The workbank then enters the Planning & Robustness process which allows the delivery teams to generate a baseline plan alongside compliance managers.</p> <p>The baseline plan looks to plan the examinations within the tolerance periods but it is not always possible to meet those requirements. It is not always possible to plan the entire workbank within the compliance periods due to access, location and resourcing constraints.</p>	4	<p>Asset engineers ensure that the structures are assessed as per the standard for both visual and detailed examinations. They are responsible for ensuring the right dates are held within the system and frequency of examination is undertaken as appropriate.</p> <p>The region have introduced a system for managing incoming examinations based on the perceived level of risk to ensure exams of riskier assets.</p>	
Context 3		To what extent does the Standard complement your processes and fit your needs, and what issues do you have with the process as outlined in the Standard? How is compliance to the Standard tracked and what is your current level of non-compliance for the examination / submission / evaluation stages of the process?		<p>Weekly reporting statistics are provided through the following documents.</p> <p>Monthly one pager reports provide to the ORR. Which outline the compliance against Site, Submission and Sign Off across VE/DE&UW.</p> 	<p>Do you feel the standards is applicable to the ways of working.</p> <p>Apart from monthly Orr reporting how are you tracking compliance.</p>	<p>Chris Heap (Head of Asset Management) answer the question from his perspective. Outlining that he believes that the standard is ideal for the delivery of detailed examinations as a clear risk based approach is taken to determine intervals and the tolerances are appropriate given the time between intervals. Exams are planned for each assets specific needs. With regards to visual examination the standard may not be as appropriate given the diversity of the asset base across the Region. CH outlined the fact that you have assets on disused sections, assets which see very low use, data on assets that have low inertia and maintenance of history. The requirement is well intended but undertaking them every single year may not allow for a pragmatic RBE approach to VE be undertaken as is being undertaken in other sectors.</p> <p>CH leading a working group to look at purpose of VE on an annual basis, to assess the appropriateness of the standard to visuals and if a risk based approach can be applied.</p> <p>Data is being fed for the EREC contractors and contingency labour this feeds in national systems. The reporting system is built around the standard and track the data against the tolerance and requirements of the standard which are then reported on a weekly and monthly basis.</p>	<p>Not our role to question the appropriateness of the standard but to manage the workbank to meet the requirements of the standard to the best of the ability and capability given current constraints.</p>	2	<p>The region are clear in their understanding of what the standard is trying to achieve and see the risk based approach for Detailed examination as appropriate and meeting their needs.</p> <p>However, they expressed thoughts that for visual examinations the standard does not take a risk based approach. The Head of Asset Management is currently leading a working group to assess the standard and how it is applied for visual examinations.</p>	
Context 4		How does the current level of non-compliance compare to the historical position?		<p>Figure 2 - Eastern site non-compliance trend</p> <p>Over the previous five years a position of between 500-1000 non compliant examination has been maintained by the region. This has increased dramatically since P9 2020 where levels of non compliance have risen to 6000+ by P8 2021. The region outline various causes of this drastic change in non compliance.</p> <p>These include the following: Arney data breach P9/2020, movement to new contracts, TUPE process not delivery forecasted staff, under resourced of new contract holders.</p> 		<p>CP3 no cefa contact in place and move to a (unintended) monolithic supplier which brought things together to resign across the regions to remove dysfunction. However 12 years on with no changes to the tender process and contract over the period reflect the timing of exam compliance not the quality. There are asset failures which are related to quality and not timing which is a big concern to the team. The region stressed that though the compliance position is not as desired at the moment that historically the poor quality of examination has been a bigger issues for them. The region expressed that the quality compliance is not seen or tracked and this was more of an impact on the management of assets, but need to go through a look.</p> <p>Reducing redzone working has produced a challenge to planning and ways of working which initially caused a problem with compliance as BAU systems had to be altered.</p> <p>Across the region, but particularly in the case of Anglia, there was significant underperformance by the previous delivery partner has been brought forward into the new contract with significant site and submission backlogs need to be managed alongside a large quantity of outstanding risk assessments due to non compliance.</p>	<p>The current level of non compliance is higher than previous, this has come about as the CEFA contract expired. There were no examinations undertaken for three months up to the end of the contract. Following this as it was not possible to get people out to undertake the required work in the initial period of the contract.</p> <p>Started with legacy non compliance due to ALARM going down, end of contract stand down, new contract start up, lack of resource. We now have the issue of trying to catch up with the back log of examination and fighting against that.</p> <p>The last batch of CAM suppliers workbank are starting to be planned and delivered getting to the end of the year, this additional resource will enable us to close the compliance position with additional examiners working. This is part of the second batch of the mitigation programme for this year.</p>	2	<p>Currently have the highest level of non compliance since the move to the start of the CEFA contract, when compared to historical performance of regions. Historical average of 500-1000 non compliant examinations has been maintained by the region. P9 2020 where levels of non compliance have risen to 6000+ by P8 2021. This has been caused by a combination of the change of contract, Arney security breach, red zone working and a lack of resources. Through the use of CAM suppliers to region are starting to get reduce their non compliance position and as training schemes bring new examiners to site this will be sustainable with the use of CAM suppliers.</p> <p>The region provided at the follow up session the P12W1 non compliance forecast which shows evidence of improvement since the initial request for information. Though the level of non compliance is still high compared to historical performance.</p>	
Context 5		What has been the impact on the process following structures examinations being placed on the Regulatory Escalator		<p>The Region have developed a recovery plan which outlines the causes opportunities and plans for reducing non compliance, the plan has been developed to improve the capability of the region to sustainably reach a position of tolerable non compliance.</p> <p>The Regions are engaged with the TA on delivering Tranche three of the review of the standard which relates to exam competency requirements.</p>	<p>you talk about a stretch target of 10% non compliance, is this still the target given being placed on the regulator escalator.</p>	<p>The escalator has led to an increases in the frequency of delivery partner conversations to monitor progress. There has been no real change in the process however 12 years on with no changes to the tender process and contract over the period reflect the timing of exam compliance not the quality. There are asset failures which are related to quality and not timing which is a big concern to the team. The region stressed that though the compliance position is not as desired at the moment that historically the poor quality of examination has been a bigger issues for them. The region expressed that the quality compliance is not seen or tracked and this was more of an impact on the management of assets, but need to go through a look.</p> <p>The internal reporting process have been more closely aligned to communicate with internal stakeholders and management to improve collaboration and meet the challenge access constraints pose. This has increased the visibility of the issue and allows us to talk to other asset groups about how they can help us meet the challenges and getting over the peak of non compliance.</p> <p>As a region we are working hard to have a better understanding of the data. This will allow for better reporting mechanisms to be put in place which will enable us to show progress and getting line of sight to across the business and supply chain. A common vision has been established to align language and motivation for achieving compliance.</p>	<p>Following the placement of the region of the regulator escalator we are looking at what we need to deliver in the future. Key to this is building a buffer of resource within our examiners pool, with the cam suppliers, that will allow us to flex to support our delivery.</p> <p>It has placed a fresh perspective on the need to reach compliance and allowing us to undertake lessons learned reviews and implement change. Taking a proactive approach with VE exams to start to undertake what we can within the tolerance periods as soon as possible as the internal team have capacity at the moment which will build a buffer in compliance.</p> <p>The movement to the new delivery model has implemented a better collaborative approach across the organisation this is not a change due to the regulator escalator but has been in place for the last two years.</p>	3	<p>There have been no process changes made by the region due to being placed on the Regulatory Escalator. The region have increased the frequency of delivery partner meetings to monitor progress and further promote the need to meet compliance window.</p> <p>The region have improved internal communication, particularly with management to improve collaboration and meet the challenge access constraints pose.</p> <p>It has placed a renewed perspective on the team developing their understanding of what internal delivery teams can actually deliver and what the resource profiles need to look like.</p> <p>The placement on the regulatory escalator has brought renewed awareness of the lack of compliance for structure examinations across the business.</p>	
Constraints 1		Given your level of non-compliance what constraints across the process are causing this and to what degree are the types of constraint impacting on the non-compliance e.g., financial, staffing (numbers and competence / training), contractual, site accessibility/possession (including reliance on others for access), planning, information systems, fluctuations of inspection work bank volumes etc?		<p>Resources are seen as the biggest constraint both with regards to undertaking and evaluating examinations.</p> <p>For Visual Examination the region currently does not the capability to meet the needs of the programme of works and hence has to use contractors and artisans to ensure the programme can be managed. It is anticipated that they will reach target capability for STE4s by Y4 P12/13.</p> <p>STE2 compliance within the internal delivery team is undertaking training programme, all vacancies have been filled which include those being trained to reach the required level.</p> <p>Suppliers are currently being supported by the CAM contractors t ensure they have sufficient capability on the STE04 level.</p> <p>Site access continues to have its complexities with the Track Worker Safety Programme, cancellations/failed access and other.</p> 		<p>Reduction in redzone working initially had issues but these have been addressed. The region outlined that access is not a problem but there are challenges particularly around metropolitan areas where significant challenges are faced. These should be tackled positively with the need to find innovative solutions to gain access.</p> <p>Eastern have developed a class of examiners called Artisans who are specific to the region and undertake buildings structures examination but will have the capability to be deployed on structures examinations. This will be used to bolster the available internal delivery team. From a finance perspective they are already budgeted for and will be re-deployed where needed.</p> <p>While lack of competent staff to undertake examinations is still an issue the budget for them is being used on contingency suppliers. This is a budget offset rather than an additional cost.</p> <p>The region have flexibility within in contracts to remove work from delivery partners and undertake them in house which would be offset by the reduction in supplier costs. If delivery partners are underdelivering this is a direct reduction in fees as they are paid on the completion of examination not upfront.</p> <p>Resourcing constraints were present during the transition due to the age of the existing work force with some retiring reducing the number that went through the TUPE process, medical issues that reduce the workload examiner and issues with the TUPE pensions negotiation for staff transferring.</p> <p>IT systems not a strength of the organisation and bringing onboard new systems will have its issues but these will be addressed. Currently there are multiple interfaces that need to be managed which has its complications.</p>	<p>The following constraints were identified by the internal delivery team:</p> <ul style="list-style-type: none"> Examiner resources are a huge constraint Access to site to undertake an examination On site failures, failure when attending site, is due to signalling work load and safe access on arrival Previously there were internal constraints due to silo thinking which the new contract has alleviated <p>8-11 weeks for the re planning the VE and for Detailed around 16 weeks.</p>	2	<p>Resourcing is a major concern for the region with both their internal and external delivery team lacking the appropriate resource to meet the examination requirements.</p> <p>The region were proactive in trying to mitigate this issue by ensure that CAM suppliers could perform the STE04 role prior to contact change.</p> <p>Though the region did not highlight access as a constraint the internal delivery partner did state that access can be a problem when relating to on site failures which impact on compliance.</p> <p>Resourcing was discussed at length and the point made that the issue is a national one but that having the appropriate amount of resource will reduce noncompliance drastically.</p> <p>The region are very proactive in their management of these constraints and striving to mitigate them as best as possible. However, the impact of the identified contrast is having a significant impact on the ability of the region to meet compliance targets at this time. See Constraints 5 on the impact of the mitigations being put in place by the region.</p>	

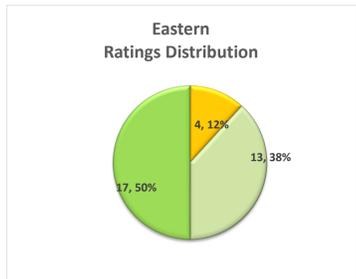
7	Constraints 2	What are the levels of cancellation of examination activities due to lack of resources or access constraints?	<p>E009 & E007</p> <p>Provided at follow up: Over the duration of the year to date the region have experienced 704 on site failures as a result of the following categories: Track Access, Other Access, safety, Enabling works, Data, Planning, Resource and Plant.</p> <p>EREC contractors have experienced 704 on site failures, which may or may not have led to non compliance. Of total this on site failure for delivery partners access issues account for 40% (280) and resourcing 23%(164)</p> <p>Ownership of these failures lies with EREC contracts as a whole but 25% of all failures relate to network rail owned track access failures and 8% due to other access. As expected Resourcing failure lies predominantly with suppliers.</p> <table border="1"> <thead> <tr> <th>By Owner</th> <th>NWR</th> <th>EREC Contractor</th> <th>Neutral</th> </tr> </thead> <tbody> <tr> <td></td> <td>251</td> <td>428</td> <td>25</td> </tr> <tr> <td></td> <td>36%</td> <td>61%</td> <td>4%</td> </tr> </tbody> </table>	By Owner	NWR	EREC Contractor	Neutral		251	428	25		36%	61%	4%	 <table border="1"> <thead> <tr> <th></th> <th>Network Rail</th> <th>EREC Contr.</th> <th>Neutral</th> </tr> </thead> <tbody> <tr> <td>Track Access</td> <td>23%</td> <td>2%</td> <td>0%</td> </tr> <tr> <td>Other Access</td> <td>0%</td> <td>4%</td> <td>1%</td> </tr> <tr> <td>Safety</td> <td>0%</td> <td>2%</td> <td>3%</td> </tr> <tr> <td>Enabling Works</td> <td>0%</td> <td>0%</td> <td>0%</td> </tr> <tr> <td>Data</td> <td>1%</td> <td>0%</td> <td>0%</td> </tr> <tr> <td>Planning</td> <td>0%</td> <td>13%</td> <td>0%</td> </tr> <tr> <td>Resource</td> <td>0%</td> <td>23%</td> <td>0%</td> </tr> <tr> <td>Plant</td> <td>0%</td> <td>3%</td> <td>0%</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th></th> <th>Network Rail</th> <th>EREC Contr.</th> <th>Neutral</th> </tr> </thead> <tbody> <tr> <td>Track Access</td> <td>175</td> <td>17</td> <td>0</td> </tr> <tr> <td>Other Access</td> <td>57</td> <td>26</td> <td>5</td> </tr> <tr> <td>Safety</td> <td>2</td> <td>14</td> <td>18</td> </tr> <tr> <td>Enabling Works</td> <td>0</td> <td>39</td> <td>0</td> </tr> <tr> <td>Data</td> <td>10</td> <td>58</td> <td>0</td> </tr> <tr> <td>Planning</td> <td>3</td> <td>91</td> <td>0</td> </tr> <tr> <td>Resource</td> <td>3</td> <td>160</td> <td>1</td> </tr> <tr> <td>Plant</td> <td>1</td> <td>23</td> <td>1</td> </tr> </tbody> </table>		Network Rail	EREC Contr.	Neutral	Track Access	23%	2%	0%	Other Access	0%	4%	1%	Safety	0%	2%	3%	Enabling Works	0%	0%	0%	Data	1%	0%	0%	Planning	0%	13%	0%	Resource	0%	23%	0%	Plant	0%	3%	0%		Network Rail	EREC Contr.	Neutral	Track Access	175	17	0	Other Access	57	26	5	Safety	2	14	18	Enabling Works	0	39	0	Data	10	58	0	Planning	3	91	0	Resource	3	160	1	Plant	1	23	1	<p>The internal team have provided a slide pack a slide pack is provided each month by Kim but internal reporting is undertaken on a weekly basis to understand the state and cause of failures.</p> <p>Track access issues have resulted in 223/530 failures experience by the internal team (42%)</p>	2	<p>On site failure is where the examinations could not be undertaken on the originally planned date. As a result the examination may be cancelled in advance or on the intended date. Mitigation for early identified site failures include replanning which may not fall within the maximum site tolerance (dictated by CIV/006) of the compliance period due to the processes involved.</p> <p>There are 704 cumulative instances of onsite failure of which 251 are allocated as Network Rail Failures (these are caused by the absence of Access/Safety critical staff/signaller workload), and the classed as due to EREC Contractors. Of this total, 40% are attributed to Access (track and other).</p> <p>Resourcing issues account for 23% (3 instance NR owned, and 160 instance EREC owned)</p> <p>The internal delivery team have experienced to date 530 (2.5%) on site failures with 42% (223) be caused by track access. With only circa 1.05% of examiners being affected by track access it can be considered that access is driving non compliance within the visual examination bank.</p> <p>The data reflects the commentary from the region that Access and Resourcing are the key levers of site non-compliance within the EREC contract. External failures affect around 20% of the</p>	
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Data	1%	0%	0%																																																																																									
Planning	0%	13%	0%																																																																																									
Resource	0%	23%	0%																																																																																									
Plant	0%	3%	0%																																																																																									
	Network Rail	EREC Contr.	Neutral																																																																																									
Track Access	175	17	0																																																																																									
Other Access	57	26	5																																																																																									
Safety	2	14	18																																																																																									
Enabling Works	0	39	0																																																																																									
Data	10	58	0																																																																																									
Planning	3	91	0																																																																																									
Resource	3	160	1																																																																																									
Plant	1	23	1																																																																																									
8	Constraints 3	How do the identified constraints affect the different asset types across your portfolio and how is this managed		Breakdown of cancellations across asset type.	Aligns with area were track access is tricky and the conflict between different assets.	Constraints don't really effect specific asset type but across the board. There are trends within the bridges with access constraints being the major issue.	4	<p>The team highlighted that bridges tend to have more access constraint due to the nature having to interact with other infrastructure owners.</p>																																																																																				
9	Constraints 4	To what extent are resources for examinations shared nationally			<p>In house delivery teams are flexible within the region but not nationally.</p> <p>Delivery teams do flex within regions that as they see fit but the regular meetings are used to understand that that the anticipated resource that the region requires are dedicated to the region. The region have a glide path to show the anticipated level of resource to meet workbank needs which is being monitored.</p> <p>Historic lack of submission compliance due to STE2s working nationally and not being appropriately resourced and the process of moving them around was not done at a sustainable level.</p> <p>The TUPE process outline the number of roles that Amey believed that would be required to meet the demands of the work bank was felt by the region to not be the right level of resource and will require more. The hope is that by having individual contracts for regions this will change, with dedicated resource being maintained.</p>	<p>The internal delivery team are split into two teams to deliver the north and south workbank with the goal of having 14STE examiners within each region. The team currently has 14 STE4 across the entire region.</p> <p>Cross broader working around north and south eastern, as examiner have knowledge of the areas they live in. Focus has been around the workbank. CAM is already part of the works delivery for the north which they have been able to utilise them. It is a KPI for delivery partners to report the number of examines.</p> <p>Communication between the works delivery teams across the country.</p> <p>EREC contractors may utilise resources across different regions but as a region we are working with them to make sure that they are actually working on eastern exams. It is a key KPI of contracts and directly links to compliance.</p>	4	<p>The region does not share resources outside of its self and is divided into northern and southern routes who operate independently. These internal resources may move between the two areas depending on need and location.</p> <p>EREC contractors can deploy resources as they see fit but must ensure the needs of the region are met. The region have weekly meetings to discuss with the EREC suppliers where examiners are working and that they are providing sufficient resource.</p> <p>It is assumed by the region that STE02 are shared at more national level given their short supply and that there work can be conducted remotely.</p>																																																																																				
10	Constraints 5	What do you believe could be done to reduce the impacts of the identified constraints		<p>Training and resources are needed across the region and generally nationally to meet the demands of the work banks. As part of this understanding the technical skills that are required to perform a role and the associated qualifications. KK outlined the desire to provide careers to people being trained, this is outline in the technical spec supporting the EREC. Desire is to have STE4s having Engtech status which will support the quality of reports being produced. This process is being applied across both delivery partners and the internal delivery team. What to show career path for examiner and where an individual can go rather than just undertaking an exam and that being the goal of the role rather than the holistic management of the asset base.</p> <p>Addressing the logistical challenge of undertaking the examination work bank is the greatest challenge rather than the quality of the engineering output of the exam to support asset management decision making, need to look to the works delivery team to support this process.</p> <p>The new CES tool will allow the upload of imagines, raw data, planning constraint data, access data which will be support in development work banks and provide robustness to these sticking to workbank plans and delivery requirements. With track access reducing the recording of access data supports with CDM compliance and will support the development of future access plans.</p>	<p>Wider expansion of the Centre of Excellence for planning in the north (currently operates on the CEFA contact) that can sit as part of the overall eastern northern delivery team not just specific to the examination team.</p> <p>Increasing the resource base that is available through training schemes and recruitment will allow us to build the right resource profiles within the internal team, and ensure that EREC meet their obligations.</p> <p>Need to develop training schemes that ensure examiners are producing the quality of reports that we need to manage the network and which are UpToDate to reflect the current ways of working. Any training programme needs to be applicable to both internal and external delivery teams to ensure consistency and brings suppliers on the same journey and generates by in.</p>	4	<p>The region have clear resourcing plan for the training of internal team. VE non-compliance is their biggest issue. They have developed glide paths to monitor training and increase capability. They have a clear goal for ensuring that STE04 examiners have a career path available to them and a desire to training them to be EngTec level which they believe will ensure competency and quality of examination.</p> <p>The region see the deployment of the CES tool as a supporting in delivering higher quality reporting which was an issue under the old contracts and one that is not addressed by the standard.</p>																																																																																					
11	Behaviour 1	To what extent does the relationship with external contractors or an internal delivery organisation, as appropriate, associated with the structures' examination process impact on the level of non-compliance	<p>Both Internal and External delivery teams are undertaking training and hiring programmes for STE2/4/6.</p> <p>The work bank is split 50/50 but a 10% flex in the workbank has been put in place to allow incentivisation between the two organisations.</p>	<p>How are you managing the submission of site examinations given the growth seen in Y3.</p> <p>What do you mean by target nature of the contract?</p>	<p>CEFA was not a pragmatic process.</p> <p>The new contract places a lot more emphasis developing a collaborative framework that looks at both the strategic and tactical aspect of delivery the work bank. Monthly tactical meetings and 1/4 strategy meetings are part of the framework to ensure continuous improvement.</p> <p>This improves the relationship and line of sight around delivery of examinations and management of the asset. x</p> <p>Relationship is key and having the internal team has everyone in the same office working to refine process, such as TQ, to share learning and ways of working at even a structure specific level.</p> <p>External teams are looking at more complex exams and allows the partners to be more specific about the types o question they are asking and the focus of meetings to support all parties.</p>	<p>Taken time to build the relationship after the movement of the contracts and we did not know who was moving across with TUPE until day one. The TUPE process has enabled the relationships to be built quite quickly with different organisations and given that a number of staff moved to the current suppliers. This is particularly the case in the leadership team in the North, biggest hurdle is getting peoples mindsets out of how they operated under CEFA and to embrace a continual Improvement ethos and ways of working.</p> <p>Developing an open and mature relationship that allows delivery teams to can come and realise issues/concerns and work with internal teams to collaboratively to solve them.</p> <p>Project management teams and technical team can push the continues improvement and try to drive change in the ways of working. We are working to-do this through the regular progress meetings. We don't want the old habits to be transferred and working hard to challenge the quality that is submitted under the new technical specification.</p> <p>Technical specification holds requirements for finite volume of training and development of examiners to move towards professional qualification. This is the goal for all examiners.</p>	3	<p>It is critical to develop a good working relationship given the scale of the task for each year. The region firmly believe that the movement to an in house delivery team for visual examinations has broken down silos and allowed for more ownership of the examination process by examiners. Working with an in house team speeds up the process for answering any technical question of issues.</p> <p>The region are looking to ensure that the contract delivery is approached in a collaborative manner with external delivery partners. This allows the region to drive both compliance and quality of output from them.</p> <p>The new contract places a lot more emphasis on developing a framework that looks at both the strategic and tactical aspect of delivering the workbank. Monthly tactical meetings and 1/4 strategy meetings are part of the framework to ensure continuous improvement.</p>																																																																																				
12	Behaviour 2	Within the organisation how much of a priority are structures examinations (do other disciplines understand the importance of structures examinations as a safety critical activity)			<p>Under PPF, new contract model, the region have more visibility of the of examination non compliance present across both the VE and DE workbank. Under the old model there was less visibility with non compliance only being reported to one director on the exec. The reports are now circulated to each of the regions route infrastructure directors this has added to the scrutiny that the state of non compliance is place under. They are responsible for the risk posed to each route. However, the team state that this offers up opportunities to develop new ideas and innovation that support the goal of compliance.</p> <p>Increase now in the importance perceived by other asset groups and owners of the importance of structure examinations. The weekly director run visualisation sessions now include structure examination compliance next track examination compliance. Provides opportunity for collaboration and new ideas between different asset owners.</p> <p>Rob McIntosh (Regional MD) was the chair of the CEFA Committee which received half yearly reports on the progress made against compliance and delivery.</p>	<p>Within the team there is a desire and drive to achieve compliance and an appetite to succeed in this endeavour, there is a common goal to achieve this. We have good leadership across the team at all stages with clear consistent misgaging as to what we aim to achieve.</p> <p>End of CEFA and the new contract has brought us together as a team and achieving the goals that we have set ourselves. This has led to an ethos of continual improvement across works delivery and asset management. We are able to constructively challenge each others thinking to address issues and come to an agreed position and way forward.</p> <p>There leadership has guiding philosophy of the need to understand what is best for the railways and engage with colleagues to solve problems and provide guidance to ensure that objectives are met. Don't feel like there is a divide between leadership and the team that</p>	3	<p>The placement on the regulatory escalator has increased the awareness and priority of structure examination, perceived by other asset groups and owners. Examination are reported as part of the weekly directors report now includes structure examination compliance next track examination compliance.</p> <p>The region believe that non compliance and risk posed from this receive an appropriate level attention within the business.</p>																																																																																				

13	Behaviour 3	What role does the leadership team in your organisation play in monitoring and directing action to reduce non-compliance?				<p>half yearly reports on the progress made against compliance and delivery. Subsequently within the region they are supported by him to move toward compliance. His view is they need to go through this period of turbulence to develop better processes and product, though this has to be done with patience.</p> <p>Report to the DEAM (Andrew Murry) get weekly tactical reports to highlight progress against compliance and training targets.</p> <p>Believe that the non compliance and risk posed from this receive an appropriate level attention within the business.</p> <p>Region have a good working relationship with the TA and particularly the professional heads Ben Wilkinson and Chris Tolbert. The TA have a limited influence at regional level due to devolution. However, eastern has created a TA within the region in the Chief Engineer team who act as a level two assurance, expert independent resource to support the Asset Management team in working day to day and provide a strategic advice.</p> <p>The regional technical authority support the team to coordinate and manage technical innovation with the region. This provides a dedicated resource who focus on delivering technically sound methodologies to support the regions engineers and delivery teams.</p>	<p>Don't feel like there is a shared responsibility between them and they are all in it together to achieve the goal.</p> <p>Have moved the cam supplier exams out of the works delivery team and into the specific Kim. Take the control back to get hold of the submitted examiners.</p> <p>CAM framework has specific work streams to ensure there is capacity in the region to deliver volume of work.</p>	3	<p>The region reports monitoring of compliance across different levels within the regional leadership teams. Weekly monitoring reports for each of the route directors provide a statement of the non compliance on a weekly basis. The region report to their DEAM though a weekly tactical report to outline the compliance position.</p> <p>Within the region they have developed a technical authority who act as leaders within the region who provide technical leadership and support with the central Technical authority</p> <p>The region have demonstrated that the leadership are engaged with the monitoring process. They are there to support the region in achieving non compliance but are not actively engaged in driving action to reduce it.</p>	
14	Behaviour 4	To what extent is the level of non-compliance reported within the organisation, what KPIs are used to track compliance, and how do these link to any incentives			<p>How are you linking and monitoring the incentivisation of the 10%flex.</p>	<p>Performance is measured through work delivery teams for both the internal and external suppliers. For external suppliers this year we will not be imposing any restriction but have the data, this is due to the turbulence caused by the contractual change and feel like this would not build a good relationship.</p> <p>It is there to incentivise the delivery partners that high performance can be rewarded. It is not been put in place to act as a punishment but will be used to reduce workbank if partners cant perform due to the required workbank targets'</p> <p>Contractual KPI manage the performance of our delivery teams.</p> <p>Alongside this internal kpis which are reported against each week to measure against our glide path forecasts these are reviewed with the delivery partners.</p>		4	<p>The region report both internal and external performance on a weekly basis and meet with delivery teams to understand how they are performing and support on any technical queries. Weekly reporting against the glide paths is undertaken, the recovery report shows progress against these glide paths since they were developed in summer 2021.</p> <p>External delivery teams report compliance as a KPI, this informs part of the regions ongoing assessment as to the level of work that will be issued to a supplier. A 10% flex is built into the contract which allows regions to reduce a suppliers work by up to 10% or increase it by 10% depending on performance. This approach retains oversight and contractual flexibility for the region to incentivise suppliers and drive competition.</p>	
15	Behaviour 5	To what extent is non-compliance accepted as the norm in the organisation?				<p>Absolutely don't want to have a perception that Non Compliance is accepted or tolerated within the region. We support and are part of teams that have developed standards and therefore our aspiration is to adhere entirely to them as we believe they are appropriate. From an assurance perspective we have to question as to if yearly examination are the right approach manage risk though the goal of the team is to achieve this and be compliant to the standard. We have already spoke about (Context 3) our view of what approach could be taken in the future for VEs.</p> <p>The number of constraints, the scale of the region and scope of the workbank make achieving the standard an extremely difficult proposition and one we are currently unlikely to meet but are striving to achieve a compliance position of 10%. This factor is based on current arrangements but could go either way with technology, REB approach to VEs and improving efficiency but unless training and track access challenges are met this could go the other way.</p>	<p>The goal and drive of the team is to ensure programme compliance.</p> <p>However, there is non compliance built into the workbank to ensure they are achievable. Suppliers want to be compliant to showcase what they can do and that are delivering against contracts requirements to be awarded extended contracts available and win more work.</p>	4	<p>The regional team and internal delivery teams are both striving to achieve the compliance.</p> <p>There is no acceptance of the non compliance and as the writers' and developers of the standards and their aspiration is to adhere to them. The Region believe it is more a question of assurance to question the appropriateness of yearly examination</p> <p>Given the constraint the region is experiencing at this time achieving compliance is a challenge.</p> <p>The evidence presented by the region highlights a culture of improvement and drive to achieve compliance, though they are not achieving compliance they are not accepting of it.</p>	suggestion around what is tolerable
16	Behaviour 6	What impact has the TUPE transfer of staff had on delivery and behaviour?	<p>The region highlight that with the quick change between the two contracts, there were issues with onboarding of staff that TUPEd across from the incumbent organisations. The region note that there were issues with a number of staff not moving across from incumbent organisations that expected.</p> <p>Note that bridgeway were expecting 5 STE2 and getting 0 and 22 STE4 and getting 12/</p>	<p>What were the complexities of the TUPE process.</p> <p>Has the TUPE process changed the behaviour seen in delivery patterns and the new in house delivery team?</p>	<p>Those that transitioned into network rail (geo and str) is that as part of the process has been that they now feel part of the process. prior to this they felt nothing was happening, i.e. they would report a defect and nothing would be done to arrest it. They did not understand that were feeding into a constrained work bank that was risk managed. They feel now that they are contributing to the system and not just submitting a report which ends up in a post box. They examiners now understand why they are import to the system and the role that they play in the overall system.</p> <p>This feedback has encouraged the regional team to share feedback with the external delivery teams moving forward to highlight how the outputs of their inputs are actioned.</p> <p>The region were commended by the examiners and unions for the handling of the process.</p>	<p>Is allowing us to train the staff to the level that we want. As part of this they will look to achieve Engtech level. This will over the longer term impact on the quality and accuracy of examinations</p> <p>Internal TUPE transfers have more ownership of the work and understand the bigger picture.</p>	3	<p>The Tupe process has had a significant impact on the state of non compliance within the region.</p> <p>Suppliers were unclear as to who would be transition over to them till quite late in the process and consequently they were unable to start delivering as soon as the contracts came into place. The region were aware that this was going to be the case and put in place mitigation with CAM suppliers being primed and issued with workbank to ensure delivery of examinations.</p> <p>Having an in house delivery team has improved the ownership that examiners feel they have. The region have highlighted how the examination process feeds into the development of the workbank and the wider systems that manage the asset base. Though this in house team is under resource and requires doubling to meet the needs of the work bank.</p>		
17	Delivery 1	How has the future plan for delivery of examinations been developed and what is the evidence basis to ensure the future examination plan is achievable e.g. milestones, tracking delivery, resource allocation?	<p>The model from S3, shows their model based on complexity and amount of examinations required. They have pushed back their normal P+R process because... but intend to implement streamlined process for Year 4. Workbank is circulated 6-10months before financial year.</p>	<p>Are there goals towards future delivery? Will it be tracked in the same ways before? What is the streamlined process for PR. When was the workbank circulated? How have the constraints mentioned featured in the delivery plan and recognised? Mitigation against these? Work bank stability a from deliverers how will this be mitigated</p>	<p>Lessons learned, strengths and weaknesses derived from the procurement advice</p> <p>Ensure competition and relationships with examiners to improve asset information</p> <p>Workbank based on historic assets information, based on tracking of defects, quality levels, delivery profiles.</p> <p>Looked at resources to decide what the incumbent role was and evaluating delivery modules in other regions along with external contractors and how resource and outsourcing employees should be decided.</p> <p>Contingency plan of two suppliers to ensure delivery organisations can fulfil workbank.</p> <p>CEFA Contract allows contingency and ability to utilise STE4 Resource to perform workbank efficiency in detailed examinations or bolster others. This follows a similar approach in the EREC framework</p> <p>CAM - Civil Asset Management Framework to bolster workbank also, but this isn't a preferred methodology of working to deliver strategy</p> <p>Insourcing team can deliver visual and detailed exams.</p> <p>LL to ensure that we publish the workbank in good time and is ensure that workbank are delivered and then frozen to ensure delivery organisations can deliver without delivery the core out put of the delivery teams.</p> <p>8-10 months isn't always followed. As the workbank freezes. Approached in sending out workbank when it is complete. Systems don't aid the ease of process. Aim to continually renew and refresh asset register data. Workbank are supplied as early as possible. If the asset count is incorrect and the workbank is froze eastern do not disrupt the plan but resource to other resources on the small change. Aim to not change workbank due to difficulty in access arrangements</p> <p>also, what to look at freezing the compliance dates and planning them to look at line of route approaches.</p>	<p>P and R Process- Compliance Team give delivery team a draft task list with required dates and tolerance dates and review dates. This list gets divided and provided to the inhouse delivery team.</p> <p>Tolerance windows (provided by compliance team) are examined to determine the delivery against the baseline of the programme for the annual task list.</p> <p>The plan for year four is based on what is currently achievable and what we are aiming to achieve with new resources are available. For example the artisans becoming STE4 trainees.</p> <p>For year four the workbank is split into two programmes of six months. CAM Suppliers will be issued with work for the first six months and then following this start to be phased out. We are using line of route methods for the planning and delivery of CAM visual examinations under the drainage contract to localise and focus them at specific locations. This will not be the plan for the future but gives us flexibility to direct internal resource at other VE types. The six months will give the flexibility to train examiners. This provides a pragmatic 6 month (6 period) buffer within the plan to meet targets. They can be phased out as our internal numbers grow to deliver the workbank as prescribed by the compliance team.</p> <p>For in house visuals works delivery managers are examining Y4 and reviewing it period by period to see which VEs can be completed from a position of safety and programme these for when they come within the tolerance window. This could be P11/P12 of y3. The rest are being sent to the planning team to arrange access where needed for Y3 and Y4 exams that cant be done from a position of safety.</p>	4	<p>Future delivery Plan is evidently based on historical programme and its associated strengths and weaknesses. Contingency plans for resources have been developed to ensure the future workbank can be delivered. This is provided through the CEFA Contract and the CAM Framework for Year 4's Planning and Robustness Process, providing flexibility in resource. A final method is to train examiners to prepare for latter 6 months of year 4 workbank. The workbank is provided in advance and frozen to ensure the delivery teams can plan ahead without vulnerability to changes.</p>		
18	Delivery 2	What assumptions have been made in the development of the delivery plan in terms of resources and other identified constraints including booked access arrangements?	<p>E001 External contractors Assumed for visual there will be a 5% increase in run rates and resource units. Additional work can be issued to external suppliers. For detailed, recruitment will increase for Xelad and Bridgeway</p>	<p>How is it intended that these run rates and recruitments will occur? If additional work is supplied to external contractors, will they have the resources to cope with this? How will they ensure constraints wont affect them.</p>	<p>High complexity, low volume activities were outsourced to XD and Bridgeway and it was unclear as to what the TUPE numbers that would be coming over. Ensured contingency. Without the contingency provided (CAM etc), the non-compliance undoubtedly would have been worse. Under resourced so more work than expected was sourced to CAM.</p> <p>Initially were unappreciative of track access and safety requirements, but have since accommodated for it.</p>	<p>Y3 has shown that we can undertake thousands of exams from a position of safety and still produced quality compliant examiners (VE). These exams are supplemented with the use of technology. Inhouse delivery team only doing position of safety and have achieved their workbank.</p>	3	<p>From a historical position, the TUPE arrangements and resource to be inherited was ambiguous. Hence, to mitigate, training and resource run rates will be increased over time. Track access and safety requirements have been accommodated for.</p>		

19	Delivery 3	How does the type of asset (e.g. bridge, culverts, retaining walls etc.) affect examination process priorities			How does the risk based approach taken impact individual asset types?	Visual is planned against the birthdate and by volume but can be prioritised if there is an issue. For DEs it is RBE and what the priorities. Where the structure is more sensitive, it can be prioritised. Improvements in automation and visibility to insource and external contractors. Focuses on Concerns around compliance rather than asset type. E.G. Risk review RAG of the Tenanted Arches. Visibility is offered to deliverers so they can prioritise their workbank Supplier declaration on failures relates to Field access process managed within the EREC programme which can be covered in the final session .	Prioritisation of visual examinations that can be conducted from a position of safety given the with lower resources available in Y4 in the in house team. With CAM suppliers supporting the delivery of....	4	Priority is not based on asset type. However, visuals are planned against their birthdate. Despite this, there is an increasing shift to prioritise these examinations from a position of safety and potential to reset the birth date for a more efficient delivery programme. Prioritisation is based on compliance and the timing of tolerance window opening as opposed to asset type. To ensure delivery teams can prioritise assets appropriately, visual visibility is provided and a risk review (RAG) is utilised on certain asset types (tenanted arches)
20	Delivery 4	What is the anticipated result of the plan in terms of the outcome of a reduction in non-compliance, and how will this be monitored and reported			How is monitoring of non compliance undertaken and reported internally in NR? Is monitoring going to be split by asset type?	Slide paths are main monitoring and reporting method. Keeping ourselves monitored against the baseline in weekly reporting. Actuals and forecasts will change but maintain visibility of original baseline. Weekly business reviews to track the future maintained sustainable position after recovery. Streamlined process in P+R. Work bank smoothing: In detailed, there isn't much change in efficiency due to the 6 yearly frequency. With visual, if RBE was not included, there would be efficient process in examination by line of route. Scattered exams due to CARRS system. Freeze compliance profile in CARRS, optimal scenario of line of route examinations. Data transition from tolerances and calculates how to transition to a lean model. Benefits on compliance planning, resource utilization, quality and understanding line of route. Safe and effective working - we are aiming to implement line of route process to group assets and undertake examinations. This will allow for longer term or guaranteed block booking of access on a repeatable patterns which allow for work bank smoothing and management of the compliance position as we will have guarantee access to site. As part of this process there will be times when assets may be non compliant either early or late. An analytical data investigation exercise is currently being undertaken to assess both the grouping of assets and impact on compliance.	Our by undertaking line of route examinations against birthdates of assets will allow us to start to pre plan access, i.e. plan access out for the same time for multiple years into the future this will mitigate our constraint of getting access. Can only apply this approach when non compliance issues faced now are resolved. Working towards this approach will allow us to start to issue work banks further in advance to internal and external teams. Part of the process of moving to group assets for examinations using a line of route approach means that examinations are being planned before the tolerance window is opens, when this occurs we need to communicate but if we are shifting things using the tolerance windows then as we are compliant no need to inform ORR.	4	Future compliance will continue to be monitored by glide paths. Intend to monitor via weekly reports and following recovery weekly business reviews will be conducted. Non compliance is expected to decrease with increased resource and the streamlined Planning and Robust Process for year 4, which will entail of using CAM resources until a comfortable Noncompliance position is reached. Eastern Region are also looking to establish a long term plan to freezing the compliance profile in CARRS and undertake a data advance transition to a lean model for efficiency following line of route opposed to the CARRS System.
21	Impact 1	How does the current level of non-compliance affect day-to-day operations			What is the impact on Train Services if not what is the primary impact.	Since CP5 we have been looking to understand the route cause of wrong side failures or service affecting failures and to date non of these have been because of examination timing compliance. We have experienced during CEFA that the quality of the outputs from DEs did lead to issues to with falling material or ballast. We defects not being identified in an examination.	Goal is to try and keep to the plan and not to react to every time something goes non compliant. If additional are missed or go non compliant then we prioritise these and ensure they are undertaken. For VE and DE if they become non compliant we work with the delivery teams to understand when it can be undertaken. If it is going to be delayed by a significant time period then we work with the asset engineers to understand the risk (RAG) associated and build a programme to establish when each one should be done. This ensures we take a collaborate approach with suppliers to fit with existing plans rather than re doing the plan every time something gets cancelled.	4	The region stated that non compliance does not effect the day to day operation of the network with regards to train services. The region outlined that wrong side failures have not occurred due to non compliance but rather due to quality of examinations with defects not being identified.
22	Impact 2	To what extent has the lack of examination input affected your ability to build a reliable maintenance and renewal workbank			How does this affect your P&R process with such a large scale of non compliance.	Reality is that we have adopted an evaluation process to build functional team to evaluate assets. Visual exams don't lead to the planning of long term capex decisions but they do impact on some of the minor works, vegetation removal, vandalism. This is a backlog on the workbank of these minor works. We have adopted an end of life management process to maintain our assets so not having a detailed within the time tolerance period has minimal impact of the development of an workbank as activities may not be planned for several control periods.		3	The regional provided evidence to show that the renewal workbank is not built from the visual examination data but that they can lead to minor works an opex decisions. Non compliance can effect minor works such as vegetation removal, vandalism and basic maintenance. The region outlined an end of life management process to maintain assets, hence the time tolerance periods for detailed have limited impact on the planning of renewal works. Renewal workbank are planned for several control periods in advance so there is limited impact from non compliance.
23	Impact 3	What do you believe to be the risk profile to 'day to day' operations caused by the level of non-compliance in terms of the uncertainty regarding structures' condition across the network				Non compliance does not lead to an increase in the day to risk profile of the network. Work done by the TA regarding the TNC shows this and hence increasing the tolerances was approved. The work to understated the appropriateness of yearly visual examinations will look at how the risk changes from undertaking yearly to bi annual exams regarding individual assets to implement RBE of the from a visual perspective.		4	The region evidenced that they did not believe that non compliance lead to any increase in the risk profile. This is supported by the work undertaken by the Technical Authority in developing the requirements for the TNC. The investigation into the appropriateness of yearly visual examination will look at determining the underlying risk changes associated with compliance dates.
24	Impact 4	What subsequent action is taken by your organisation when following the process in Figure 1 of NR/L3/CIV/006 leading to the requirement to carry out a risk assessment in accordance with NR/L3/CIV/0021?				Dedicated compliance teams shows the status of the examination for a structure, when we go over the compliance dates. The asset management team then go through the risk assessment process as per the standard to manage the risk until such time that an examination is completed and the information submitted for sign off. During the period where we had outstanding risk assessments we developed a process that allowed us to risk assess the highest risk assets and mitigations able to be put in place. The CES system will enable where the STE02 will be implanted in full unlike the current national system.		4	The region operate a dedicated compliance team to manage the status of the examination for a structures, when one goes over the compliance dates. The asset management team then go through the risk assessment process as per the standard to manage the risk until such time that an examination is completed and the information submitted for sign off. The region have implement a process for the review and sign off as risk assessments to ensure high risk assets are signed off first.
25	Impact 5	What do you believe is the safety impact of any structures' examination non-compliance?				There is no impact of regarding the safety of the asset due to non compliance of examinations. This is particularly the case for VE, while the risk based nature of DE manages the safety risk appropriately.		4	The region believe that there is no impact regarding the safety of the asset due to non compliance of examinations. This is particularly the case for VE, while the risk based nature of DE manages the safety risk appropriately.
26	Technology 1	What is your organisation's vision for the use and benefits from the application of technology in this area?			How do you see the use of these technology's supporting non compliance.	Technology is seen as key to improving the efficiency of the process and also improving the quality of the examinations to better manage assets. For the internal delivery team the key introduction is Polestar. The system has been brought over from NWC and allow examiners to capture information on site and then submit the exam right to STE2. In the Project Management team it allows us to run reports real time to understand the real time position of compliance. The latest version is live on site at the moment and is working really well. This will support the quality of exams being provided as the data that sits behind the system mirrors the primary asset data base and the defect tracking will be fed directly back in to CES, though there is not a automatic transfer it has been designed to allow transfer to happen between CES and SES. On site presence/traditional methods are hard to replace given the need for examiners. We have looked to understand what was done in track maintain , how can we use pan cameras, plain line pattern recognition, that used post process to identify defects the nuances associated with structure mand that these systems are directly repeatable. A focus on track access and helping the examiner no replacing the examiner. A trial using camera mounted that gives us a frame by frame look to support the visual exam but we need to stick to the standard and this replaces VEs particularly where being stood in a position of safety to look at an asset is no longer possible.	Technology allows for efficiency and safety improvements to be gained. SES app is predominantly a productive tool to develop a single source of the truth from the planning and delivering work and running reports. We wont be having to-do manual planning within excel spreadsheets, works delivery managers wont have to manually check when reports are submitted or exams undertaken as it will be automatically updated. This will allow the works delivery team to look at other productivity and efficiency improvements, manage complex examinations and ensure compliance CES will enable the asset engineering to manage the asset list which feeds into the workbank and improves planning.	4	The region provided evidence that they will see improvements in efficiency, safety and quality through the use of the technology. Visual technology aids such as pan cameras, drones, etc will act as aids for the visual examiners to develop better quality reporting and monitoring of assets. In line with track worker safety initiatives technology will have the ability to remove people from site and developed better working environments with less working at night. The region evidenced that there could be a reduction in the number of examiners required. This should be approached with caution given the current constraints and the potential impact on industrial relationships. The region have a proactive approach to the use of technology and the benefits it can bring.
27	Technology 2	How is the use of technology built into the examination process and what quantified benefits have been identified from its use (specific, measurable and time-bound benefits)?			How is the impact and benefits of these technology areas being quantified and tracked?	Just partnered with Balfour Beatty and Omnicron they developed PLPR and they are confident that they can test and offer an camera array that would allow for multiple camera angles to capture a view of the asset (day time view front and rear) from the track and over the parapets'. This will supplement all the other information that needs to be collected on site for a VE and allow a complete examination to take place.	Biggest benefit will be the reduction in staff time to manual manage spreadsheets.	3	The benefits of on site technology have not yet been quantified by the region, with regards to efficiency and delivery with the region seeing technology supporting examiners to achieve this. Quality improvements will be delivered by having a more daylight footage of assets though the use of visual aids. While incorporating safety enhancement by reducing the need for having

28	Technology 3	What new technology is being used / trialed by your organisation in this area, what barriers exist and how is technology best practice / experience shared nationally	The recovery plan highlights five areas where technology is being deployed: Automated Intelligent Video Review - HD train borne footage with gaps meta data to replace site attendance. Used across 20% of the Ret Wall asset stock. Structure Examination System - hand held devices which allow submission to be immediate and got to STE2s for inputs. Unmanned Aerial Vehicles - trial has been implemented internal as part of the Panoptic Bridge Management Efforts for DEs using Terrestrial Laser Scanning and machine learning. External delivery teams are now exploring how to implement and deploy for Y4. Underwater Drones - undertaking geophysical scanning to establish parameters and understand scour risk. Intelligent Infrastructure - looking to modernise the asset management approach of the region. The Asset Inventory and Assessment is looking at aligning asset condition with capability.	Are hand held devices really that innovate are used widely in the industry by other asset owners. What is the goal of the Asset Inventory and Assessment programme how are you implementing this and what are the barriers to implementation across the region and business.	By having inhouse examiners we can work with them to trial new technology and work collaboratively to implement new ways of working that are supported by all stakeholders. This process is better supported through having a regional TA who will check the technical endorsement of new ways of working. Technology will allow us to remove people from site which reduces risk to our people, better working environments as less night working, we will have opex benefits as in the longer term we may not need as many people, quality benefits from having data capture during the day and from consistent points. The benefit of better quality examinations will reduce the chance of service affecting failures which have a knock on cost to the business. The AI and AP goals are aimed to improve the had back of data from enhancements to structures and will directly feed into the parameters used to implement an RBE approach for DE. II programme looks at it systems like SES and CES rather than the onsite ways of working	Delivery teams are involved in the trial of SES, we are conducting user testing, a wide variety of individual are involved in this to ensure it is fit for purpose. The EREC contract has a dedicated team trialing the new system to integrate the systems across the different delivery partners. Suppliers are keen to get this working. Delivery partners have to understand how they integrate the new system into their own systems. Especially when they work across their other network rail contracts to ensure applicable. The II team are working to support suppliers in this end our.	4	A significant number of new technologies are being brought on line by the regions, these are both software and hardware based to support compliance and management of assets. Software technologies will support delivery of examinations, management and transfer of examination information. The role out and implementation of Polestar the regions new internal delivery software is being supported by Northwest and Central who have developed the software since their movement to an internal delivery team in CP5. The region are focusing on the development of visual support aids particularly to support the delivery of the visual examination and improve the quality of information that is produced by examinations and improve the understanding of asset condition.	
29	Technology 4	How does the current examination process link to the Network Rail Intelligent Infrastructure transformation			How does you II programme link to the wider network rail II programme.	SES and CES are both supported by II.	3	SES and CES programmes are part of the wider Intelligent Infrastructure programme that network rail are implementing. The region were unaware of any further technological developments being introduced through the II program.	
30	Technology 5	What systems does your organisation use and how are these interconnected in terms of the line of sight from the asset inventory, through the examination process to the outcome in terms of planning maintenance and renewal				There is not a single system that aligns the asset management process, the CARRS database does give strong line of sight from on the ground observations, defect management and asset management. The STE4-2-1 model built into the examination process provides assurance, STE4 provides eyes on the ground and data gathering, STE2s can make professional recommendations without considering the ownership so should provide unbiased view of the OPEX/CAPEX decisions that are required. While STE01 provide operational asset management oversight and decision making for what is best for the customer/network within the constrained environment that network rail operate within. Detailed exams allow for qualitative assessment of the assets which can be applied to look at the whole life of the asset and inform when renewals and maintained are required. To understand the full extent of the regions investment need a bottom up asset management model to be developed to understand the spend required to manage the asset base. Need good quality data to do this and also a change to the approach for renewals planning. At this time the CARRS database does offer the best line of sight to transfer knowledge from examiner to asset managers to allow this process to start to take place and inform workbank development. Whole life cost management team look, at a high level, condition data to model long term implication of investment in assets. This complements the bottom up knowledge to give a robust position on the level intervention funding require. Polestar allows the transfer of information quickly from site to review, while having the team inhouse they are able to look at the whole lifecycle of an asset rather than just a snap shot. CES systems which assist in connecting compliance, allows for multiple delivery partners to access and capture their current ongoing work. It is allowing of the capture planning information and feedback. This can feed into maintenance and renewal planning and examination planning for the future to provide better asset	3	The region have outlined that though there is not one system that aligns the asset management process of transfer of information. The CARRS database does however provide a strong line of sight from the examination process to inform the asset management process. The examination process itself provides line of sight through to the planning of maintenance and renewals activities with examiners providing asset specific recommendations for the management of an asset. While asset engineers (STE01) provide operational asset management oversight and decision making within the constrained environment that Network Rail operate. The region describe that the current process of asset management within a control period does not account for whole life management of assets. By improving the quality of detailed exams the qualitative data provided by the exam informs the maintenance and renewals activities required to manage the asset base. The examination process provides the bottom up data to understand where an asset is within its lifecycle and allow the asset management team to undertake plan renewals and maintained within the context of the lifecycle. Which is fed into CARRS and allows asset engineers to make decisions but currently there is a gap between the systems holding information.	
31	Technology 6	What is the timescale and process for moving any new technologies into BAU?			CES is live, SES in half of the region moving to full, dash mounted AVIE cameras is up an running. CES though not fully function it accepts planning and actual on site data and reporting. Automatic links are being developed by delivery partners automate systems to push data to CES. For year four we hope to have implement this with all delivery partners which will improve the communication of site plans and give a better view of compliance.	User testing for CES is ongoing and need to ensure the product is the right thing to use and works at the time of inception not just at a specific time frame. We would rather delay the start of it to ensure it is fit for purpose to make sure most of the bugs have been fixed. Full trial of SES with one examiner done in the north as part of user testing, feedback is being prepared to fix issues before moving to wider roll out. The current process that is in place works, even if it not the most efficient, and don't want to lose the buying from examiners with systems that don't work. The II Team are supportive of this process.	3	The region have deployed the SES and CES software tools, the regions management teams and internal delivery team were involvement in the development of both systems. For the northern routes a full trial of SES has been undertaken and changes are being implemented following this to fix issues that have arisen though the trial, the region believe that the introduction of technology that has not been fully trialed and tested can lead to a lack of by in from examiners which halts progress. They are there for deploying new software cautious manner to insure it meets business needs and does not inhibit progress towards compliance. The region is pushing and supporting the development of the new technologies but is taking a pragmatic approach to introducing this to insure it fit business needs and reduces the non compliant position	
32	Changes 1	What are the proposed changes to the current examination framework (as a result of both internal and external factors)?			Are not really an changes to the framework but there will be movement away from the CAM and support frameworks who have supported the delivery of examinations during the contract change and while new resources are deployed.	Developing access planning mechanisms and the roll out of the training will improve our non-compliant position. As a team we didn't fully appreciate how long it would take to bring people on board, for instance cars arrived on the in 25th Jan 22 when ordered in May 21 (lease agreements were changed) We needed to get the logistics in place to ensure examiners were given the right equipment, correct training and onboarding. PPE for internal teams took time to delivered as changes to suppliers. As the training scheme timeline becomes more clear we can start to order the required equipment for the integral team so that they can be deployed as soon as possible. We have never had to-do this before so need to develop our process. It is the people side for things that we did not consider which did not help our compliance position. Did not appreciated how hard it would be to get people out on site. This has not really been Covid related.	4	There are no fundamental changes to the framework to the framework being introduced. The current framework utilises CAM suppliers which will be phased out as more resources are available. The regional internal delivery teams have a much better understanding of the logistical challenges they face which will increase the effectiveness of new examiners being trained and deployed.	
33	Changes 2	What are the specific benefits anticipated to accrue from the changes, how will these be measured and to what timescales will they be delivered?			You state that achievement of the recruitment strategy means the delivery model is "bound to succeed". Why is this the case. Specific benefits relate to improving the non compliance and getting down toward the 10% target identified at this time. The quality implements that technology and having more control of examination teams and closer partnerships with delivery organisation will allow for better management of the asset base and reduce risk. Provided at follow up session: Our delivery model is new and needs to be allowed to embed. This remains the priority of the Region. Various technological innovations have been deployed and in the 12 months their impacts on recovery will be determined. In the same vein, we believe that with have enough knowledge to understand the current run rates needed to lower our VE compliance backlog and this is being resourced by our delivery functions. The contract has clear KPIs that measure quality of deliverables and the delivery teams are resourced with commercial managers to manage this. There are CIV28 outcomes which will be used to monitor the improvement Compliance was a key criteria for the new model Competence was a driver which is been proactively mitigated through the work The case for efficiency is also addressed in the new model. Eastern has enjoyed significant cost savings as a result of the in-sourcing model. Training interventions on low risk assets should improve our Regional response and we do not foresee any challenges in its achievement.	Works delivery need to understand what they can and cant deliver. By understanding in more detail through data the output of examiner. These run rates can then be shared with the route engineering teams to understand what the compliance picture may look like and performance against the plan. We don't want to back track on what we have said we would deliver but need to understand what our actual capability is to deliver examinations.	3	The region have outline a plan to reduce their non compliance through the use of improved technologies, new ways of working and an increase in examiner resource both internally and externally. The region have stated that developing their resource base is critical to moving back to a level of historical non compliance or tolerable non compliance. The new contracts allow the region to drive compliance forward by having a move collaborative relationship with suppliers and with the internal delivery team. They can improve the quality of the examinations being submitted which though not tracked was an issue in the past. The EREC contract has clear KPIs that measure quality of deliverables, delivery team resources, development and availability. Dedicated resource manages the contracts to provide commercial oversite and ensure compliance. There is a heavy reliance on the development of new resource to meet the needs of the current standard and achieve non compliance and according failure to deliver this training programme will inhibit the Regions ability to reduce non compliance. It should be noted that any changes to the standard as a result of the tranche work or other such initiatives can't be assessed with regards to the change and development of new process.	changed to 3 need to look at regional evidence.

<p>Changes 3</p>	<p>What is the expected impact of these changes on the current level of non-compliance over time, and how will it impact specific elements or outputs of the examinations process (e.g. quality of reporting etc.)?</p>				<p>Aim is to meet the glide paths for both training resource and reducing non compliance. These do go hand in hand with the unlocking of more resources supporting the improvements compliance we want to achieve.</p> <p>The increase seen in forecasting is due to lack of resource and the time lag between the training programme developing examiners. We expect that we will still carry over a non compliant position into year four but as we introduce new technology, more examiners and have capacity in the system to increase examinations we will arrest this position.</p>		<p>3</p> <p>Improved reporting quality will be entrenched within the region as improvements in technology to support visual examinations, improved ways of working and software are introduced by the region. The movement to an inhouse delivery team and a closer working relationship with external partners and a buy in to a shared vision is allowing the region to drive change and monitor progress more closely.</p> <p>The region are monitoring themselves against the glide paths developed as part of the sustainability and improvement plan issued in December 2021. The glide paths outline how the region will reduce non compliance and increase resource. Evidence was provided to show how the two are interlinked, the glide paths show and increase in non compliance as the training scheme is developed and as staff are trained compliance drops. The region will carry over non compliant position into year four but will move towards a compliant position as the year progress and new initiatives are established.</p>	
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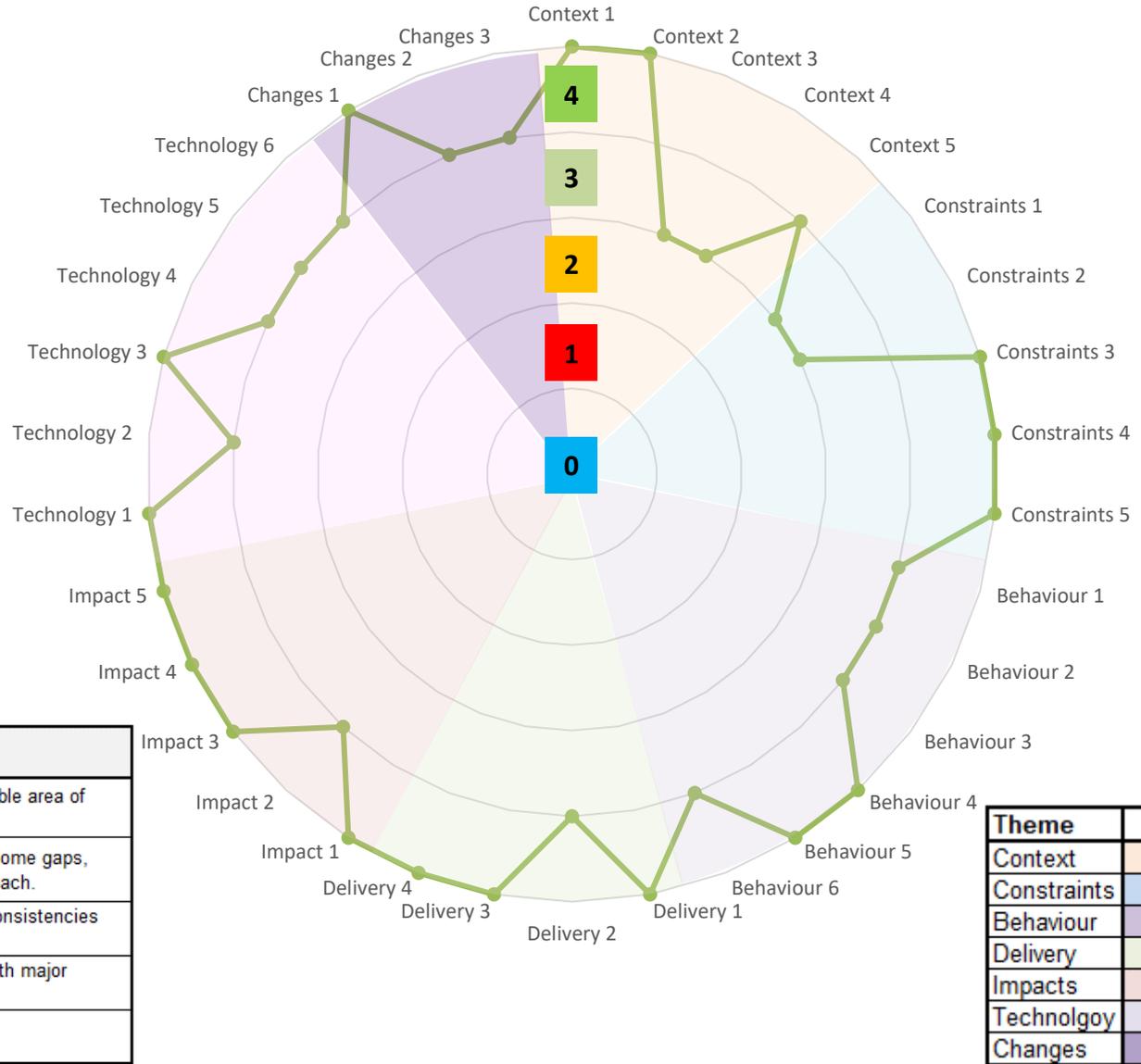
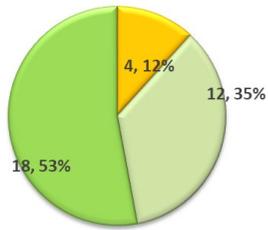


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#25529 Review of Structures Examination Compliance Eastern Region Heat Map

**Eastern
Ratings Distribution**



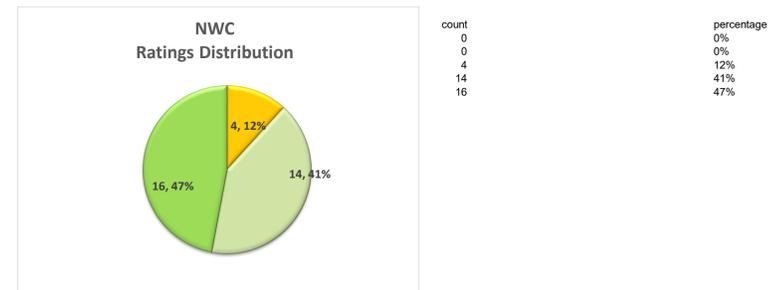
Confidence Rating	Description
4	Evidence presents a clear understanding with no identifiable area of weakness or inconsistency in the approach.
3	Evidence presents a reasonable understanding but with some gaps, inconsistencies, or weakness in some areas in the approach.
2	Evidence presents significant gaps in understanding, inconsistencies and weakness identified in the approach.
1	Evidence incomplete and limited understanding shown with major inconsistencies and gaps identified in the approach.
0	Insufficient information provided.

Theme	
Context	
Constraints	
Behaviour	
Delivery	
Impacts	
Technology	
Changes	

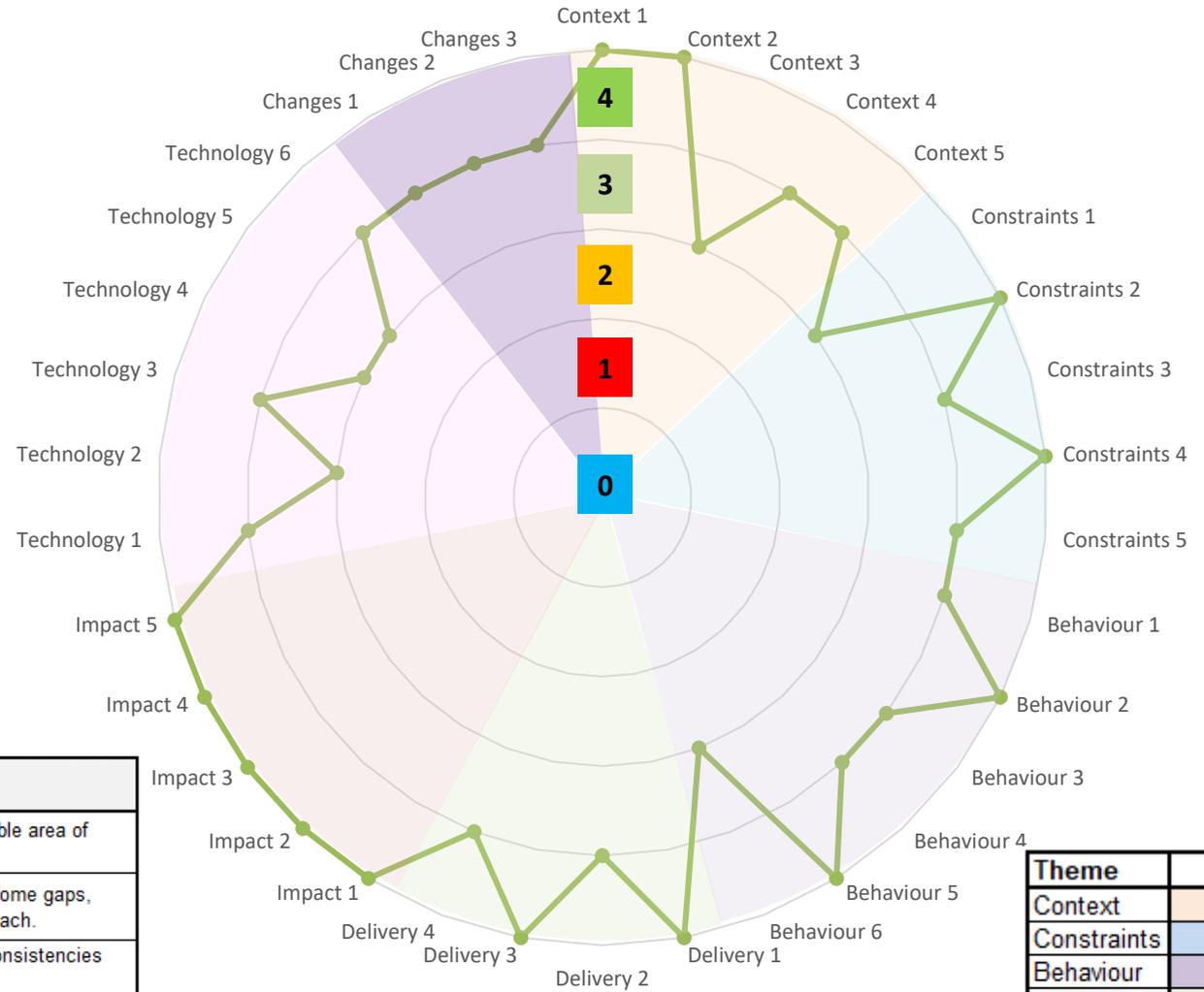
Topic	Ref	Question	Doc. Ref	Evidence from Documents	Queries	Evidence from Regional Stakeholders	Works Delivery Evidence Assessment	Assessment (24 02 2022)	Evidence Assessment Summary	Opportunity for Network Rail																																																																																																			
Context 1		With respect to your organisation's scope of work how many assets are covered by the examination regime and how do these split into the various types e.g. bridges, culverts, retaining walls, tunnels, coastal/river defences, ancillary structures etc		<p>Overview Bridges and Underline Bridges</p> <table border="1"> <thead> <tr> <th rowspan="2">Route</th> <th colspan="4">GP Bridges (incl FB)</th> <th rowspan="2">Underline Bridges</th> <th rowspan="2">Viaduct</th> <th rowspan="2">Interchange</th> <th rowspan="2">Total Bridges</th> <th rowspan="2">Bridge Spans</th> <th rowspan="2">Major Structures</th> </tr> <tr> <th>Overline Bridge</th> <th>Side of Line Bridge</th> <th>Interchange Bridge</th> <th>Underline Bridge</th> </tr> </thead> <tbody> <tr> <td>Central</td> <td>630</td> <td>52</td> <td>26</td> <td>1333</td> <td>96</td> <td>182</td> <td>2112</td> <td>5</td> <td></td> <td></td> </tr> <tr> <td>North West</td> <td>1360</td> <td>14</td> <td>54</td> <td>373</td> <td>2099</td> <td>354</td> <td>4054</td> <td>237</td> <td>5</td> <td></td> </tr> <tr> <td>West Coast South</td> <td>291</td> <td>61</td> <td>21</td> <td>477</td> <td>61</td> <td>1</td> <td>851</td> <td>297</td> <td>3</td> <td></td> </tr> <tr> <td>Totals</td> <td>2,288</td> <td>14</td> <td>178</td> <td>82</td> <td>3,847</td> <td>390</td> <td>6,758</td> <td>1</td> <td>6,758</td> <td>13,728</td> <td>8</td> </tr> </tbody> </table> <p>3,000 Detailed Exams (3 per day) 14,500 Visual Exams (4.5 per day) 400 Underwater Exams Total of Approximately 18,000 Examination Per Year</p> <p>Other Assets</p> <table border="1"> <thead> <tr> <th rowspan="2">Route</th> <th rowspan="2">Footbridges</th> <th rowspan="2">Culverts</th> <th colspan="2">Tunnels</th> <th rowspan="2">Retaining Walls</th> <th rowspan="2">Coastal/Estuarine Defences</th> </tr> <tr> <th>Panel</th> <th>Bored</th> </tr> </thead> <tbody> <tr> <td>Central</td> <td>83</td> <td>1254</td> <td>41</td> <td>45</td> <td>1073</td> <td>2</td> </tr> <tr> <td>North West</td> <td>203</td> <td>2013</td> <td>140</td> <td>149</td> <td>2634</td> <td>59</td> </tr> <tr> <td>West Coast South</td> <td>75</td> <td>761</td> <td>26</td> <td>24</td> <td>1184</td> <td>5</td> </tr> <tr> <td>Totals</td> <td>362</td> <td>4,828</td> <td>207</td> <td>228</td> <td>4,873</td> <td>61</td> </tr> </tbody> </table>	Route	GP Bridges (incl FB)				Underline Bridges	Viaduct	Interchange	Total Bridges	Bridge Spans	Major Structures	Overline Bridge	Side of Line Bridge	Interchange Bridge	Underline Bridge	Central	630	52	26	1333	96	182	2112	5			North West	1360	14	54	373	2099	354	4054	237	5		West Coast South	291	61	21	477	61	1	851	297	3		Totals	2,288	14	178	82	3,847	390	6,758	1	6,758	13,728	8	Route	Footbridges	Culverts	Tunnels		Retaining Walls	Coastal/Estuarine Defences	Panel	Bored	Central	83	1254	41	45	1073	2	North West	203	2013	140	149	2634	59	West Coast South	75	761	26	24	1184	5	Totals	362	4,828	207	228	4,873	61								
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Constraints 1		Given your level of non-compliance what constraints across the process are causing this and to what degree are the types of constraint impacting on the non-compliance e.g., financial, staffing (numbers and competence / training), contractual, site accessibility/possession (including reliance on others for access), planning, information systems, fluctuations of inspection work bank volumes etc.?																																																																																																											
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13	Behaviour 1	To what extent does the relationship with external contractors or an internal delivery organisation, as appropriate, associated with the structures' examination process impact on the level of non-compliance				The Region's primary relationship is with the internal Works Delivery organisation, and was described as excellent. In respect of external contractors, the Region has had limited visibility thus far of how the relationships with Works Delivery are developing, but is seeking to change that now by attending contract and progress meetings more regularly. The relationships are more partnership than contractual, so the pain of non-compliance, and constraints is shared! However, the Region recognises the need occasionally for a stronger "stick or carrot" approach.	Prior to the contract changes, relations were very good, and were not a significant feature in compliance delivery. The WD team has direct accountability for contractor performance, and closely monitors both planning and delivery performance. Since the contract change, the contractors' people resources (Bridgeway and Xelid) appear to have been spread too thinly across their portfolios, and growing the resource base - which both are doing - will take time. The WD has approved additional 'surge' resources to recover the backlog position, and has managed to get a change in the terms of payment to contractors - which previously paid 80% of the fee when the exam was completed, and inevitably meant that report production took a much lower priority, being worth only 20% of the fee - to even up the incentives in a more appropriate way.	3	
14	Behaviour 2	Within the organisation how much of a priority are structures examinations (do other disciplines understand the importance of structures examinations as a safety critical activity)	Recent strategy development, and Nov20 presentation to ORR appear to indicate that structures examination arrangements are accorded a high priority, in view of the level of long-term non-compliance.			ORR's 'escalator' imposition has helped, but there is still a challenge here, and more work to do to spread awareness. The Strategy for Structures Examinations identifies the wider support required from within NR, across a number of disciplines (including Contracts & Procurement, IT etc), and is also clear on accountabilities. Focusing on the top priorities also helps to get the message across.	Structures examination still sits some way down the 'food chain' in terms of delivery priority, as evidenced by the volume of exam cancellations occurring.	2	
15	Behaviour 3	What role does the leadership team in your organisation play in monitoring and directing action to reduce non-compliance?				MV said, diplomatically, that the Structures team would 'welcome more support' from the Director of Engineering Asset Management (DEAM), but acknowledged that the demands on the Executive level in the Region were such that he and his team felt crowded out by the 'noise' at that level. Help on the IT problem was a particular plea, but it was unclear where this support should come from - the HQ Intelligent Infrastructure organisation?	WD team were very complimentary of the role played by the Head of Works Delivery in raising the profile of structures examination within the NR Region, and this has enabled the team to develop a range of interventions which are bringing about improved compliance, despite an environment which remains, and has become increasingly challenging.	2	Room here for a greater involvement from the leadership team, and stronger support for the initiatives which the Structures team cannot wholly control, such as IT.
16	Behaviour 4	To what extent is the level of non-compliance reported within the organisation, what KPIs are used to track compliance, and how do these link to any incentives	NWC18-40; Comprehensive viz boards compiled and presented each period by each Route indicate good reporting on all issues.			Reporting of performance within the Routes and the Region through periodic visualisation is embedded. The links between performance and incentives are tenuous, other than through individual performance appraisals and development plans for team members.	The now routine deployment of Lean principles in monitoring and reporting means that WD produces an extensive range of visualisation each period across the whole range of structures exam responsibilities - so non-compliance is now very visible. There are no overt personal or organisational incentives which are driving the response to non-compliance.	3	Compliance tracking through reporting is good, though this alone has been insufficient to raise the profile of compliance within the Region, compared with ORR intervention. There appears to be a need for a lighter, more focused set of KPIs which highlight the gap between planned and actual delivery, highlighting such issues as short-notice, or 'on the night' cancellation of planned exams.
17	Behaviour 5	To what extent is non-compliance accepted as the norm in the organisation?	NWC057 & 0588 Appn for Temporary Variation, and presentation, evidence a plan to eliminate low risk o/s examinations from the backlog.	Our assets are diverse and discrete with varying forms of constructions and materials, many of which are over 100 years old. While degradation is relatively slow, incidents can be of low probability but high consequence. As they degrade, they become more challenging to manage to the safety and performance expectations of the business and our customers. Funding in previous control periods has not been sufficient to address the declining deterioration of these assets and thus the challenge to achieve our obligations increase. Examinations represent a primary control to ensure that indications of asset failure are identified in a timely manner in order to allow engineers to instruct suitable interventions. Failure to achieve examination compliance increase the risk of a defect going undetected and unmitigated, increasing the risk of failure and the consequences associated with that.	NWC058 Confirm progress of this approach	Not at all, now that the organisation has established a strategy, plans and initiatives which are clearly right, and will make a difference to the compliance position over the next year to 18 months. MV confirms his team are motivated, and improving the position is a matter of professional pride. The ongoing issues of external supplier mobilisation and capability to take on their contracted workload remain, and will be an issue for the next couple of years, but NW&C is less exposed to this concern than other Regions.	Not at all within the Structures and Works Delivery teams, but there may be such sentiments elsewhere in the Region. The Regional leadership team is now very supportive - evidenced by the authorised headcount increases - though noted that this has not always been the case.	4	Good response from the Regional reps, in which it is clear that the Region are neither complacent nor accepting of the current position, and good work is being undertaken to recover ground
20	Behaviour 6	What impact has the TUPE transfer of staff had on delivery and behaviour?				Impact has been wholly an external supplier issue. The Worcester transfer was deemed to be not a TUPE consideration.		4	There has been no TUPE impact in NW&C recently, as recent contract changes have not affected the Region.
20	Delivery 1	How has the future plan for delivery of examinations been developed and what is the evidence basis to ensure the future examination plan is achievable e.g. milestones, tracking delivery, resource allocation?	NWC001 - in-house delivery strategy from CP5 to improve management control. Basis of removal from Stage 1 ORR escalator previously.		NWC001 Region to explain how this strategy is helping to achieve compliance and reduce backlog	The 'bottom up' planning to resolve longer term compliance requirements is the basis of the Strategy. Suggested explore the write up of examination reports with the Delivery team; exam review and sign off is covered in the Recovery Plan	First pass of the plan for next year considers no change in the constraints, but then develops the initiatives and interventions necessary to improve upon this. The reality is that achieving the forecast betterment in the overall position in a sustainable manner relies upon tightening of the access regime for exams, and * no deterioration in the delicate IR climate	3	Region recognises the need for significant change to drive the change in the compliance profile, but are confident that the actions and interventions planned are appropriate.
21	Delivery 2	What assumptions have been made in the development of the delivery plan in terms of resources and other identified constraints including booked access arrangements?	NWC001 - Strategy identifies key non-compliances and actions to address. Assumes capability to reach compliance & sustain the position.		NWC001 Region to explain how this strategy has allowed modification of the delivery planning	There is an assumption of external (to the function) support for the various initiatives, including support from TA, expertise to resolve IT issues, especially with Polestar, and the wider support of the leadership teams at Region and within the Routes	See response to Delivery 1 question. The range of initiatives, from building a larger, younger and sustainable workforce, through to deployment of technological innovation, is the basis for the declaration that broad compliance can be achieved, and sustained from the beginning of CP7, albeit that all these factors carry risk.	3	Assumptions are not unreasonable; however, there was no evidence presented to demonstrate a 'Plan B' in the event of assumptions being unfulfilled, or mitigation for the same
22	Delivery 3	How does the type of asset (e.g. bridge, culverts, retaining walls etc.) affect examination process priorities				Region provides guidance and support to the Routes to help target priorities and advise on relative priorities within the mix of examination responsibilities they have. Similarly, the Region guides priorities for report production, again to ensure that highest priority issues are dealt with in a timely manner.	There are no particular issues around types of assets, but as mentioned in Constraint 3 response above, those with difficult access constraints require special consideration and planning. Where an asset type generates particular concerns, and high levels of non-compliance - as was the case with Tenanted Arches - the WD team can respond with targeted interventions	4	Good response to the question, and is a key aspect of the developing relationship between the new Route teams and the Region, created by the PPF organisational change.
23	Delivery 4	What is the anticipated result of the plan in terms of the outcome of a reduction in non-compliance, and how will this be monitored and reported		NWC001 - Backlog Recovery for Polestar exams "We expect the need for the Temporary Variation will cease from March 2022, and the review process will revert to standard practice"	Query current position and whether timescales still hold	MV believes that sustainable compliance from the beginning of CP7 is both possible and desirable, subject to the team's initiatives coming to fruition as planned.	The target of sustainable compliance by the start of CP7 is achievable. Worries that the fragile IR position could have a 'catastrophic' impact remain.	4	Evidence suggests that the target is realistic and achievable.
25	Impact 1	How does the current level of non-compliance affect day-to-day operations				Non-compliance has no impact on day-to-day operations in the Region. Where Temporary or Emergency Speed Restrictions have been imposed on structures - in NW&C, a routine level of between 7 & 9 speeds are in place at any one time (based on recent evidence) - these are condition-related, or due to risk factors. These vary in severity and impact, depending on the complexity of the examination (Ribble Viaduct, very large structure) - and especially if this is to be an underwater exam - and the possession/ access requirements (multi-storey car park above Walsall station).	N/A	4	MV confirmed that every endeavour is made to avoid impact on day-to-day rail operations, but some impact can be difficult to avoid when achieving overall compliance with Standard is such a challenge.
26	Impact 2	To what extent has the lack of examination input affected your ability to build a reliable maintenance and renewal workbank				The unconstrained workbank for renewals is huge currently and keeping up with exams and interventions on life-expired structures is a massive task. Risk assessments are a key control on these issues, and balancing resources between intervention, where possible, and risk assessments is an ongoing challenge.	N/A	4	Overall, however, by prioritising exams in the workbank, the team believes it is fulfilling its obligations for data and information to support the renewals processes.
27	Impact 3	What do you believe to be the risk profile to 'day to day' operations caused by the level of non-compliance in terms of the uncertainty regarding structures' condition across the network				The risk profile associated with asset condition is more a function of maintenance & renewals budgets & resources, rather than the examination processes. There is always a risk of undiscovered conditions on structures due to non-compliance with exam timescales and frequencies, but on the basis that high risk structures are identified and monitored, and structures degradation is a long-term feature, there is confidence in the risk assessments being undertaken. These are believed to be reasonably robust, but there is work to do to assure that this is actually the case.	N/A	3	Overall, the risk profile to 'day-to-day' operations appears low, but examinations within compliant timescales are important, and the lack of a good exam track record can be a hindrance in assessing risk.
28	Impact 4	What subsequent action is taken by your organisation when following the process in Figure 1 of NR/L3/CI/006 leading to the requirement to carry out a risk assessment in accordance with NR/L3/CI/0021?				NW&C is well practised, and is very much on top of, the risk assessment processes, but note the caveat in the previous question about risk assessments being undertaken with limited available historical data.	N/A	3	
29	Impact 5	What do you believe is the safety impact of any structures' examination non-compliance?			NWC001 - "Examinations represent the most regular opportunity to identify defects and uncontrolled threats to our assets. They are also a core activity as stated in our Structures Asset Policy. The volume of non-compliance is therefore unacceptable and will be addressed . . ."	Limited impact. There is no evidence that the Region gets its judgements in this area - either through exams or RA - wrong and there is no history of asset failure in service (though the occasional 'close call' in the tenanted arches world was cited)	N/A	4	Despite the level of non-compliance with examinations schedules and timescales, the safety risk from non-compliance appears to be small. However, that risk does increase with age of structure and the environment in which it functions, so the Region has an appropriate focus on structures from which such risk could emerge.
31	Technology 1	What is your organisation's vision for the use and benefits from the application of technology in this area?	NWC001 - a new, robust IT strategy is key to resolving current non-compliance. Vision described, road map for approval. Vision for new or novel technological applications described, for both short & longer term.		Strategy agreed by Nov 21? Confirm. End date for delivery? Confirm. Technology review and identification of trial locations Jan 22; on track?	Technological applications are very much part of the Regional forward strategy, and have high hopes for train-born cameras, sonar surveys for underwater exams, and further expansion of drone use. There appears to be very limited help coming forward from TA, and no attempt to focus 'national' development of initiatives which would benefit every Region. No evidence of any R&D funding coming forward into this space	WD team already has good examples in use, and by setting up the Specialist Examiners team, has created the capability for expanding the championship of new and novel technological applications. Drones have been in use in NW&C for over 4 years now, and there is a drive - partly as a result of the 'Escalator' reference - to do more with drones. 3-D imaging using Lidar technology is another exciting development, as are VideoRay remotely operated vehicles for culverts, and enabling developments, like Luxolis LED lighting for access points/ staircases.	4	Region appears to be 'ahead of the game' in developing options, but the lack of a 'national' approach to funding and development is worrying, especially when compared with the applications developed for other infrastructure monitoring, such as PLPR, OLE and pantograph train-born cameras.

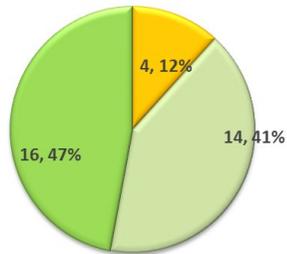
32	Technology 2	How is the use of technology built into the examination process and what quantified benefits have been identified from its use (specific, measurable and time-bound benefits)?				See responses to previous question. The Region appears to be quite advances in this area, but MV & SB both cautious about further steps into 'the unknown', especially in the absence of proper, robust development and validation arrangements within the industry	Drones and Lidar - with the extension of Lidar for use with iPhones and Tablets - are now embedded, and the use of underwater sonar is being rolled out. Most of the benefits come from "being able to undertake an examination which could not otherwise, or in another way, be undertaken. Greatly improved exam quality, through high-definition photography or sonar images, and better pre-exam data. A particular success has been drone examination of sea defences on the Cumbrian coast where the WD examiners have seen detail from high-definition photography that they haven't been able to see " for years", and picked out significant defects. The WD team has undertaken a cost/ benefit analysis on a number of drone applications to demonstrate the reduction in man-hours (and cost) from use of the technology in line of route surveys, and the safety benefits which come from taking personnel off the track, and indeed taking personnel out of high personnel risk environments like inner urban areas with high crime rates. Development of body-worn cameras for Examiners and other lone workers supports this - early days yet, but development is perceived to be important and urgent	4	Despite the clear and obvious interest of the ORR in the development of new and novel technology to help overcome some of the constraints to meeting structures exam compliance, the apparent lack of a national strategy, development resources and funding is in danger of creating a missed opportunity. The fact the NWC is doing as much in this area as it is, whilst delivering a very difficult 'day job', is creditable.	It was suggested by the WD team that an opportunity may arise to create an additional category of examination within the Standard - a "Tech Visual" for low risk assets which would significantly improve on current techniques and methodologies, be much more efficient in terms of resource commitment and cost, and be less subject to normal examination constraints, and therefore significantly aid overall compliance with exam timescales and requirements.
33	Technology 3	What new technology is being used / trialed by your organisation in this area, what barriers exist and how is technology best practice / experience shared nationally	NWC061 Drone trials mentioned Sonar for UW exams; 'Staysafe' lone worker app; submarine camera for fully submerged assets, which avoids disturbing silt	NWC062	NWC061 Describe drone trials, successes or otherwise and opportunity to exploit further Describe current position	See responses to previous 2 questions. Train born cameras is believed to be potentially the big win (with some further trials set up), although the results from modern underwater sonar were described as 'spectacular', also.	Different individuals in the Principal Engineering team are more receptive to technology than others, and different levels of enthusiasm dictate the extent of deployment. However, the biggest constraint appears to be a lack of national industry-wide commitment to R&D. All of the initiatives cited were NWC developments alongside the current 'day job' and, good as they are, the benefits which could flow from a properly resourced and organised technology development programme could/ should surpass what is already being achieved.	3	Good work underway in this field, with little active support or encouragement from any other part of NR or the TA.	For NR/ Technical Authority, a commitment to an R&D programme to match the ORR enthusiasm for technological applications in Structures examination.
34	Technology 4	How does the current examination process link to the Network Rail Intelligent Infrastructure transformation				The most pressing need within the Region is for the updating/ replacement of the asset management systems that support the function, and for the existing 'modern' systems such as Polestar to be developed and assured as reliable and robust. There are numerous Excel spread sheet systems, invented to fulfil an otherwise unsatisfied need, and CARRS itself is now an old and increasingly unreliable system. This is not transformative new IT, they are fundamental data recording and management systems, without which the organisation cannot function. Follow up call: The II Team are working on the integration of CES and SES systems within the region. The region have had involvement in the development and trial of these systems to provide feedback on issues and improvements for the II team to integrate. These systems will improve data transfer within the examination process	Apart from the involvement in development of Polestar, the WD team has no awareness of involvement by the Intelligent Infrastructure programme. In the absence of such a programme, it is hard to see how developments such as train-born cameras for structures examination can be brought to life, and deliver the same kind of revolutionary impact that PLPR has had on track examination, or roof-mounted cameras have had on OHLE and pantograph monitoring.	3	The mismatch between the industry aspirations to develop modern digital technology, and the more basic needs of practitioners in the Region is evident here. Without funding and development support, and resources, for updated asset management systems and renewals, Intelligent Infrastructure will have no part to play.	
35	Technology 5	What systems does your organisation use and how are these inter-connected in terms of the line of sight from the asset inventory, through the examination process to the outcome in terms of planning maintenance and renewal				The Region uses systems and processes 'handed down' from the Centre, and has also developed its own methodologies and solutions. There is limited inter-connection between systems, and almost no central direction to how these things might be better connected or 'joined up'. Follow up call: The region have a series of different systems that are being utilised by both the internal team and any supporting external suppliers. These include: Polestar (Polestar 2) and SES to handle the examination process, and CARRS to handle asset data for asset management process. The transfers of data from the examination software to asset management systems allow for the planning of renewal and maintenance activities with the region.	Polestar development was (and still is) intended to be the primary system for visual exams, replacing Amey's ALARM system.	3	The utilisation of technology to help overcome constraints like track worker safety is perceived to be equally important to its deployment to support examinations themselves	The regions highlighted that CARRS system is out of date and requires improvement to allow data transfer, but that with the number of initiative being supported by the II team at the moment any development of this is some time off. Historical issues with CSAMs has created wariness in the undertaking of new systems that impact management of assets.
37	Technology 6	What is the timescale and process for moving any new technologies into BAU?				No timescales yet, and no formal process for specific technological applications. Follow up call: SES and CES are currently going through the final development phase before roll out. Polestar 2 is now in operation and ongoing development in collaboration with Eastern Region. Drone and on board train cameras are already in operation across the regions.	Given that these technologies have no mandated application, and are being developed wholly within the Region to assist, rather than overtake or supersede, current examination practice, they are introduced 'when ready' alongside existing arrangements.	4	On site data gathering technologies are already implement across the regions and further deployment of these technologies will continue in year 4. Software system are being rolled out at the moment with some, Polestar, already in operation.	
38	Changes 1	What are the proposed changes to the current examination framework (as a result of both internal and external factors)?	NWC001 - Review & strengthen L1 & L2 assurance frameworks, and agree any revised processes, including revision and update to Regional Enterprise Risk Record.	NWC001 - review RBE processes to eliminate excessive number of assets on reduced detailed exam frequencies	Due to complete in Jan 22 - progress ? How will the revised RBE process avoid overly conservative, or risk-averse decisions ?	All proposed changes have been discussed elsewhere in the interview. The key one for the Region is dual competency application for STE1 and STE2 examiners, which will dramatically improve the productivity of report reviews within the process.	N/A	4	Good, positive plans within the Region, across a range of elements within the processes and procedures. Unclear how initiatives of this nature are spread/ advised/ recommended to others, other than through current pan-Region functional meetings.	Spreading of good practice to other Regions and Routes
39	Changes 2	What are the specific benefits anticipated to accrue from the changes, how will these be measured and to what timescales will they be delivered?				See responses to previous questions. Regional Strategy identifies timescales, monitoring and progress reporting.	As stated earlier, all of the proposed or planned changes are intended to drive improvements in levels of compliance, productivity (higher output/ reduced cost), quality of examination outcomes, personnel and infrastructure safety.	4	Forecast benefits roll up to give a confident forecast of sustainable compliance to examination standard by start of CP7	Further reference to the opportunity, mentioned earlier, of better KPIs for structures examination - measurement of all of these benefits would have a material impact on the planning & delivery of structures examination going forward.
40	Changes 3	What is the expected impact of these changes on the current level of non-compliance over time, and how will it impact specific elements or outputs of the examinations process (e.g. quality of reporting etc.)?				See responses to previous questions. Regional Strategy identifies timescales, monitoring and progress reporting.	N/A	4	Forecast benefits roll up to give a confident forecast of sustainable compliance to examination standard by start of CP7	



#25529 Review of Structures Examination Compliance North West and Central Region Heat Map



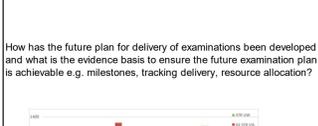
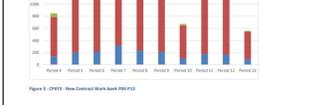
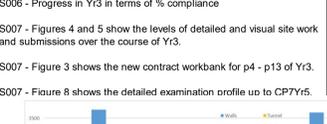
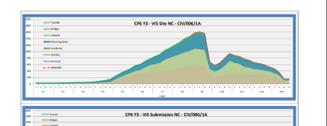
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Ratings Distribution**



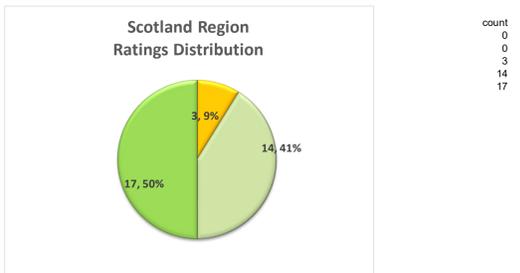
Confidence Rating	Description
4	Evidence presents a clear understanding with no identifiable area of weakness or inconsistency in the approach.
3	Evidence presents a reasonable understanding but with some gaps, inconsistencies, or weakness in some areas in the approach.
2	Evidence presents significant gaps in understanding, inconsistencies and weakness identified in the approach.
1	Evidence incomplete and limited understanding shown with major inconsistencies and gaps identified in the approach.
0	Insufficient information provided.

Theme	
Context	
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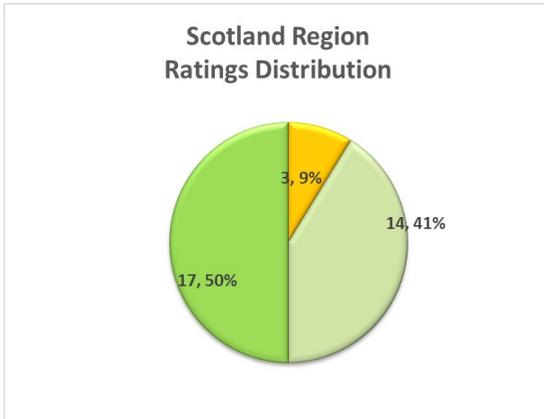
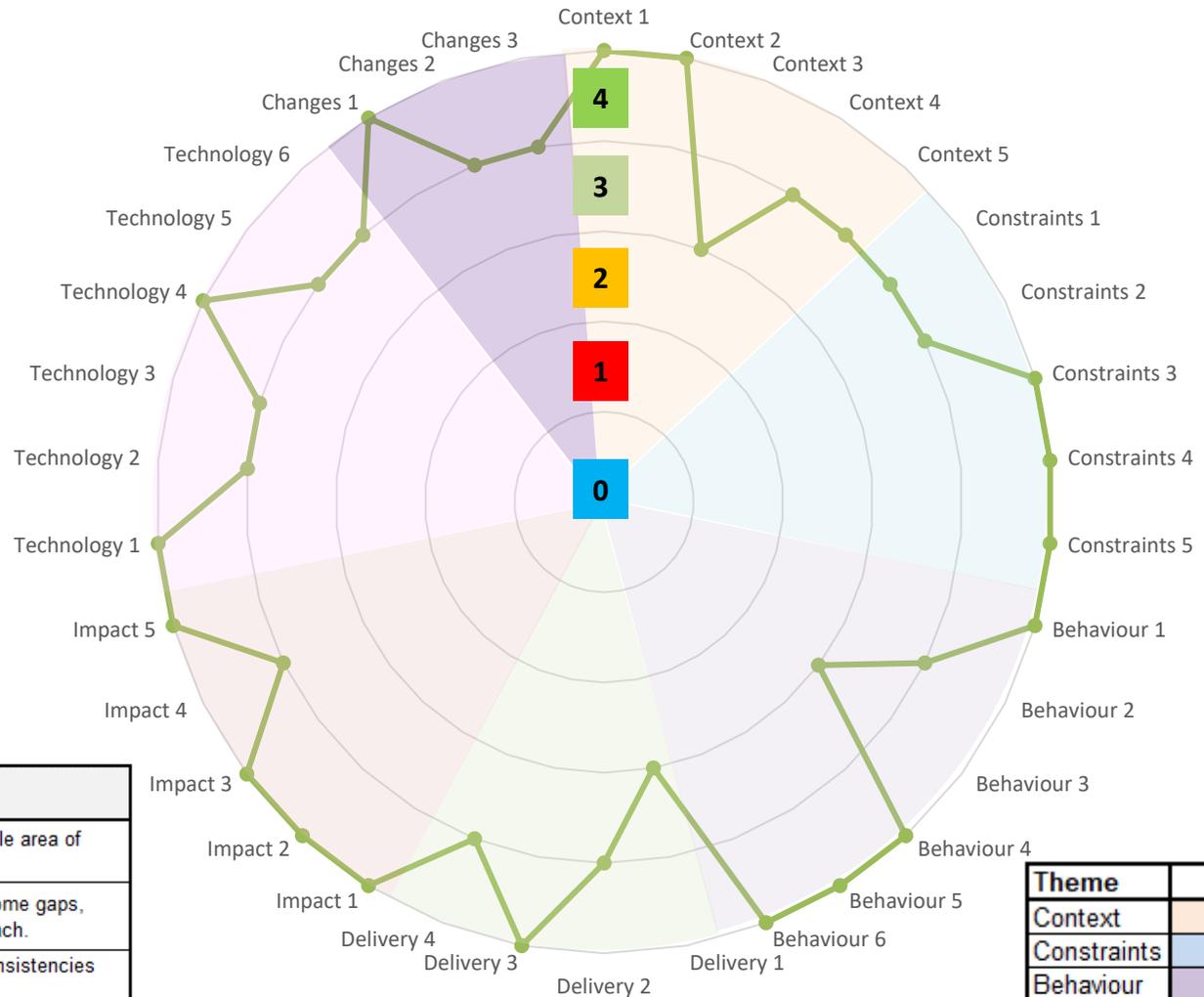
9	Constraints 3	How do the identified constraints affect the different asset types across your portfolio and how is this managed	S007	S007 - compliance graphs are broken down by asset type - see Constraints 1	Isolation impacts are a factor particularly with tunnels where it needs to be lengthy periods. An example of the Low Level tunnels in Glasgow are particularly difficult to get access to because of the level of disruption. It was noted that the complexity of the structure has an impact rather than the type of structure. Region stated that they are working with Amey to produce a long term plan for tunnel examinations. A further example of better planning was cited as the work on Christmas Day on the E&G at Winchburgh where they flooded the area with examiners. In daylight they produced better quality examinations.	see above	4	The response from the region indicated that rather than the type of asset it was the complexity of the structure which impacted on the planning timescales in particular. The comments made indicated a good understanding of the issues associated with access and in particular the availability of isolations. Evidence was provided that on the E&G the opportunity had been taken to access a number of difficult assets at Christmas.																																				
10	Constraints 4	To what extent are resources for examinations shared nationally			E035 - what opportunity has been taken of knowledge and learning resources in other routes to benefit Scotland? Is there a sharing of resources across Regions by the contractors? Is there a sharing of equipment (e.g. specialist plant) across the Regions?	There has historically been a pool of STE02 examiners which were shared and this caused some problems. The new contract has now largely gone away with this and provided a more dedicated resource base. Noted that Inspire (for the underwater examinations) generally use a pool of divers which are shared. There is no specialist kit which is shared nationally. Prior to the new contract Amey shared information across the country but this has been lost with the new contract structure. Within Network Rail significant issues which emerge are shared nationally and in Scotland this is further shared with Amey. It was noted that with greater devolution and everybody doing different things it put more responsibility on the Network Rail team to share information whereas in the past there was a greater reliance on Amey to do this. There is liaison between Asset Managers across the country to share best practice and discuss emerging issues. In the Structures world there always has been very good periodic RAMS meetings and Special working groups looking at things like examination assessment and collaborate. This is reliant on personal relationships which will get harder with time. It was noted that the involvement of the TA in taking more of a lead to provide training material and briefing notes for sharing was considered a good thing driven by the strong leadership in the TA.	There is practically no sharing of staff resources. Plant are hired in as necessary so no national sharing appropriate. The Regional, Programme and Resource Managers have started to get together to discuss issues across the Network.	4	The response covered staffing, equipment and knowledge / experience. In terms of staffing the new contract has largely removed the sharing of resources meaning that Scotland has a more dedicated Amey team working for them. There is no equipment shared nationally with the comment being made that all specialist kit is hired in from local suppliers. The Region provided evidence that through meetings best-practice and emerging issues were discussed nationally. However the valid point was made that the greater the level of devolution this sharing was likely to lessen. Based on the evidence provided there seemed little risk imported by shared resources.																																			
11	Constraints 5	What do you believe could be done to reduce the impacts of the identified constraints				The top three things would be: Getting the Standard such that it is fit for purpose; Keeping on top of the resources - noting the ageing profile of the examiner resource; and Getting on top of the planning process in both Network Rail and Amey - getting it agreed earlier and more efficient - noting that the plan for future years is reliant on the delivery of the plan in the previous year and any significant changes to the Standard.	The biggest constraints are the other contractors working on the network. They have seen other contractors circumventing the process to get access ahead of examinations. In each case it is escalated back to the Network Rail CEFA team. The activities which affect the running of trains will always get priority for access.	4	The Region rehearsed the points made earlier but focused on a reliance on the fresh look at the Standard to provide a more practical and workable regime associated with examinations which better reflects risk. In the other identified points risks were identified in terms of staffing, and a view that the planning process was moving to a much stronger position with longer horizons. The view was taken that the Region has a good grip of the management of the constraints in so far as they are able to minimise their impact.																																			
13	Behaviour 1	To what extent does the relationship with external contractors or an internal delivery organisation, as appropriate, associated with the structures' examination process impact on the level of non-compliance	S007	S007 - Table 1 shares the tech spec and opportunities offered by the new contract CEFA technical specification <table border="1"><thead><tr><th>Competence</th><th>Emerging technologies</th><th>Miscellaneous improvements</th></tr></thead><tbody><tr><td><ul style="list-style-type: none">Aligns BCS competencies to some role dutiesSpecific educational requirements for metallic bridge examiners to be met over life of contractApplication of NLR/2/IN/2009 (e.g. CEM, CRE roles, CMS, ATW)</td><td><ul style="list-style-type: none">Form fit for introduction of technologies at TR1?Accepts use of three technologies (SAV, ultrasonic, U/W, 3D environment)Minimum specifications for 3D survey (including workflows)</td><td><ul style="list-style-type: none">Planning and robustness process incorporatedNR owns defect tracker / informationEnhanced masonry arch data collectionEmbeds updated CIV/006 standard</td></tr></tbody></table> Table 2 - CEFA Tech Spec Development S007 c15.3 - meeting structure in line to the teams involved. The effective management of the examination programme on Scotland's Railway requires the interfaces between teams involved in its delivery to collaborate and proactively identify and address issues. To support this various meetings and reports to be completed on a cyclical basis. <table border="1"><thead><tr><th>Meeting</th><th>Interval</th><th>Reports</th><th>Interval</th></tr></thead><tbody><tr><td>Progress meetings</td><td>Twice/Week (Mon & Thurs)</td><td>Supplier period reports</td><td>Weekly</td></tr><tr><td>SPTA Weekly Meetings</td><td>Weekly</td><td>ACAS / XPORT</td><td>Weekly</td></tr><tr><td>Enabling works Meetings</td><td>Fortnightly</td><td>Info report - weekly</td><td>Weekly</td></tr><tr><td>Technical Meetings</td><td>4 Weekly</td><td>RFE reports</td><td>4 Weekly</td></tr><tr><td></td><td></td><td>Compliance Report</td><td>4 Weekly</td></tr><tr><td></td><td></td><td>DRR NC Report</td><td>4 Weekly</td></tr></tbody></table> Longer term causes of exam non-compliance The following have been identified as underlying causes of examination non-compliance in the past: <ul style="list-style-type: none">Work banks have not been issued early enough to support robust planningChanges to issued work banks have not been sufficiently controlledAccess dependencies have not been sufficiently understood (e.g., third party, track access)There is a tension between delivery organisations planning for instructed exam due dates and planning for efficient deliveryPayment on delivery of completed examination under previous contracts was softened so that most of the payment was made on completion of site examination.Constrained examiner and examining engineer resources limit capability to respond to emerging risks and opportunities.	Competence	Emerging technologies	Miscellaneous improvements	<ul style="list-style-type: none">Aligns BCS competencies to some role dutiesSpecific educational requirements for metallic bridge examiners to be met over life of contractApplication of NLR/2/IN/2009 (e.g. CEM, CRE roles, CMS, ATW)	<ul style="list-style-type: none">Form fit for introduction of technologies at TR1?Accepts use of three technologies (SAV, ultrasonic, U/W, 3D environment)Minimum specifications for 3D survey (including workflows)	<ul style="list-style-type: none">Planning and robustness process incorporatedNR owns defect tracker / informationEnhanced masonry arch data collectionEmbeds updated CIV/006 standard	Meeting	Interval	Reports	Interval	Progress meetings	Twice/Week (Mon & Thurs)	Supplier period reports	Weekly	SPTA Weekly Meetings	Weekly	ACAS / XPORT	Weekly	Enabling works Meetings	Fortnightly	Info report - weekly	Weekly	Technical Meetings	4 Weekly	RFE reports	4 Weekly			Compliance Report	4 Weekly			DRR NC Report	4 Weekly	How have difficulties with the supplier contributed to the level of non-compliance? How did the softening of the payment for site work come about and what was the impact in terms of overall compliance at all stage? To what extent does the meeting structure and the general communication within the wider team effectively reduce non-compliance? S007 - to what extent did the perceived opportunities of the new contracts deliver in practice? S007 - with regard to the inevitable level of disruption of the new contract what impact has this had and what level of improvement has there been, if any, in that level of disruption? S007 - in the longer term causes of non-compliance there is reference to "There is a tension between delivery organisations planning for instructed exam due dates and planning for efficient delivery" - how does this manifest itself and how is it managed?	Giving the longstanding relationship with the current supplier the Region confirmed that the relationship is good with Amey. Strong relationship is based in individuals from FE - Atkins - Amey. It is a function of the organisation rather than Amey as such. There have been problems with the commercial nature of Amey in the past. The individuals concerned have had the leeway to deliver the contract as they want to and at other points were 'reigned-in' by Amey. Currently it is considered that these individuals have the freedom to deliver the contract as they want to and this is delivering for Network Rail. The Technical Specification for the contract was drafted centrally and there was only limited Region amendments for specific assets. This wasn't much of a change to the old specification. The Region confirmed that the specification was delivering 'for the most part' what they wanted. They are getting better quality exams but there are some system issues which need resolution in terms of the linkage between systems.	They communicate with Chris every second day. The relationship is considered to be 'really good'. Part of the planning process involves a weekly meeting between Amey's programme manager and the Network Rail delivery managers to ensure that enabling work has been carried out ahead of the deployment of the examination team. There are disputes in only a very small number of cases. It was stated that they have the autonomy within Amey to manage the contract in the way they see fit. There is a weekly meeting with national management to review what work is going to be taking place in the coming week.	4	Whilst Amey have been the examination supplier for some time it was noted that the individuals who manage the contract from the supplier side have moved from company to company as the contract has changed hands. There was clearly a very strong relationship between the contract managers and the Network Rail team. This longstanding relationship meant that there was a firm understanding of the portfolio and the associated Standard. It was however noted that this relationship worked for Network Rail when the supplying firm allowed those individuals room to deliver the contract without interference. The evidence was clear that the relationship between supplier and Network Rail was healthy and was helping the Region deliver compliance	
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14	Behaviour 2	Within the organisation how much of a priority are structures examinations (do other disciplines understand the importance of structures examinations as a safety critical activity)?			In terms of site access is structures examination getting an appropriate level of priority over other trackside access requirements?	Structures examination is part of Transport Infrastructure and has a stand alone Account Director for the CEFA (and CAFAs) contracts within the rail team.	3	This point was covered in response to question Constraints 2 where the fact that the regime is on the Regulatory Escalator has focused attention on the issue meaning that it has been given a higher priority. This was validated by the level of cancellations of planned works																																				
15	Behaviour 3	What role does the leadership team in your organisation play in monitoring and directing action to reduce non-compliance?	S007 S008 S009	S007 - CI 5.4 describes the reporting process including reference to the Periodic Business Review and reporting sent to ORR. 5.4 REPORTING The regional compliance position is tracked and formally reported periodically. Internally this is reported through the Periodic Business Review process, the Chief Engineer Assurance Report and externally via the Periodic ORR Non-Compliance Reporting. Leading indicators are also tracked on the Structures Team weekly visualisation board. These all offer opportunities for formal escalation of issues and concerns alongside line management and alternative informal methods. Periodic Business Review Examination Non-Compliance is reported and monitored through various levels of internal Region Periodic Business Reviews that are chaired by the Regional Asset Manager, Head of Asset Management and DEAM respectively. This provides a formal mechanism for the RAM Structures to escalate risks and issue to the examination programme. ORR Non-Compliance Reporting A set of reports in a standard format has been issued to the ORR with records now spanning across several Control Periods. Figure 11 provides a sample 'One Page' providing the latest submission for Non-Compliance as of PBR 02/03.	S007 - whilst it is clear that these is significant reporting of the level of non-compliance taking place the actions taken are less clear - to what extent is the reporting of levels of non-compliance effective in reducing the quantum of non-compliances through the intervention of senior management? What role does the TA have in overseeing the delivery of examinations and the aim of reducing non-compliance?	The engagement with issue fluctuates with the level of importance and what other issues are in play. At present there is more engagement at Director level in the Region. There has been a growing concern about the issue of non-compliance. Because of the long running level of non-compliance it has not been a focus for the Directors but the Escalator involvement has changed this. SI believes that he is getting sufficient support from the directorship in the Region - for example in agreement with the contractual model. There was a lot of challenge on the approach particularly when the prices came back from the suppliers. There has been support to increase the structures team size. They are moving into a period of financial constraints because of the need to maintain a contingency budget (another item for which they are on the Escalator) which will mean that next year will be 'challenging'. The view was expressed that the Region had been too reliant on the TA. Devolution has meant that they need to stand on their own two feet in terms of responsibility for planning position. The primary role of the TA is to make sure that the Standard is fit for purpose and to oversee R&D and the delivery of the new asset management system. They are not responsible for the delivery of compliance. In the follow up session the Region made the point that whilst the level of non-compliance are reported through the TA and the Standard is a TA product they have	They have to provide a weekly summary of the actuals against planned for visuals and details and need to justify the gap and also why items not in the plan were delivered. This is then discussed at a weekly call with the head of the rail section. The senior team won't get directly involved in actions to recover but will require the regional director to produce a recovery plan and he has the autonomy to fix the problem.	2	There was evidence that the placing of the issue on the Escalator had raised its profile and that there was more engagement with the Directors on the matter. On the down side the higher cost of the current contract and financial constraints in the Region may challenge that support in future years. The requirement for the Region to stand on its own with less support from the TA came across as an issue. The follow up session discussed further the point about the reliance on the TA. It is agreed that the direct relevance of this point, which was further clarified, was not applicable to this question. In addition the further evidence provided in response to Behaviour 4 further supported the Region's response to this question, however the impact of the Senior Management involvement was not clear.	The role of the Regional senior team in directly impacting on the levels of compliance are unclear and this may be understandable given the range of issues on the Regulatory Escalator and the focus on day-to-day delivery. Whilst it is considered appropriate for the Senior Team to be aware of the levels of non-compliance it is considered right that the structures team should manage the process but have the necessary support to hand if necessary. This was seen to be the case in Scotland Region.																																		
16	Behaviour 4	To what extent is the level of non-compliance reported within the organisation, what KPIs are used to track compliance, and how do these link to any incentives		see above	Are there Regional KPIs linked to examination compliance levels - noting mention in Action 01? Are there any Regional incentives associated with the delivery of compliance in this field?	There are no incentives in the Region for delivery but there are within the Amey contract - see below. Non-compliance is reported to the same level of detail as to the ORR. At QBR level to the Director of Engineering Asset Management in the Executive report. There are no KPIs directly associated with non-compliance but there will be in relation to the position of the topic on the Escalator. In the follow up session it was noted that within the Structures team individuals had been set targets for review and sign-off of examinations, whilst not directly correlated to compliance it has an impact on throughput. It was also noted that there is more reporting within the Region taking place which was not shared at the early meeting but evidence of which will be provided before 25/02. It was also noted from earlier in the conversation that the delivery by Amey is currently subject to a shadow KPI regime linked to compliance and this will no live in FY4.	The issue of non-compliance was stated as not affecting Amey in Scotland. In the other regions there is a greater focus on non-compliance. It was stated that Scotland region is the only one which works on the Birth Date system. This is at least 15 years old. It was said that there had been a couple of years of pain to get the ELR approach delivering the efficiencies but no other Region has followed this. The question was then posed why this had not been adopted elsewhere. It was stated that this had been Atkins (prior to Amey) strategy to work this way but that ultimately it was up to Network Rail to buy into this approach but only Scotland did.	4	The Region described the internal reporting of compliance but it was not linked to KPIs or incentives within the Region. It was noted that it reported in the QBR meetings. Further evidence was provided after the follow up session to demonstrate the increased level of reporting associated with non-compliance.																																			
17	Behaviour 5	To what extent is non-compliance accepted as the norm in the organisation?		S007 - c14.0 lists longer term causes of non-compliance in the Region <ul style="list-style-type: none">We tolerate non-compliance and lack ambition, innovation, and urgency to deliver within limits. S007 - Fig 1 shows the trend in non-compliance since 2017/18 Figure 1 - Scotland's Railway Structures examination trend in site non-compliance	S007 - to what extent are the concerns regarding 'lack of ambition, innovation and urgency' justified? S007 - given the profile of non-compliance is it now the norm?	The Region never consider it to be the norm. If there was a simple solution to solve this they would try it (they have tried more resources, different planning) but feel that there is no solution within their gift. Every instance of non-compliance is viewed as a waste of resource in terms of the need to complete a risk assessment. They believe that they need to be compliant and many of their activities are focused on this goal. The lack of fitness of the Standard is considered as part of the reason for non-compliance and as such is out with their control. The point made that the approach for examination of structures is very different to that applied to other asset types. An example was made that the visual examination a week late of a structure that is 12 months old does not equate to the risk associated with a time-bound plan on another asset. The use of the terminology 'non-compliant' is not helpful whereby if they were permitted to undertake mitigations 'beyond the tolerance window (for example a risk assessment) then they would be compliant rather than the current approach whereby they are non-compliant and therefore need to undertake a risk assessment.	The issue of non-compliance was stated as not affecting Amey in Scotland. In the other regions there is a greater focus on non-compliance. It was stated that Scotland region is the only one which works on the Birth Date system. This is at least 15 years old. It was said that there had been a couple of years of pain to get the ELR approach delivering the efficiencies but no other Region has followed this. The question was then posed why this had not been adopted elsewhere. It was stated that this had been Atkins (prior to Amey) strategy to work this way but that ultimately it was up to Network Rail to buy into this approach but only Scotland did.	4	The response from the Region confirmed that they were still trying to move to a position of full compliance. However, they consider the 'one size fits all' approach of the Standard does not help them achieve this through what could be termed a waste of resource time.																																			
18	Behaviour 6	What impact has the TUPE transfer of staff had on delivery and behaviour?		S007 - c13 - flags the issue of TUPE transfers All the CEFA contracts were eventually awarded to AMEY as a single national supplier. There were anecdotally substantial challenges through the short contract transition and TUPE process with significant loss of examinations and disruption to the overall programme at the time. AMEY retained the CEFA framework when this was re-tendered in 2015 and has therefore been the sole provider of Structures examinations nationally for 12 years until this contract ended in June 2021.	To what extent did the issues surrounding the transfer or non transfer of staff within the contractors impact on delivery? Has the position with regard to specialist resources now stabilised? What role, if any, did Network Rail have in the TUPE process?	The TUPE process was less traumatic than other Regions. There were some central functions within Amey which were shared which needed to be dispersed across the Regions. Some Amey staff left. There was no wide-spread dispersal of STE04 and STE02 staff. The use of a single contractor reduced the risk under TUPE	No TUPE staff transferred with the change of contract.	4	The TUPE process affected Scotland less than other Regions because of the use of a single contract and the continuity of the same supplier.																																			

20	Delivery 1	<p>How has the future plan for delivery of examinations been developed and what is the evidence basis to ensure the future examination plan is achievable e.g. milestones, tracking delivery, resource allocation?</p>   	<p>S006 - Progress in Y3 in terms of % compliance</p> <p>S007 - Figures 4 and 5 show the levels of detailed and visual site work and submissions over the course of Y3.</p> <p>S007 - Figure 3 shows the new contract workbank for p4 - p13 of Y3.</p> <p>S007 - Figure 8 shows the detailed examination profile up to CPY3Y5.</p>   	<p>S007 - how did the decision to go for a single supplier come about and what justified his position?</p> <p>S007 - to what extent is the delivery plan for Y3 robust in terms of its resources and access requirements given the current level of non-compliance more than twice previously experienced?</p> <p>S007 - how does the level of examinations in Figures 4 and 5 tie into the requirements stated earlier in order to maintain compliance?</p> <p>S007 - whilst Figure 8 shows the future workbank how confident is the Region that this is deliverable and why?</p> <p>S007 - given the reliance by Amey on sub-contractors at present does this import a further risk to the process?</p>	<p>The plan was impacted by the transfer which took place at the time of year when the plan robustness is being undertaken. However, at the time the Region was unsure who would be undertaking these exams but as part of the previous contract Amey were required to undertake the PR whether they were going to win or not. The impact of the cyber attack which affected access to their systems affected this. This delayed that planning of the works and evolved into the extension of the contract and the prioritisation of the works. All of this meant that the programme for the works didn't appear until Period 5 (normally before the start of the year). The spike in the level of non-compliance is due to the lack of examinations in periods 1-3 which needed to be replaced. As a result, the full year's programme needs to be delivered over 9 or 10 periods. Amey are of volume until P9 but covid has recently hit the plan. The Region are predicting a roll over of 17 detailed examinations. They track line by line items which are forecast to not be delivered during the year and are included in the following year's plan. Because of the variations in the frequencies of inspections there is a significant spike in Y4 for detailed examinations. This is driven by the culvert exams which have been created 6 or 7 years ago and the peak coming round every six years. The point was made that a culvert examination is a lot simpler than the equivalent for another structure type. They have plans in place to smooth out this lumpiness.</p> <p>At the follow up session the Region expanded on the reasons why it is difficult to forecast outcomes. The point was noted that in Y3 they are tracking the throughput (not necessarily compliance) in the nine months of the year and, when linked to the very significant reduction in the submission lag, has given the Region a lot of confidence that in the 12 months of Y4 there will be a significant improvement in delivery. A second factor is the impact of the late start in Y3, which drives the compliance dates next year, means that the compliance dates are set in months 4 to 12. Thus, starting examinations from the start of Y4 means that they will be doing them early. PR for Y4 has been submitted by Amey and this is being worked through to evaluate it against what is expected to be the compliance e dates. Where non-compliance dates are identified they will work with Amey to try to resolve that such that the programme for delivery at the start of Y4 will ideally be compliant. As part of the programme for delivery at the start of Y4 will ideally be compliant. As part of the programme for delivery at the start of Y4 will ideally be compliant.</p>	<p>They use the P&R approach which is split into four stages. The first stage is the arrival of the workbank from Network Rail which should happen in August of the previous year but occurred in November 2022 for Y4. They then undertake a sense check on the task list - for Y4 they found a number of items missing from the list. There is then a discussion with Network Rail to confirm the list. In Stage 2 they look at what is required to deliver the tasks e.g. access arrangements, isolations, working over water etc. As part of this they identify any 'extra orders' to their commercial team to price the workbank. The output of this is a list of the possessions, isolations, preparatory work which is required to be undertaken by Network Rail. They then pull together the final plan which goes to Network Rail as the baseline programme. Acknowledged that a lot of the visuals will be duplicates of previous years but the planning still needs to be done.</p> <p>Future year's programme for tunnels to the end of the contract has been shared. The comment was made that they are generally focused on the year ahead but if they know a piece of work at a known difficult to access site is coming up then they would try to lodge an access application as soon as possible.</p> <p>For Y3 they still haven't cleared the earlier years work - this includes site works and submission. In the first three months of Y3 they were instructed to deliver 'turn up and go' type work which meant that the bulk of the Y3 plan has to be delivered in the remaining nine months of the year. They are forecasting 18 details and 250 visuals rolling over to Y4.</p> <p>In terms of the scope of work Amey are working to the Technical Specification included in the Contract with some local variations. This has been agreed in principle but not signed off by the parties.</p> <p>The Cyber attack was discussed and agreed that it knocked out their systems for three months but work was still able to go on albeit at much reduced efficiency. New system more robust.</p>	2	<p>There was a significant disruption to the Y3 planning as a result of the Amey cyber attack and the whole contract change process. The latter lost 3 months of delivery due to the need to close out on the activities associated with the old contract.</p> <p>The Region believes that the roll-over from Y3 to Y4 will be limited, however they are aware that there will be a spike in the number of culvert examinations required in Y4. The Region is currently working on its PR for Y4 which will be available at the end of Feb 22. The follow up session provided an update on the PR process. There was also a discussion around the issues associated with the forecasting the level of compliance in the forthcoming year. As a result whilst the future plan may be deliverable the current understanding of the level of compliance it will deliver is less certain.</p>	<p>The impact of the delayed procurement process has impacted delivery in Y3. There are considered therefore to be lessons to be learned from the process during the year in terms of the timescales for mobilisation, and the retendering of all contracts nationally.</p>
21	Delivery 2	<p>What assumptions have been made in the development of the delivery plan in terms of resources and other identified constraints including booked access arrangements?</p>	<p>S007 - resource plans (as shown above) have been identified</p> <p>S007 is silent regarding access</p>	<p>S007 - what are the assumptions with regard to Amey resources in terms of numbers and reliance on sub-contractors?</p> <p>S007 - what assumptions have been made in relation to access to formulate the plan?</p> <p>S007 - to what extent has assumptions regarding TWSP been included in the plan?</p> <p>S007 - what other assumptions have been included?</p>	<p>TVSP was not known or factored in when the contract was let. It has been identified as a risk for the last two years of the contract period. The deliverability issue also extends over the future years of the plan. This has been flagged as a major risk. The Region are still trying to quantify the impact. They believe they will have to move to different ways of working. This particularly affects line of route inspections. The risk associated with these changes has been 'escalated to a very high level' in the organisation. The Region stated the view that rather than a sole focus on track workers there now needs to be a broader system-wide assessment of safety and this view is beginning to gain traction.</p> <p>The Region confirmed that it is their assumption that both Amey and Network Rail will have a full complement of resources available in future years.</p>	<p>In terms of the assumptions they are assuming there will be little or no change to their resource levels.</p> <p>In terms of access they are pushing this through the system. There is a risk associated with access to the RE/TB controlled areas since the DU completely control this. Within the last week however control of access here has been transferred to the signalling team which was felt to be a fairer approach.</p>	3	<p>The most significant assumption is that both Amey and Network Rail will have a full complement of staff resources to deliver the programme in Y4.</p> <p>The unknown impact comes from the introduction of TWSP. The point was made that it will have a limited affect on the actual work with the exception of line of route inspections and getting to sites if this requires walking along the lineside.</p> <p>There are some clear risks in this area.</p>	
22	Delivery 3	<p>How does the type of asset (e.g. bridge, culverts, retaining walls etc.) affect examination process priorities</p>				<p>There are no priorities allocated by asset type.</p>	4	<p>The discussion was held earlier regarding the impact of various asset types. The evidence provided in S001 and S002 showed that the planning was based on the inspection periodicity. It was also noted that, regardless of asset type, a number of structures had a regime of Additional Examinations applied to them where the priority was particularly high.</p>	
23	Delivery 4	<p>What is the anticipated result of the plan in terms of the outcome of a reduction in non-compliance, and how will this be monitored and reported</p>	<p>S007 - Appendix B shows the forecast delivery of examinations to the end of Y3</p> 	<p>S007 - to what extent has planning for Y4 taken place and has any forecast of non-compliance been produced for this?</p>	<p>In terms of Y3 the Region believes that whilst the position is not great just now they will be able to pull this back and they have assessed the number of roll-over items which will result. Their view is that Amey will continue to deliver on site and their required submissions but that the CARRS inboxes will be the stage under pressure. It was stated that it is difficult to model compliance going forward due to the number of variables in terms of the exam submissions that are coming through the system. In terms of Y4 the forecast will depend on the PR which has not yet been completed. They are confident that it will be an improving position particularly with regard to visuals given the full 13 period programme. The other planning focus just now is the detailed examinations for culverts.</p> <p>A year on year improvement in compliance has taken place but this has not been at a fast enough rate. This year has been exceptionally bad but they believe that they will return to the pattern of improvement in Y4.</p> <p>At the follow up session the Region noted that the forecast for compliance is not a function of PR but rather on the actual delivery dates in the previous year - so until the exam is completed the compliance date is not yet set. This is considered to be the biggest factor in the forecasting of compliance in future years.</p>	<p>Amey are not sighted on this but they believe that there is a backlog of reports awaiting approval. This is considered to be partly due to staff retention issues in the Network Rail team.</p>	3	<p>The opinion of the Region was that the situation in Y3 would improve in terms of the site and submission figures but that there would be pressure on the CARRS inboxes figures at year end.</p> <p>The Region predict that the Y4 results will get them back on track to the continual improvement they had been experiencing before Y3. They admitted that no forecasting of compliance in Y4 had been undertaken because of the complexity of the variables and the fact that PR for Y4 had not yet been completed. However, in the follow up session the Region's confidence regarding the delivery of the plan in Y4 was described based on the current Y3 position and the ability to undertake early examinations in the first quarter of Y4. This is further supported by the Amey</p>	
25	Impact 1	<p>How does the current level of non-compliance affect day-to-day operations</p>			<p>Non-compliance has zero impact on train services. The impact is on staff time from risk assessments and the time reporting and discussing improvement plans. This takes resources away from the focus on high risk assets. The point is made that they are spending time on low risk assets because of the regime in place driven by compliance.</p>		4	<p>The view was expressed that there were no operational impacts due to non-compliance.</p>	
26	Impact 2	<p>To what extent has the lack of examination input affected your ability to build a reliable maintenance and renewal workbank</p>			<p>There is a link between non-compliance and renewals in the way that they will be looking for the best available information on structures which have a deferred renewal and to achieve this they will push Amey to complete the site work and submit their report. But generally renewals are planned several years out. The point is that that the most up to date condition data is required to inform the design of the new works. It was acknowledged that the bigger impact of non-compliance was on high risk assets where the rate of deterioration is more critical. This is linked to making sure that the most appropriate data is being used to inform the design of the new works. whereby if the examiner finds some critical condition they can phone this in immediately and it short-circuits the process to prioritise action and thereby reduce risk.</p> <p>The point was made that in the majority of cases the rate of degradation is so slow that within the cycle of inspections there is time to get remedial maintenance action planned if this becomes necessary.</p>		4	<p>The view was expressed that the renewals workbank was not directly affected by non-compliance in terms of its planning however, in order to provide the design teams with the most up to date information regarding the structure it did have a bearing.</p> <p>The impact on maintenance was also viewed as low given that if there is an immediate need for work it is picked up at the time of the site work and that the rate of degradation is generally so low as to not be impacted by non-compliance. It was taken therefore that there is some impact but that it is not significant.</p>	
27	Impact 3	<p>What do you believe to be the risk profile to 'day to day' operations caused by the level of non-compliance in terms of the uncertainty regarding structures' condition across the network</p>			<p>The Region believe that the Standard does not reflect the actual level of risk. They view that the Standard is too onerous in terms of the risk associated with a structure missing an examination or it being out with the tolerance profiles.</p> <p>The point was also made that the Region has a significant programme of additional examinations out with the visual and detailed regime. This allows them to focus attention on these critical assets. This focus is diluted by the need, for example, to undertake an annual visual examination on a brand new bridge.</p>		4	<p>The Region consider the risk profile to be only loosely linked to non-compliance. As such the level of uncertainty regarding a structures condition is not necessarily linked to non-compliance. It was also noted that a number of structures had been placed on an Additional Examination regime where there was considered to be a risk.</p>	
28	Impact 4	<p>What subsequent action is taken by your organisation when following the process in Figure 1 of NR/L3/CIV/006 leading to the requirement to carry out a risk assessment in accordance with NR/L3/CIV/0021?</p>		<p>How are RAs viewed in terms of compliance and the resources used to deliver them as opposed to undertaking the exam?</p> <p>What are the leading causes of the need to undertake a RA as opposed to a compliant examination?</p>	<p>The Region confirmed that for every non-compliant examination the engineer must undertake a risk assessment. There are times at which there are RAs outstanding. They prioritise the RAs that need to be undertaken. Variations in the resources available lead to these peaks and troughs in RA delivery. The point was made that whilst there is logic in the requirement of a Risk Assessment when the examination is beyond tolerance this uses resources which could have been used to deliver the examination. As a result they believe that the regime is self-defeating. One of the strands of evidence to support why the Standard is not fit for purpose is the volume of Risk Assessments which result in no action required. This can lead it to becoming a tick box exercise.</p> <p>In the follow up session the Region advised that they were targeting zero outstanding risk assessment against the TNC. For most periods in Y3 this has been achieved but in a few there have been around 5-10 outstanding but the norm is 0.</p>	<p>The Region confirmed that the process associated with the necessary completion of a Risk Assessment was followed. It was noted that there were a small number of Risk Assessments outstanding.</p>	3		
29	Impact 5	<p>What do you believe is the safety impact of any structures' examination non-compliance?</p>			<p>There is a huge variation in the impact with the majority having very little impact but there will always be some structures which will have a safety impact. From their experience where there has been an incident the Region was aware of the issue but may not have delivered the mitigation in time. Thus the planning of the work was too late.</p> <p>This was summed up with the view that the relationship between safety and non-compliance is tenuous in the vast majority of cases.</p>		4	<p>Based on the arguments raised previously by the Region it was considered by them that the safety impact was only tenuously linked to non-compliance. Thus the view was taken that the Region felt this was negligible.</p>	
31	Technology 1	<p>What is your organisation's vision for the use and benefits from the application of technology in this area?</p>			<p>The Region believes that it is receptive to the use of technology but believes that its use is more associated with the quality of the examination rather than the ability to improve compliance. It doesn't provide a streamlining of the process because an examiner still needs to be there but it could improve the quality of the work through the use of, for example drones. Amey have made their visual examinations more efficient through the use of tablets. This has improved submission rates. The plan is to roll out ALARM 2.0 to more complex examinations which are then expected to improve submissions across those areas as well. The use of drones has eased difficulties with access issues. Amey have a submersible drone to improve the quality of underwater exams.</p> <p>Example quoted of use of technology was given with regard to high alumina cement bridges on the Glasgow suburban network where the structure requires close monitoring. They are using cloud survey techniques to monitor deflection rather than engineers surveying the structure at regular intervals. They have been able to get this output into CARRS in a meaningful manner. They are also trying out sonar on a number of underwater bridges. At this stage they are trialing a number of technological techniques to determine if they are scalable for wider spread use. Based on a drive by the TA the new contract was to be focused on new technology as 'silver bullet' to deliver compliance. The Region resisted this and have been successful at holding this back until the benefits of these new techniques are understood and can be included in the supplier contracts.</p> <p>The Region is working with the TA R&D team to look at potential applications to replace, for example the need for the wire brush or to determine if masonry is solid or hollow. They are miles away from the ability to do this remotely. They don't believe that technology will make a huge difference in a short space of time.</p> <p>In the follow up session the Region expanded its view of a vision to note that in the medium to long term the current method of examinations. The direction of travel is to minimise the amount of manpower used and reduce access to the track. The Region believes that it is conservative in terms of the timescales for change but believes that there will be blocks of changes but that the complexity and variability of the asset</p>	<p>The view was shared that the way in which the contract was structured they needed to win the contract and then any opportunity to use technology would be discussed. At the moment there have been no discussions on the use of technology with Network Rail.</p> <p>It was stated that whilst there is a lot of talk about the use of drones etc. this could only be used if Network Rail changed their Standards since they require a tactile examination for detailed surveys. There are also restrictions with regard to the flying of drones over the operational railway which means that it is also not possible for visual examinations.</p> <p>They have been using tablets to capture data on site for the last ten years. They have been using ALARM as their in-house developed database for the past twenty years. This needs to be updated to provide additional functionality including the planning of work. ALARM 2 is due on 01/04/22.</p>	4	<p>Whilst receptive to new technology and examples given with regard to its use there did not seem to be a 'vision' for the future.</p> <p>The expression of the fact that technology will deliver quality improvements to the examination process is a vision for its purpose. They have however a clear view of the improvements in quality but this not aligned to a plan of how to achieve it through the use of technology.</p> <p>In the follow up session however the region was able to give a further account of their vision for the use of technology in the examination process. This was characterised by a view that the current method of examination would be replaced in the medium to long term through the use of technology but that there were a number of barriers to its introduction. Nevertheless the Region was keen to adopt new technology to improve quality and efficiency.</p>	

32	Technology 2	How is the use of technology built into the examination process and what quantified benefits have been identified from its use (specific, measurable and time-bound benefits)?	<p>S007 - notes the need for Amey to link into Network Rail systems mentions ALARM2 and II</p> <p>The new CEFA contracts required the examination suppliers to have access to the following Network Rail systems alongside their own.</p> <table border="1"> <thead> <tr> <th>Role specific access</th> <th>Read only access</th> </tr> </thead> <tbody> <tr> <td>- CEFA Enabling Solution (CES)</td> <td>- BCM database</td> </tr> <tr> <td>- TCM Web portal</td> <td>- CARRS</td> </tr> <tr> <td>- AES (Ancillary Examination System)</td> <td>- Hazard Directory</td> </tr> <tr> <td></td> <td>- HCE database</td> </tr> <tr> <td></td> <td>- Route Viewer</td> </tr> <tr> <td></td> <td>- Scour Database</td> </tr> <tr> <td></td> <td>- ARMS (Asbestos Risk Management System)</td> </tr> <tr> <td></td> <td>- Structures Dashboard</td> </tr> </tbody> </table> <p>Table 5 - NR System Interface for Suppliers</p> <p>The CES, TCM and AES systems form part of the Intelligent Infrastructure programme and are still subject to further development. The roll-out of these systems has the potential to impact compliance and need to be carefully monitored as part of this plan.</p> <p>AMEY have proposed system enhancements for the management and on-site completion of examinations for these contracts through their ALARM 2.0 improvements. These have the potential to improve the timely completion and submission of examinations in conjunction with the CES system.</p>	Role specific access	Read only access	- CEFA Enabling Solution (CES)	- BCM database	- TCM Web portal	- CARRS	- AES (Ancillary Examination System)	- Hazard Directory		- HCE database		- Route Viewer		- Scour Database		- ARMS (Asbestos Risk Management System)		- Structures Dashboard	<p>What reliance is there on the Amey system and how is the development of ALARM 2 progressing and with what benefits?</p> <p>How does Intelligent Infrastructure programme fit into this and what are the expected benefits?</p> <p>To what extent is the II programme being managed in the Region?</p>	<p>In terms of the Intelligent Infrastructure programme the Region used telemetry to monitor floor levels, also the Region has a significant number of bridges on additional examinations and the quality of the exams is below average. So they are trying to move to having more instrumentation on bridges and more smart intervention level understanding. It is all limited at this stage.</p>	<p>see above - 85% of visual examinations are done on tablet, this requires more time on site but less time writing the report up.</p>	3																																																																																																																														
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33	Technology 3	What new technology is being used / trialled by your organisation in this area, what barriers exist and how is technology best practice / experience shared nationally	<p>S007 - Action 06 shows the proposed use of short-term technological solutions to non-compliance</p>	<p>To what extent does CARRS limit the application of new technology?</p>	<p>In the follow up session the Region noted that they are doing research and trialling work in tunnels and on high alumina cement bridges where they have undertaken radar plots and produced contours of the profiles. This is much more accurate and efficient than conventional survey techniques. It was noted that this has not been done through Amey but with other specialist suppliers. They are looking at things like plane pattern technology to recognise defects. Whilst there is talk of drones they noted that it is only the delivery vehicle it is the kit on the drone that can pick up the defects automatically, can assess them, quantify them and risk them that is the game changer. The Region believes that it is furthest ahead with this technology in tunnel examination in which a research programme is being led by the TA to scan tunnels to pick up standard defects and quantify them.</p>	<p>There is nothing that is being trialled currently. They have not had a discussion yet with Network Rail to cover the future use of technology on this contract. Amey agreed that they are not pushing technology and will await Network Rail's requirements. There are companies which can produce profiles and this has been trialled previously but it has gained little traction with Network Rail. This would be particularly useful to measure tunnel profiles.</p>	3	<p>The Region is moving forward by trialling a number of innovative technologies - like the use of cloud based measurements and the use of more instrumentation on bridges. The use of drones near live railway lines was noted as a barrier to implementation. The underwater cameras used by Amey were noted as being expensive and this too was seen as a barrier although it was acknowledged that the quality of the imagery was very good. Nevertheless there was sufficient evidence that the Region was willing to trial new technologies where these provided improvements in efficiency and quality.</p>																																																																																																																																															
34	Technology 4	How does the current examination process link to the Network Rail Intelligent Infrastructure transformation	<p>The systems in use by the Region as quoted in their Recovery Plan point to the use of Intelligent Infrastructure systems.</p> <p>The new CEFA contracts required the examination suppliers to have access to the following Network Rail systems alongside their own.</p> <table border="1"> <thead> <tr> <th>Role specific access</th> <th>Read only access</th> </tr> </thead> <tbody> <tr> <td>- CEFA Enabling Solution (CES)</td> <td>- BCM database</td> </tr> <tr> <td>- TCM Web portal</td> <td>- CARRS</td> </tr> <tr> <td>- AES (Ancillary Examination System)</td> <td>- Hazard Directory</td> </tr> <tr> <td></td> <td>- HCE database</td> </tr> <tr> <td></td> <td>- Route Viewer</td> </tr> <tr> <td></td> <td>- Scour Database</td> </tr> <tr> <td></td> <td>- ARMS (Asbestos Risk Management System)</td> </tr> <tr> <td></td> <td>- Structures Dashboard</td> </tr> </tbody> </table> <p>Table 5 - NR System Interface for Suppliers</p> <p>The CES, TCM and AES systems form part of the Intelligent Infrastructure programme and are still subject to further development. The roll-out of these systems has the potential to impact compliance and need to be carefully monitored as part of this plan.</p> <p>AMEY have proposed system enhancements for the management and on-site completion of examinations for these contracts through their ALARM 2.0 improvements. These have the potential to improve the timely completion and submission of examinations in conjunction with the CES system.</p>	Role specific access	Read only access	- CEFA Enabling Solution (CES)	- BCM database	- TCM Web portal	- CARRS	- AES (Ancillary Examination System)	- Hazard Directory		- HCE database		- Route Viewer		- Scour Database		- ARMS (Asbestos Risk Management System)		- Structures Dashboard	<p>likely to be covered above!</p>	<p>This is the new integrated asset management system. The Region were engaged in introducing new asset management system (CESAMS) this is being replaced by the new Engineering Asset Management tool which has used some of CESAMS development. The view was expressed that this new system will be crucial to the further development of the examination process through the ability to hold the examination data and the planned workbank in one place. Noted that CARRS is 10 years old and that technology has moved on since then so there much more which could be incorporated in any new system to make it easier to operate and more efficient.</p>	<p>Amey is not aware of the Intelligent Infrastructure Initiative. For the transmission of reports Amey use a third party to transfer the data from ALARM to CARRS.</p>	4	<p>The use of systems which surround II was quoted in the Recovery Plan. These systems were also quoted in the discussion with the Region. The Region was previously involved in the development of CESAMS and as such has an understanding of the benefits from systems. However, based on the response it was taken that it was not yet available to support current processes. The Region was clearly aware and driving the outputs of II to both their own systems and those of Amey. Noted that Amey are contractually obliged to feed into the II initiative.</p>																																																																																																																													
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35	Technology 5	What systems does your organisation use and how are these interconnected in terms of the line of sight from the asset inventory, through the examination process to the outcome in terms of planning maintenance and renewal	<p>The CES, TCM and AES systems form part of the Intelligent Infrastructure programme and are still subject to further development. The roll-out of these systems has the potential to impact compliance and need to be carefully monitored as part of this plan.</p> <p>AMEY have proposed system enhancements for the management and on-site completion of examinations for these contracts through their ALARM 2.0 improvements. These have the potential to improve the timely completion and submission of examinations in conjunction with the CES system.</p>	<p>Within the structures examination systems to what extent are there 'core' systems which hold information used for planning and tracking delivery and outcomes?</p>			3	<p>The Region gave an account of the technology it is using for specialist tasks. Each of these appeared to deliver benefits in their own right but that it was the arrival of the Engineering Asset Management tool which would tie these together to provide the overarching system approach. A number of the initiatives which they are trialling are having benefits and were seen as possibly delivering greater efficiencies if they were scalable.</p>																																																																																																																																															
37	Technology 6	What is the timescale and process for moving any new technologies into BAU?			<p>The Region confirmed that several of the new systems, e.g. CES, SES and TCM will be implemented in the Region.</p>	<p>ALARM 2 will be updated in April 22.</p>	3	<p>The development of the Engineering Asset Management system were discussed but the timescales for its introduction were not known. Other more specialist technologies were being applied when the opportunity had been identified. The implementation of new schemes like CES and SES are examples of new technology / systems which have been adopted by the Region.</p>																																																																																																																																															
38	Changes 1	What are the proposed changes to the current examination framework (as a result of both internal and external factors)?	<p>S007 - noted that there are likely to be implications associated with move to TWSP. E008 - this is a time-bound TNC covering the extension of tolerances for some activities</p>	<p>S007 - what is the current assumption with regard to the impact of TWSP in terms of resource requirements, access and cost?</p> <p>S008 - what is the Regions view of the long term outcome of the Tranche 1 work associated with the changes to frequency and tolerances?</p>			4	<p>The Region's focus was on TWSP which would affect the way in which the examinations were delivered on site and the review of the Standard. This understanding of the key changes was considered appropriate.</p>																																																																																																																																															
39	Changes 2	What are the specific benefits anticipated to accrue from the changes, how will these be measured and to what timescales will they be delivered?	<p>S005 - these tables of non-conformances by period show the impact of the change in tolerances</p> <table border="1"> <thead> <tr> <th colspan="4">Scotland - Contractions</th> <th colspan="4">Scotland - TNC 100-100</th> </tr> <tr> <th colspan="4"></th> <th colspan="4">Period 08</th> </tr> <tr> <th>Contract</th> <th>Number not yet assessed on site beyond SITE TOLERANCE</th> <th>Visual exams</th> <th>Underpinning exams</th> <th>Contract</th> <th>Number not yet assessed on site beyond SITE TOLERANCE</th> <th>Visual exams</th> <th>Underpinning exams</th> </tr> </thead> <tbody> <tr> <td>250 Year 1</td> <td>0</td> <td>0</td> <td>0</td> <td>250 Year 1</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>250 Year 2</td> <td>0</td> <td>0</td> <td>13</td> <td>250 Year 2</td> <td>0</td> <td>0</td> <td>13</td> </tr> <tr> <td>250 Year 3</td> <td>209</td> <td>219</td> <td>6</td> <td>250 Year 3</td> <td>122</td> <td>812</td> <td>0</td> </tr> <tr> <td>TOTAL</td> <td>209</td> <td>219</td> <td>19</td> <td>TOTAL</td> <td>122</td> <td>812</td> <td>13</td> </tr> </tbody> </table> <p>Number assessed on site but not yet assessed on paper - CONTRACTS TOLERANCE</p> <table border="1"> <thead> <tr> <th>Contract</th> <th>Number not yet assessed on site beyond SITE TOLERANCE</th> <th>Visual exams</th> <th>Underpinning exams</th> <th>Contract</th> <th>Number not yet assessed on site beyond SITE TOLERANCE</th> <th>Visual exams</th> <th>Underpinning exams</th> </tr> </thead> <tbody> <tr> <td>172 Years</td> <td>13</td> <td>4</td> <td>0</td> <td>172 Years</td> <td>29</td> <td>11</td> <td>0</td> </tr> <tr> <td>172 Months</td> <td>18</td> <td>113</td> <td>0</td> <td>172 Months</td> <td>1</td> <td>136</td> <td>0</td> </tr> <tr> <td>172 Months</td> <td>85</td> <td>490</td> <td>3</td> <td>172 Months</td> <td>85</td> <td>148</td> <td>0</td> </tr> </tbody> </table> <p>Number of items reported identified on site but not assessed on paper - CONTRACTS TOLERANCE</p> <table border="1"> <thead> <tr> <th>Contract</th> <th>Number not yet assessed on site beyond SITE TOLERANCE</th> <th>Visual exams</th> <th>Underpinning exams</th> <th>Contract</th> <th>Number not yet assessed on site beyond SITE TOLERANCE</th> <th>Visual exams</th> <th>Underpinning exams</th> </tr> </thead> <tbody> <tr> <td>172 Years</td> <td>19</td> <td>44</td> <td>15</td> <td>172 Years</td> <td>64</td> <td>21</td> <td>15</td> </tr> <tr> <td>172 Months</td> <td>19</td> <td>100</td> <td>36</td> <td>172 Months</td> <td>19</td> <td>110</td> <td>36</td> </tr> <tr> <td>172 Months</td> <td>101</td> <td>458</td> <td>1</td> <td>172 Months</td> <td>62</td> <td>342</td> <td>1</td> </tr> <tr> <td>TOTAL</td> <td>348</td> <td>1502</td> <td>52</td> <td>TOTAL</td> <td>145</td> <td>473</td> <td>52</td> </tr> </tbody> </table> <p>Number of items reported identified on site but not assessed on paper - TNC 100-100</p> <table border="1"> <thead> <tr> <th>Contract</th> <th>Number not yet assessed on site beyond SITE TOLERANCE</th> <th>Visual exams</th> <th>Underpinning exams</th> <th>Contract</th> <th>Number not yet assessed on site beyond SITE TOLERANCE</th> <th>Visual exams</th> <th>Underpinning exams</th> </tr> </thead> <tbody> <tr> <td>100-100</td> <td>536</td> <td>3588</td> <td>85</td> <td>100-100</td> <td>375</td> <td>1223</td> <td>85</td> </tr> </tbody> </table>	Scotland - Contractions				Scotland - TNC 100-100								Period 08				Contract	Number not yet assessed on site beyond SITE TOLERANCE	Visual exams	Underpinning exams	Contract	Number not yet assessed on site beyond SITE TOLERANCE	Visual exams	Underpinning exams	250 Year 1	0	0	0	250 Year 1	0	0	0	250 Year 2	0	0	13	250 Year 2	0	0	13	250 Year 3	209	219	6	250 Year 3	122	812	0	TOTAL	209	219	19	TOTAL	122	812	13	Contract	Number not yet assessed on site beyond SITE TOLERANCE	Visual exams	Underpinning exams	Contract	Number not yet assessed on site beyond SITE TOLERANCE	Visual exams	Underpinning exams	172 Years	13	4	0	172 Years	29	11	0	172 Months	18	113	0	172 Months	1	136	0	172 Months	85	490	3	172 Months	85	148	0	Contract	Number not yet assessed on site beyond SITE TOLERANCE	Visual exams	Underpinning exams	Contract	Number not yet assessed on site beyond SITE TOLERANCE	Visual exams	Underpinning exams	172 Years	19	44	15	172 Years	64	21	15	172 Months	19	100	36	172 Months	19	110	36	172 Months	101	458	1	172 Months	62	342	1	TOTAL	348	1502	52	TOTAL	145	473	52	Contract	Number not yet assessed on site beyond SITE TOLERANCE	Visual exams	Underpinning exams	Contract	Number not yet assessed on site beyond SITE TOLERANCE	Visual exams	Underpinning exams	100-100	536	3588	85	100-100	375	1223	85	<p>S005 - apart from a reduction in the level of non-conformance what is the anticipated benefit from the change in the tolerance levels for examinations?</p>	<p>TWSP has been discussed earlier. In terms of the WSP Tranche 1 work they are hoping for something which will be more pragmatic and aligned with the risk profile the Region has. It will remove the majority of their non-compliance issues straight away. The secondary effect of this will be that they will be able to plan more efficiently which is expected to deal with the remainder of the non-compliances. Noting that all this is very dependent on the assessment WSP do on what the actual risk is.</p>	3	<p>The Region focused on the anticipated benefits from the WSP Tranche 1 work. The Region is actively involved in this initiative. They have an understanding of the benefits coming from the work but not the timescales which are not controlled by the Region.</p>
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40	Changes 3	What is the expected impact of these changes on the current level of non-compliance over time, and how will it impact specific elements or outputs of the examinations process (e.g. quality of reporting etc.?)			<p>It was agreed that the level of changes as a result of these changes is unquantifiable in terms of the scale and timescales.</p> <p>In the follow up session the Region believes that it will get a greater level of benefit than other Regions from the Tranche 1 work because historically it has a problem with short-term compliance rather than longer-term. The point was also made that until the outcome of the research is known then it is difficult to quantify any impact or understand the associated timescales. In response to questions regarding TWSP the Region noted that they were slightly better sighted on the impact of this in terms of understanding the workstreams that were currently in play to reduce the impact of the initiative but it still represents the biggest risk to examination delivery.</p>	<p>Regarding changes to the Standard there have not been any local discussion on this.</p>	3	<p>In terms of the risk for the future the impact of these changes was not known in terms of their scale but it was anticipated that TWSP would be detrimental and the Tranche 1 would help the level of compliance. The development of understanding the actual impacts of each of these is a way off but the Region were clearly sighted on the change issues if not able to quantify or time their benefits / detriment.</p>																																																																																																																																															



#25529 Review of Structures Examination Compliance Scotland Region Heat Map



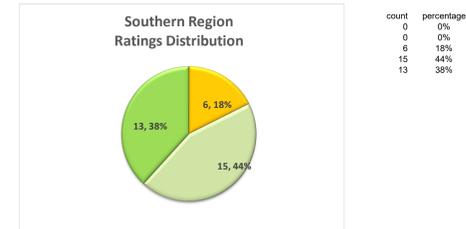
Confidence Rating	Description
4	Evidence presents a clear understanding with no identifiable area of weakness or inconsistency in the approach.
3	Evidence presents a reasonable understanding but with some gaps, inconsistencies, or weakness in some areas in the approach.
2	Evidence presents significant gaps in understanding, inconsistencies and weakness identified in the approach.
1	Evidence incomplete and limited understanding shown with major inconsistencies and gaps identified in the approach.
0	Insufficient information provided.

Theme	
Context	
Constraints	
Behaviour	
Delivery	
Impacts	
Technology	
Changes	

Topic	Ref	Question	Doc. Ref	Evidence from Documents	Queries	Evidence from Regional Stakeholders	Evidence from Supplier Xelaid	Evidence from Supplier Amey	Assessment (24 02 2022)	Evidence Assessment Summary	Opportunity for Network Rail																																																
Context 1	E002	With respect to your organisation's scope of work how many assets are covered by the examination regime and how do these split into the various types e.g. bridges, culverts, retaining walls, tunnels, coastal/river defences, ancillary structures etc?	E002 - c14.10 drainage coming back into CEFA workbooks in Y14	<p>Table 2: Southern Region asset count excluding ancillaries</p>	E005 - how many ancillary structures are covered by the examination regime?	<p>Based on the figures in Table 2 of the Recovery Plan the total number of assets covered by the regime is 1,508. The breakdown of the quantity of asset by type is shown in the extract of Table 2. It was stated at the meeting that the ancillary assets are not included in the figures judged for compliance.</p>	<p>Xelaid confirmed that for Wessex their scope included 3003 examinations to be completed - included detailed, visual and additional examinations. Within that there are 355 detailed exams to be undertaken in Y3. They advised that the annual workbook is issued by the Region and in that the scale of the programme year to year changes but the number of assets is the broadly the same. For Kent Xelaid have 838 culvert/visual examination and 108 detailed examinations. In Sussex the respective figures are 599 culvert/visuals and 67 detailed. For u/water examinations they have 47 for Wessex, 74 for Kent and 69 for Sussex. The annual programme they are issued with is broken down by Route, exam type and structure type.</p>	<p>The Amey scope different in this contract that it covers all types of structures but excludes the underwater examinations and the culverts which are delivered by a different contractor. They are looking after approximately 8000 assets across all of the structure types. Within Wessex Amey examine the tunnels and tenanted arches.</p>	4	<p>Based on the tabulation in the Recovery Plan and the clarification at the meeting of the check on asset count and the impact of the issues identified in the evidence documentation it is considered that there is a high degree of confidence in the understanding of the portfolio and its make-up.</p>																																																	
	E003		E005 - c16.0 description of issues with missing shafts		E005 - 007 please explain the meaning and purpose of these updates				E002 - what are the implications from drainage being included in the CEFA workbook from Y14?		E003 - given the issues with missing shafts does this mean that the portfolio of tunnel assets is not known to be complete?																																																
Context 2	E008	How do you apply the requirements of Standard NRI/3/CIV/006/1A	E036 - TR61432 has extended tolerances in some activities to compensate for new contract impacts 01/04/21 - 01/04/22	<p>TNC Tolerances</p> <table border="1"> <thead> <tr> <th>Change</th> <th>Review</th> <th>Frequency</th> <th>Review</th> </tr> </thead> <tbody> <tr> <td>Examination</td> <td>Interval</td> <td>No Change</td> <td>No Change</td> </tr> <tr> <td>Monitoring at</td> <td>3 months</td> <td>No Change</td> <td>No Change</td> </tr> <tr> <td>Monitoring at</td> <td>3 months</td> <td>No Change</td> <td>No Change</td> </tr> <tr> <td>Visual</td> <td>1 year</td> <td>14 weeks</td> <td>14 weeks</td> </tr> <tr> <td>Enhanced</td> <td>3 years</td> <td>14 weeks</td> <td>12 weeks</td> </tr> <tr> <td>Visual</td> <td>3 years</td> <td>14 weeks</td> <td>12 weeks</td> </tr> <tr> <td>Enhanced</td> <td>3 years</td> <td>14 weeks</td> <td>12 weeks</td> </tr> <tr> <td>Visual</td> <td>3 years</td> <td>14 weeks</td> <td>12 weeks</td> </tr> <tr> <td>Enhanced</td> <td>3 years</td> <td>14 weeks</td> <td>12 weeks</td> </tr> <tr> <td>Visual</td> <td>No Change</td> <td>No Change</td> <td>No Change</td> </tr> <tr> <td>Monitoring at</td> <td>No Change</td> <td>No Change</td> <td>No Change</td> </tr> </tbody> </table>	Change	Review	Frequency	Review	Examination	Interval	No Change	No Change	Monitoring at	3 months	No Change	No Change	Monitoring at	3 months	No Change	No Change	Visual	1 year	14 weeks	14 weeks	Enhanced	3 years	14 weeks	12 weeks	Visual	3 years	14 weeks	12 weeks	Enhanced	3 years	14 weeks	12 weeks	Visual	3 years	14 weeks	12 weeks	Enhanced	3 years	14 weeks	12 weeks	Visual	No Change	No Change	No Change	Monitoring at	No Change	No Change	No Change	E036 - What has been the impact of TR61432 in terms of delivery and actual levels of non-compliance?	<p>Based on the wider discussion the way in which the Region measures compliance and the evidence provided showing the tracking of this demonstrated appropriate application of the Standard.</p>	<p>The Region noted that in the ten years since they have been monitoring non-compliance with ORR they have been unable to link any failures to having the examination completed on time. They opined that the period of time between the exam to any necessary intervention is the critical cycle time. The Region has never achieved compliance and does not believe that there is an evidence base for the rules that currently exist. It was stated that it is their view that these were good when first introduced but the world has moved on and they see the benefits from the analysis that was undertaken by TA ahead of the introduction of the TNC to be used to mature the process further. The TNC is currently timebound and it is the Region's view that with further analysis of the relationship which has led to the TNC it will then be up to the Regional Engineers to come to a view of the future shape of the Standard.</p>	<p>The direct answer to the framework question was adequately demonstrated in the overall process that was evidenced in the documentation supplied. The impact of TR61432 in both the short and longer term were discussed and it was clear that while there had been an impact on the current year of the TNC this did not adequately compensate the Region for the disruption and issues which emerged through the new contract process. In the longer term there was a view that the work behind TR61432 was useful in changing the approach taken to examinations and the associated risk.</p>	4	<p>The direct answer to the framework question was adequately demonstrated in the overall process that was evidenced in the documentation supplied. The impact of TR61432 in both the short and longer term were discussed and it was clear that while there had been an impact on the current year of the TNC this did not adequately compensate the Region for the disruption and issues which emerged through the new contract process. In the longer term there was a view that the work behind TR61432 was useful in changing the approach taken to examinations and the associated risk.</p>	
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E010	E036 - table 10 and c5.4 highlight the inflexibility of the Standard as being a risk and describes the process in Tranche 1 to review the frequencies and tolerances	E036 - To what extent has the TNC adequately compensated for the new contract event?	E035 - Table 10 & c5.4 highlight issues with the Standard - to what extent then is there a view that it isn't fit for purpose and could never be achieved?																																																								
Context 3	E025	To what extent does the Standard complement your processes and fit your needs, and what issues do you have with the process as outlined in the Standard? How is compliance to the Standard tracked and what is your current level of non-compliance for the examination / submission / evaluation stages of the process?	E025/02/03/030 - these show graphs and tables (showing both original and TNC levels) of current non-compliance levels for Kent and Sussex		E035 - Table 10 & c5.4 highlight issues with the Standard - to what extent then is there a view that it isn't fit for purpose and could never be achieved?	<p>The Region noted that in the ten years since they have been monitoring non-compliance with ORR they have been unable to link any failures to having the examination completed on time. They opined that the period of time between the exam to any necessary intervention is the critical cycle time. The Region has never achieved compliance and does not believe that there is an evidence base for the rules that currently exist. It was stated that it is their view that these were good when first introduced but the world has moved on and they see the benefits from the analysis that was undertaken by TA ahead of the introduction of the TNC to be used to mature the process further. The TNC is currently timebound and it is the Region's view that with further analysis of the relationship which has led to the TNC it will then be up to the Regional Engineers to come to a view of the future shape of the Standard.</p>	<p>The Region noted that in the ten years since they have been monitoring non-compliance with ORR they have been unable to link any failures to having the examination completed on time. They opined that the period of time between the exam to any necessary intervention is the critical cycle time. The Region has never achieved compliance and does not believe that there is an evidence base for the rules that currently exist. It was stated that it is their view that these were good when first introduced but the world has moved on and they see the benefits from the analysis that was undertaken by TA ahead of the introduction of the TNC to be used to mature the process further. The TNC is currently timebound and it is the Region's view that with further analysis of the relationship which has led to the TNC it will then be up to the Regional Engineers to come to a view of the future shape of the Standard.</p>	<p>The Region has strong views on the fitness of the current Standard and highlighted that in the Tranche 1 work the TA was leading the review of the intervals and tolerances between non-compliance and failures had not been seen from experience. It is therefore suggested that a review of the Standard is undertaken to review its practicality in light of experience and work undertaken by other network infrastructure administrations.</p>	2	<p>The Region has strong views on the fitness of the current Standard and highlighted that in the Tranche 1 work the TA was leading the review of the intervals and tolerances between non-compliance and failures had not been seen from experience. It is therefore suggested that a review of the Standard is undertaken to review its practicality in light of experience and work undertaken by other network infrastructure administrations.</p>																																																	
	E026		E026/02/03 - as above but for Wessex		E026/02/03 - as above but for Wessex				E026/02/03 - as above but for Wessex																																																		
Context 4	E008	How does the current level of non-compliance compare to the historical position?	E010 - graphs showing number of exams in CARRS inbox over 28 week period - coupled with table of exam type, asset group and historic stats		E028 - What are these graphs measuring in terms of the period tables in E028 and the forecast graphs in E028	<p>The Recovery Plan is Figure 1 shows the historic pattern of non-compliance over the past several years. The profile of non-compliance is a characteristic curve which shows a steady increase in peak levels across the years with a very significant spike in non-compliance in 2021/22. It was confirmed that the graphs in Figure 1 of the Recovery Plan show the compliance for site inspections only.</p>	<p>The Recovery Plan is Figure 1 shows the historic pattern of non-compliance over the past several years. The profile of non-compliance is a characteristic curve which shows a steady increase in peak levels across the years with a very significant spike in non-compliance in 2021/22. It was confirmed that the graphs in Figure 1 of the Recovery Plan show the compliance for site inspections only.</p>	<p>The Region demonstrated a good understanding of their level of non-compliance based on the evidence from the trackers and forecasts. The impact of the new contracts were sighted as being a very significant factor in the worsening of compliance in Y3 but there was a belief that the waters would calm on this and this benefit from their contracting strategy and other planning initiatives deliver benefits. However, it was noted that the TVSP whilst agreed as being necessary represented a further constraint likely to increase the level of difficulty in achieving the current compliance requirements.</p>	3	<p>The Region demonstrated a good understanding of their level of non-compliance based on the evidence from the trackers and forecasts. The impact of the new contracts were sighted as being a very significant factor in the worsening of compliance in Y3 but there was a belief that the waters would calm on this and this benefit from their contracting strategy and other planning initiatives deliver benefits. However, it was noted that the TVSP whilst agreed as being necessary represented a further constraint likely to increase the level of difficulty in achieving the current compliance requirements.</p>																																																	
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Context 5	E035	What has been the impact on the process following structures examinations being placed on the Regulatory Escalator	E035 - clearly the need to draft a recovery plan was linked to the Escalator entry but to what extent does the escalator focus attention leading to reduced non-compliance?		E035 - clearly the need to draft a recovery plan was linked to the Escalator entry but to what extent does the escalator focus attention leading to reduced non-compliance?	<p>The Region stated that there has been an absolute focus on the CARRS inbox as a result. The impact of this is graphed in the Recovery Plan and supplemental information provided. A comparison of the CARRS inbox graphs from 12 months ago and currently shows a dramatic reduction in reports awaiting approval.</p>	<p>They stated that there had been an increased management pressure in the company and the Region as a result. It was however stated that compliance is a matter for Network Rail and it is managed by Network Rail. Southern Region has taken the opportunity to share the compliance graphs with Xelaid. This does not give a breakdown of the detail of the Xelaid performance so the opportunity for them to understand where they may need to focus efforts is lost. They felt this could be improved. It was stated that they had noticed an increased pressure on the reporting of compliance but they came back to the point that there was limited opportunity to vary site delivery. This is driven by site access constraints and also new rules associated with track safety. The message from the Region is to highlight key assets which may be driving non-compliance and the Region also has a strong focus on reviewing the supplier P&R.</p>	<p>They believe that a lot has changed since they went on the Escalator in CP4. There had been no talk of compliance up to that point but since the issue was placed on the Escalator compliance is the number one item of discussion with Network Rail - how to get it done. They believe that compliance is not solely an issue for Network Rail but that they partner with them to deliver compliance.</p>	3	<p>The main focus appears to have been on the reduction in examinations in the CARRS inbox. This was something which could be fixed internally by Network Rail - directly impact on the activities associated with the contracting resources. It is acknowledged that a lot of work is taking place in the planning and resourcing areas which are not directly linked to the Escalator. It was noted that the reporting of non-compliance (see Behaviour 3 below) has had a heightened profile as a result of it being on the Escalator. In addition the Region noted that the tracking of compliance was a regular feature of meetings with suppliers to maintain focus.</p>																																																	
	E035		E035 - clearly the need to draft a recovery plan was linked to the Escalator entry but to what extent does the escalator focus attention leading to reduced non-compliance?		E035 - clearly the need to draft a recovery plan was linked to the Escalator entry but to what extent does the escalator focus attention leading to reduced non-compliance?																																																						
Constraints 1	E001	Given your level of non-compliance what constraints across the process are causing this and to what degree are the types of constraint impacting on the non-compliance e.g. financial, staffing (numbers and competence / training), contractual, site accessibility/possession (including reliance on others for access), planning, information systems, fluctuations of inspection work bank volumes etc.?	E001 - XEAIAD are still recruiting for culvert examination in December 2021 which is beyond the 100 day mobilisation period (starting in May 21)	<p>Region stated that Xelaid now have the workbook for the next four years and are planning against that. They have plans in place to resource up to the requirements for the next 12 months and have built in a degree of flexibility in terms of the skills they plan to have available. Xelaid are relying on sub-contracted labour for activities such as undertaking examinations but the plan for next year will be that these activities will be undertaken by them in-house. Amey are in a more comfortable position in terms of resources but they do have an ageing workforce who are approaching retirement and as such they have a recruitment plan in place. The market for appropriately qualified staff is difficult at the moment and the rates have increased as a result.</p>	E004 - Is there satisfaction with the position XEAIAD appear to find themselves in terms of their resources and future plans - there still appear to be challenges from the mobilisation (c1 16.0)?	<p>The main areas of constraint that were identified was resource shortages particularly at STE02 level. It was felt that this was not helped by the way in which the contracts were packaged. The smaller package of works has affected the efficiency of the line of route delivery. Also, Amey retained all of their STE04 staff and none transferred over. Nationally this is a problem and there hasn't been a plan to train staff and this is because of the limited duration of the contracts. Xelaid have begun training 12 new staff for the role of STE04 and they are running further programmes during the year to address the problem nationally.</p>	<p>Access was singled out as being the single most important constraint to delivery. The point was made that based on their experience in other Regions the Southern Region was the most difficult to access given the intensity and period of the train services. Amey confirmed the point that no matter how many resources were applied to the task it would not necessarily deliver compliance because the access to the network is the constraining factor.</p>	2	<p>The evidence provided in the documentation and during the dialogue at the meeting demonstrated a good understanding of the constraints and issues which they have and are currently facing in terms of delivery. The main focus for the non-delivery appears to relate to the Xelaid contract and the lack of a mobilisation period (caused by Network Rail commercially) and the lack of resources linked to the TUPE process. Whilst there is an expectation that the seven Lot contracting strategy will deliver benefits the hiatus caused by it during Y3 has significantly worsened delivery. It could be concluded therefore that the internal procurement processes have generated a very significant constraint in terms of ability of Xelaid to deliver in Y3.</p>																																																		
	E003		E003 - c14.0 quotes numbers of tunnel inspections completed on site and submitted. C5.0 shows the level of rejection of tunnel submissions at 21		E003 - c14.0 quotes numbers of tunnel inspections completed on site and submitted. C5.0 shows the level of rejection of tunnel submissions at 21			E001 - to what extent has XEAIAD been slow in getting enabling contractors in place?																																																			
Constraints 2	E001	What are the levels of cancellation of examination activities due to lack of resources or access constraints?	E001 - XEAIAD possessions booked from wk36 to Y14wk3 in April 2022	<p>The key issue for Xelaid was stated as being the STE02 level of staff which is where they are trying to recruit. It was stated that Xelaid were now taking up to 60 days to submit reports whereas Amey are currently beating the contractual targets for submissions. In response to a question it was stated that the move to the Lot level of procurement had led to this imbalance in resources which, coupled with the non-existent mobilisation period, has exacerbated Xelaid's problems. It was however felt that the move to the Lot level of activities was the right move to deliver benefits in the long-term.</p>	E002 - what is the meaning of 'generics' and how does the programme of Amey training and their resourcing for Y13 to Y16 match future requirements?	<p>They track the cancellation of detailed examinations only. In terms of resources they have lost 55 out of 1400 culvert exams and lost 13 out of 355 due to access issues. There is an impact on efficiencies if they have to re-plan work particularly if this impact the staff rostering which is agreed weeks in advance.</p>	<p>The Amey view is that 15% of their planned work is cancelled. This averages to a couple of visuals and a couple of details per week for various reasons. The vast majority of this is cancelled because of access issues. There has been some resource level cancellation but it is not a significant portion of the figure. The most frustrating issue is cancellation on the night which may be due to ESA not allowing access to the workites cannot be deconflicted.</p>	4	<p>The Region through their CEFA Manager appears to have a robust planning process which has reduced the level of cancellations. The highlighting of the profile of a examinations has also had a very positive impact.</p>																																																		
	E003		E003 - c14.6 'review all rejections' set up a holding bucket covering old and new contracts		E003 - c14.6 'review all rejections' set up a holding bucket covering old and new contracts			E002 - explain the process of the old and new contract holding buckets for all rejections and the RAG status meaning																																																			

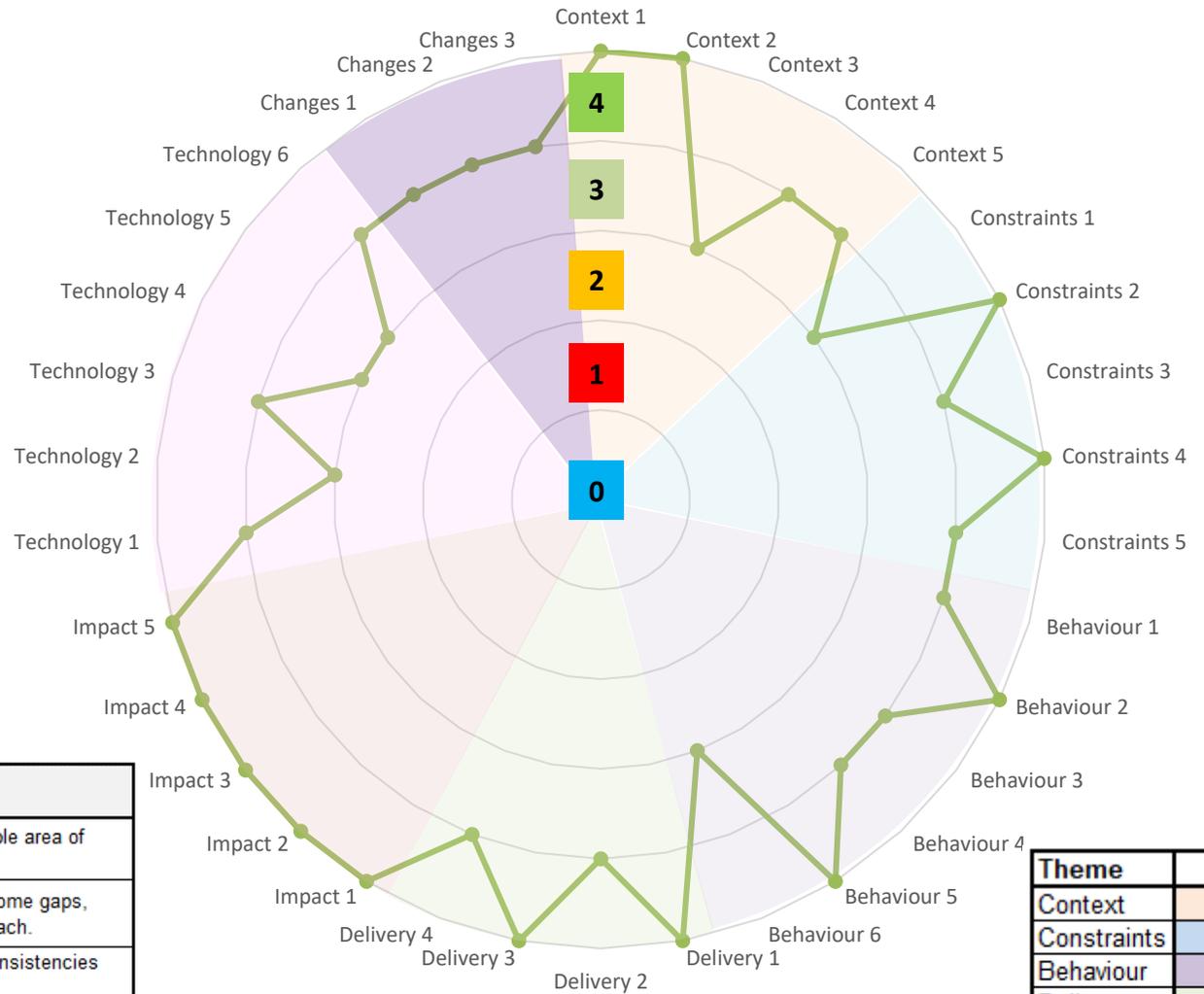
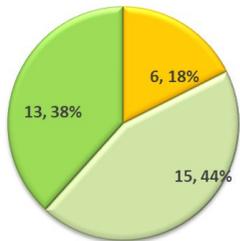
9	<p>Constraints 3</p> <p>How do the identified constraints affect the different asset types across your portfolio and how is this managed?</p>	<p>E021</p>	<p>Access is the main issue and there was a discussion on the impact of this on various structure types. Tunnels, for example, are a success story because historically they were getting very limited attention. Now access to these types of assets is better than it has been with a regular programme of possessions in the plan. Culverts have also been a focus and hence including them in a separate Lot. The quantum of these assets requires a significant level of planning to complete. With regard to bridges there are particular structures and intersection bridges which have their own problems particularly where road or lane closures are required. They have also targeted retaining walls where there may be a need to undertake a letter drop and agree access through neighbouring gardens. This can have Covid implications where the only means of access is through a house. Station subways are also difficult because of the presence of operational cabling. This also applies to structures at Managed Stations where it is essential to work with Major Stations Property team to get the necessary access. E021 in the SPN Narrative columns shows the access planning undertaken for the various asset types.</p>	<p>For over bridges they will use a T3 because they need to get RRVs onto the track. The constraints do not apply to particular asset types but rather to difficult to access ELRs.</p>	<p>3</p>	<p>Access was highlighted as the main constraint across the asset types. The difficulties with the various assets were typically highlighted in a brief run-through. E021 shows the workbank for both visual and detailed inspections and under the SPN columns the planning appropriate for each item. This covers equipment, enabling works, access details, and any relevant comments. Understanding the access and equipment constraints for each item are evidenced in the plan. The resource impact was not specifically dealt with in this question.</p>
10	<p>Constraints 4</p> <p>To what extent are resources for examinations shared nationally?</p>	<p>E035</p> <p>E035 - c3.1 notes that benefit could come from local strategies developed in other Regions?</p>	<p>E035 - what opportunity has been taken of knowledge and learning resources in other routes to benefit Southern? Is there a sharing of resources across Regions by the contractors? Is there a sharing of equipment (e.g. specialist plant) across the Regions?</p>	<p>In general, the answer was no they don't. The Region specifically put in a Tunnel Lot in new contract procurement. This was designed to keep the skills within the Region. However, even prior to this current contract examiners do not generally share between Regions. It was also noted that the Amey STE02 resource was ring-fenced to the Region. The District Inspection Unit was specifically mentioned as a piece of national kit which could be hired in based on the Region's programme of activities. No specific sharing of expertise was described.</p>	<p>4</p>	<p>From the response it appears that the sharing of resources is not part of the Region's plans. And indeed the contracting strategy was designed to ring-fence resources rather than have them pooled. The degree of asset sharing is less than it used to be. However the Amey STE02s work in a national pool. There are some that are dedicated to Southern but when they are not busy they will assist other Regions. The point was made that the opportunity to share staff across the border is now limited with the new contracts meaning that the nearest Route is Wales. Nationally Amey have Resource Managers in their team who will meet on a regular basis to share resources around if needed. In terms of equipment all plant is hired through the Amey supply chain and is not shared. There is a monthly meeting resource and programme managers to discuss tricky assets and to share best experience.</p>
11	<p>Constraints 5</p> <p>What do you believe could be done to reduce the impacts of the identified constraints?</p>		<p>The issues with the resources and access have been discussed above. TWSP is the biggest issue on the horizon and the need to understand how this will impact on the plan (likely for the worse). This is considered the biggest risk.</p>	<p>Given that accessibility is the key constraint and there is a need to run the train services no practical solution to the problem was identified.</p>	<p>3</p>	<p>The actions being taken by the Region following the placing of the non-compliance on the Escalator are described in the responses above. The impact of TWSP was highlighted as a further unknown in terms of its impact on compliance. The conclusion is that there is a limited amount which the Region can do to move to a compliant position given the nature of the regime and the level of compliance they are able to achieve given the constraints associated with access. Solving the resource issue is anticipated as coming good once the contracts, particularly XEiad, settles down. Following the second agreement with the Region it was considered that too much emphasis had originally been placed on the integration of Wessex which was out with the scope of the question.</p>
13	<p>Behaviour 1</p> <p>To what extent does the relationship with external contractors or an internal delivery organisation, as appropriate, associated with the structures' examination process impact on the level of non-compliance?</p>	<p>E011 E012 E013 E017 E018 E027 E032 E035</p> <p>E013 - this relates to the level of rejected reports submitted by the contractors. Notes that there remain outstanding reports from the old contract (50 in Wessex) and a pattern of issues with one examiner and examining engineer re-uploading incorrectly without change (47 times). E019 - as of early Nov 2021 there were 29 upload failures. E027 - shows the split of the Contract Lots between Amey and XEiad. E032 - minutes of the Wessex One Hour Structures Catch Up. E035 - Table 1 shares the test spec and opportunities offered by the new contract. E035 - c3.2 acknowledgement that the new contract led to 'the most disruptive time for exam delivery in the last 12 years'</p> <p>Lot 2 outlook: XEiad have introduced a national resource and recruitment plan (see 5.3) and standardised reporting is being developed for full roll-out from March 2022. Communication between Network Rail and XEiad is positive and teams are working well together.</p> <p>E035 - c5.1 mobilisation status of note are Lot 2, 4 and 6</p> <p>Lot 4 and 6 outlook: Sub-contractor resource has been secured for both Lots and work is underway. Resource on subcontractors to provide competent staff (e.g. ST2 and ST4) and plans have been substantially delivered. In Lot 6, work to complete detailed examination is progressing well and an initial delivery programme for the outstanding 52% will be available in January 2022. Visual defect examinations are underway and anticipated site completion trends to April 2022 on Kent and Sussex which are more affected by resource issues. Standard reporting is in development and relations with supplier are good.</p>	<p>E027 - Against Lot 1 what is the significance of the reference to the Network Rail Framework Agreement construction services civils examination? E027 - Noting the requirement to split the Lots has the resulting split delivered the necessary expertise into each Lot? E035 - to what extent did the perceived opportunities of the new contracts deliver in practice? E035 - with regard to the level of disruption what impact has this had and what level of improvement has there been, if any, in that level of disruption? E035 - noting that the comments on the outlook for Lots 2, 4 and 6 to what extent have things taken longer to bed down than was anticipated? E032 - what is the purpose of the 'one hour catch up' meeting in Wessex and how does this fit with other contractor liaison / monitoring engagements? E032 - are there similar meetings in Kent and Sussex? E013 - with regard to the level of rejected reports - what proportion of the total is this? E013 - How are old contract rejections being dealt with? E013 - Are there lessons being fed back to the contractor in terms of site access is structures examination getting an appropriate level of priority over trackside access requirements?</p>	<p>It was stated that there had been a lot of issues with the commercials on the new contracts which revolved around differences in the way the tenders had priced the documents. The contracts should have been awarded several months before the due date of April 21 to allow a mobilisation period. The award slipped by three months and they were not actually signed until the day before the start date. There was thus no mobilisation period. Whilst this was less of an issue for Amey it was a big problem for XEiad. Thus at the point of transition, for XEiad, there was no planning in place which had an impact which still remains. The point was made that in the status of the mobilisation of the new contracts Amey suffered a cyber attack which effectively knocked out their systems and planning for a period of three months. The other factor was the impact of Covid where Amey was refusing to undertake even critical exams. This resulted in Network Rail resourcing some site works. There was also a requirement to make work places Covid compliant. During this time the Region took the decision to not go down the route of a 'best achievable detailed exam'. This was because experience in the past showed that where there had been asset problems these could be traced back to this type of exam. The one which was the 'Lot too far' was that for tenanted arches because the sole bidder dropped out (to work on Eastern) and thus it had to be varied into the SE General Lot with Amey. It was stated that there is a lot of engagement with both contractors and there is a willingness to succeed. The Weekly Catch Up meeting (E032) is the forum to discuss the four weeks out look down of the plan. There are similar meetings for Kent and Sussex. With regard to E013 there is a problem with a contractor (E1) it sent back to the contractor for rectification. They go through the issue with the contractor to seek rectification. The process is different in Wessex with the involvement of the Compliance Engineer. The Region plans to move to a unified process. In the follow up session the Region explained that they had gone from a Route to a Region and that whilst they had strong processes in place in SE they had to take a step back when looking at Wessex and take an in-depth examination of the data in that Route. Refer to the earlier conversation - they had been a low priority a few years ago but this has now changed and is evidenced by the fact that they loose very little on the night. It was stated that there is now an appreciation that it is an important issue and there is a rejection that it will be escalated through the RAM.</p>	<p>3</p>	<p>Based on the evidence as presented in the documentation and described at the meeting the relationships with the two contractors appears good. The Region appears happy that there is a willingness on both firms to succeed in the delivery of the contracts. The Network Rail CEFA team is seen as being particularly effective in the Region. However the Amey view is they are frustrated by the access issues caused by internal Network Rail problems / preferences. The point was also made that for every job that is lost there is a lot of hard work undertaken by both sides to try to recover the situation and replan it. Acknowledged that Amey resources used to be a problem but this has gone away since the start of the new contract. As noted previously the legacy of the procurement process appears to have impacted on compliance and this requires to be reviewed in light of this experience to improve future such exercises.</p>
14	<p>Behaviour 2</p> <p>Within the organisation how much of a priority are structures examinations as a safety critical activity?</p>	<p>E035 - Table 7 & 8, and C14.4 the document shows the meeting cycle, reporting cycle and the reporting of Examination Non-Compliance at various levels chaired by Head of Asset Management, DEAM, and RMD respectively. E035 - Figure 9 the periodic Chief Engineer Assurance Review provides the opportunity through metrics and commentary to escalate issues to national forums via the Network Technical Head team.</p>	<p>E035 - whilst it is clear that these are significant reporting of the level of non-compliance taking place the actions taken are less clear - to what extent is the reporting of levels of non-compliance effective in reducing the quantum of non-compliances through the intervention of senior management? What role does the TA have in overseeing the delivery of examinations and the aim of reducing non-compliance?</p>	<p>It was stated that the structures examination activities of XEiad represent 90-95% of the business and is therefore very important to the firm. The individuals on the call were the Regional Directors for North and South. They are heavily involved in the day-to-day delivery of the contract. Above them is a Board of Directors and they report to the Managing Director. The MD and CEO get regular reports on performance looking at what needs attention. The view was expressed that XEiad are very receptive to the need to change - as an example their system has had to cover 20 times more traffic to the client. This was dealt with as a priority by the firm. As above there is a detailed weekly reporting of activities going to the executive team. As an example of the direct impact the recent involvement of the senior team, the Business Director gathered the relevant managers together and to them to 'get their act together' why are you not delivering? It is unusual for a Director of Amey to get so involved in this level of detail. [Noted that they are quoting that 95% of their submissions are within the 28 day deadline. Before Christmas they were turning results round in 4 days and details in 11 days - currently it is 14 and 20 days respectively but there is a significant amount of site work taking place.] The point was made that there is a feeling that the ORR is not helping the situation but indeed making it worse by making Network Rail focus on reporting non-compliance rather than have a longer term strategy to fix understanding of asset condition. In terms of an assessment of the response to the question it is considered that the Region has an appropriate level of reporting and that team need to use the TA to drive the solution.</p>	<p>4</p>	<p>On the basis of the very low level of cancellations it would appear that the process is being given the appropriate level of priority.</p>
15	<p>Behaviour 3</p> <p>What role does the leadership team in your organisation play in monitoring and directing action to reduce non-compliance?</p>	<p>E002 E004</p> <p>E002 - c4.8 weekly reporting of compliance E004 - c10.0 reporting dashboards appears to still be work in progress</p>	<p>Fig 9: Compliance metrics from CE Assurance Review</p> <p>Table 7: Schedule of regular meetings for Southern Region Examination Programme</p> <p>Table 8: Reporting for Southern Region Examination Programme</p>	<p>E002 - what is in the weekly reporting of compliance levels and what action is taken? E004 - what is the current position with regard to the reporting of progress and non-compliances by XEiad?</p>	<p>3</p>	<p>See answer to Behaviour 3.</p>
16	<p>Behaviour 4</p> <p>To what extent is the level of non-compliance reported within the organisation, what KPIs are used to track compliance, and how do these link to any incentives?</p>	<p>E016 E035</p> <p>E016 - the generation of RAs appears to be part of the BAU process E035 - c3.0 lists concerns in the Region</p> <p>The following concerns have been expressed in relation to Southern Regions exam compliance position:</p> <ul style="list-style-type: none"> We are failing to maintain an appropriate level of information on asset condition Exam non-compliance creates a backlog in maintenance potentially elevating asset risk. We tolerate non-compliance and lack ambition, innovation, and urgency to deliver within limits. There is a lack of a recovery plan to address the non-compliance that exists <p>E035 - Fig 1 shows the trend in non-compliance since 2015/16</p>	<p>The Region agreed that the ability to solve the problem of non-compliance was limited with the tools they have available. The point was made that the percentage of non-compliance is small. They have risk assessments in place where an asset has become non-compliant and they have been working hard in the planning space to reduce non-compliance. They view that the small level of non-compliance has been accepted, and that without injecting anything extra into the process it is unlikely to change. It was considered that re-writing rules to make the regime compliant is not appropriate when the asset base is so diverse. The point was made that the Standard was drafted principally to help Network Rail know where they were in terms of the examination process and that these rules were not evidence based statement of requirements. As a result over the past ten years Network Rail now know where they are and the question now is seen as being - is there risk in the non-compliance gap and is this the most important risk they should be focused on? The Region's view is that the structures examination non-compliance gap is not the biggest risk they face but it takes a lot of resource to manage it.</p>	<p>Fig 1: Southern Region structures examination trend in 2015-16</p>	<p>4</p>	<p>The Region's view is that there is a relatively small level of non-compliance which is very difficult to eliminate and that such has been accepted. What is now emerging is a challenge of the Standard in terms of its relationship to the potential risk and a view that the non-compliance risk is not the biggest they face. The argument associated with the level of risk and the cogent view expressed by the Region with regard to the associated risk are considered to show a robust position.</p>
17	<p>Behaviour 5</p> <p>To what extent is non-compliance accepted as the norm in the organisation?</p>	<p>E001</p> <p>E001 - Noted that Amey didn't have dedicated culvert inspectors therefore since XEiad took over there was no transfer of staff to them with experience of Southern culvert examination.</p>	<p>To what extent did the issues surrounding the transfer or transfer of staff within the contractors impact on delivery? Has the position with regard to specialist resources now stabilised? What role, if any, did Network Rail have in the TUPE process?</p>	<p>With regard to the staff who transferred to XEiad it was noted that there was a lot of fear associated with the process for certain individuals because they need new kit and need to follow new processes and methods. XEiad were ready once Amey had de-mobilised to get PPE and vans but it was acknowledged that there was still an induction process to fit into the new business. There was a view that individuals felt that they had been cast aside by their previous employer. The view was that things have bedded down but there is still work to do in terms of the party between grades. At the follow up session the Region pointed out that the TUPE issues did not affect the entire Region examination activities. They stated that for the SE side it was a 'non-issue' because of the rolling forward of the incumbent contractors' similarity with the Regional tunnels Lot. Underwater examinations (Lot 4) was procured through sub-contractors anyway. The examiners for the Wessex general (Lot 2) were TUPEd across from Amey to XEiad very quickly. The challenge came with the culvert Lot but it was stated that these represented a limited number of resources. The Region's view therefore was that the TUPE process went well.</p>	<p>2</p>	<p>The TUPE exercise which resulted from the new contracts linked to the late contract award meant that XEiad were without resources and had to scramble to get agency staff to cover the gap. The Region set the framework for the new contracts and therefore had a hand in the regime which delivered the TUPE issues. It is noted that the position is starting to stabilise through recruitment but this has cost at least six months of delay which could have potentially been anticipated and avoided. It was noted that whilst the staff transfer process had impacted on delivery there was no evidence that behaviour had been detrimentally impacted. In the follow up session the Region made the point that the impact of TUPE was largely limited to the culvert Lot and as such represented a small number of resources. In the overall pool of staff delivering examinations. Whilst this view was noted earlier evidence considering the impact of the new contractual arrangements indicated that there had been an issue with this and that part of this was associated with the TUPE process.</p>
18	<p>Behaviour 6</p> <p>What impact has the TUPE transfer of staff had on delivery and behaviour?</p>	<p>E001</p> <p>E001 - Noted that Amey didn't have dedicated culvert inspectors therefore since XEiad took over there was no transfer of staff to them with experience of Southern culvert examination.</p>	<p>To what extent did the issues surrounding the transfer or transfer of staff within the contractors impact on delivery? Has the position with regard to specialist resources now stabilised? What role, if any, did Network Rail have in the TUPE process?</p>	<p>With regard to the staff who transferred to XEiad it was noted that there was a lot of fear associated with the process for certain individuals because they need new kit and need to follow new processes and methods. XEiad were ready once Amey had de-mobilised to get PPE and vans but it was acknowledged that there was still an induction process to fit into the new business. There was a view that individuals felt that they had been cast aside by their previous employer. The view was that things have bedded down but there is still work to do in terms of the party between grades. At the follow up session the Region pointed out that the TUPE issues did not affect the entire Region examination activities. They stated that for the SE side it was a 'non-issue' because of the rolling forward of the incumbent contractors' similarity with the Regional tunnels Lot. Underwater examinations (Lot 4) was procured through sub-contractors anyway. The examiners for the Wessex general (Lot 2) were TUPEd across from Amey to XEiad very quickly. The challenge came with the culvert Lot but it was stated that these represented a limited number of resources. The Region's view therefore was that the TUPE process went well.</p>	<p>2</p>	<p>The TUPE exercise which resulted from the new contracts linked to the late contract award meant that XEiad were without resources and had to scramble to get agency staff to cover the gap. The Region set the framework for the new contracts and therefore had a hand in the regime which delivered the TUPE issues. It is noted that the position is starting to stabilise through recruitment but this has cost at least six months of delay which could have potentially been anticipated and avoided. It was noted that whilst the staff transfer process had impacted on delivery there was no evidence that behaviour had been detrimentally impacted. In the follow up session the Region made the point that the impact of TUPE was largely limited to the culvert Lot and as such represented a small number of resources. In the overall pool of staff delivering examinations. Whilst this view was noted earlier evidence considering the impact of the new contractual arrangements indicated that there had been an issue with this and that part of this was associated with the TUPE process.</p>

33	Technology 3	What new technology is being used / trialled by your organisation in this area, what barriers exist and how is technology best practice / experience shared nationally	E002 E004	E002 - c15.0 mention of several systems e.g. CES, AES, web TCM, EM and OPAS2 E004 - c17.0 discusses various system issues	E002 - what are these systems, what benefit is expected from them? E004 - Please describe the current position with regard to CES and AES in relation to the XEAD contract and its delivery	They are using camera on a pole to look at parapets and look across the railway. This eases access restrictions. They have also looked at using drones particularly bridges over water in the port of London area which didn't work out and therefore they used cherry pickers on barges instead. In response to a question it was confirmed that there is funding at the Centre to develop technology but that it is being left to the Regions to move this forward but the day-to-day team has little time to innovate. It is the Regional Engineering team who have the headroom to develop this aspect. The view was expressed that it is not the R&D or the Innovation bit that is broken but rather the link between the two. In the follow up session the Region expressed the view that the adoption of DiCam technology to survey tunnels was something which would have a significant impact however the introduction of this was said to be out with their control. The other potential technology noted was the use of cameras on trains. This is seen as a potential solution to limitations imposed by TWSP but the Region felt that the quality of the output from this needed to be proved before it could be reliably adopted. They did acknowledge that they were looking at the use of this technology in the absence of a national approach but it was not considered to be something which would be capable of being adopted in the next 12 months. The Region did however share that it an individual looking at what may be possible from the use of cameras on trains to undertake visual examinations. This work has involved liaison with other Regions who are co-funding some of the work. The Region however stressed the point that they believed that the development of technological solutions should be undertaken at a national level and that it was potentially wasteful for each Region to develop its own technological solutions.			3	A number of potential uses of technology were discussed with the use of DiCam being the most likely to deliver savings in terms of reduced tunnel possession times. The comment was made that the use of technology seems to be particularly slow even for systems which are available in the market place. The comment was also made that the front line managers were fully occupied dealing with the day job and had little headroom to innovate in this fashion. There were however examples provided of technology being used to support delivery of the programme. Based on the earlier discussion on the use of technology it was notable that the delivery partners were willing to innovate but that the Standard was seen as a barrier to innovation. In the follow up session it was noted that the Region was undertaking some developmental work associated with the potential benefits from the use of camera on trains. This was being done in conjunction with other Regions however the benefits were not expected to be available in the short term. The point was also made that Region strongly believe that the advancement of the use of technology was a national matter. There is merit in the use of national resources to develop technology to the benefit of all Regions.
34	Technology 4	How does the current examination process link to the Network Rail Intelligent Infrastructure transformation		The CES, TCM and AES systems form part of the intelligent infrastructure programme and are still subject to further development. The roll-out of these systems has the potential to impact compliance and need to be carefully monitored as part of this plan. Both exam suppliers propose system enhancements for the management and on-site completion of examinations for these contracts. AMEY is seeking to develop ALARM 2.0 and Xelad is updating its X-PORT/GARD systems. These have the potential to improve the timely completion and submission of examinations in conjunction with the CES system.	To what extent has the Network Rail Intelligent Infrastructure system and technology R&D impacted on the Region's delivery of the examination process?	This is a centrally driven initiative to manage linkage between databases. It is driven by the ORR requirements for Network Rail to better manage condition information instead of exchanging spreadsheets and PDFs to exchange real data and therefore to provide assurance across the portfolio. Question asked why it has taken so long to develop this technology which is pretty simple and generally available to allow them to share information with their supply chain. Within the Region they have a technology strategy - the approach is a gentle exploration of available technology e.g. 360° walk throughs of bridges. They recognise that they should be much better at moving to these technologies but understand it must be done in a very controlled way.	They had not heard the terminology of Intelligent Infrastructure. They recognised CES and are one of the suppliers working with NR regarding automatic transfer of data. They have gone through testing phases with Network Rail and are at the forefront of its development.	Refer to handheld. Other suggestions on QR codes and scanning information would be a great addition. Suggestions have been welcomed by delivery but a constraint is the budget	2	Again the Region expressed frustration that the process of linking in their databases to the suppliers was taking so long. It was noted as being centrally managed which appeared to take it out of the direct control of the Region.
35	Technology 5	What systems does your organisation use and how are these inter-connected in terms of the line of sight from the asset inventory, through the examination process to the outcome in terms of planning maintenance and renewal			All - there are a lot of spreadsheets which have been shared with us - it is not clear how these are linked e.g. the Y3 programme, non-compliance tracker, RA completion, periodic trackers, rejection trackers etc.	There are a lot of spreadsheets and monitoring data which are used for reports. All of the tabulations are created regularly to monitor delivery. These are simplifiers which are used to share information. There is no 'driving system' pushing out these spreadsheets they are all produced and are bespoke.		ALARM2 is their database system which will be going live in next 3-4 months and will feed into Network Rail. This will be compatible with handheld units on site. They view the contract as moving to be more digital, which has taken a lot of investment from Amey. ALARM cyber attack destroyed Amey's security. ALARM2 is completely different.	2	The use of multiple spreadsheets for reporting (as noted above) indicated that technology was not being used to its best advantage. The comment was made that they were trying to get the contracts bedded down before taking any further steps. There is however initiatives in the delivery partners to improve connectivity between systems e.g. ALARM2.
37	Technology 6	What is the timescale and process for moving any new technologies into BAU?					In terms of getting the new systems to BAU after testing - plan dates will be BAU in 2 months - other elements will become BAU by Jan 23. The benefits are with Network Rail in terms of the speed of response, sharing of the data, and knowledge of the asset.	ALARM2 will be live for this contract.	3	Based on the Regional discussion there was no real indication of dates or processes leading to BAU. However the delivery partners were able to confirm the dates for their technological developments which appeared realistic and beneficial.
38	Changes 1	What are the proposed changes to the current examination framework (as a result of both internal and external factors)?	E003 E004 E036	E003 - c10.2 - noted that new TCM scores will be introduced in Y4. E004 - c12.0 - noted that there are likely to be cost implications associated with move to TWSP. E036 - this is a time-bound TNC covering the extension of tolerances for some activities	E003 - what are the implications of the new TCM score in Y4 in terms of additional training etc? E004 - what is the current assumption with regard to the impact of TWSP in terms of resource requirements, access and cost? E036 - what is the Regions view of the long term outcome of the Tranche 1 work associated with the changes to frequency and tolerances?	The change has taken place in terms of the putting in place of the new contracts and the pulling together of the contractual framework which is not business as usual. TWSP the jury is out at the moment so assumed to be work as at present. In terms of the new TCM tool this simply involves training the relevant staff in its use and implementing it. With regard to the tranche 1 work the benefits are potentially huge and the answer to non-compliance is considered to be in there somewhere. The problem just now is that they don't have the data to link non-compliance with future. By drilling into this work it is hoped that this will resolve this issue. It was noted that this tranche 1 work is timebound but the date is not known.	The devolution of a national contract to a regional contract will change the parameters of the activities and reporting. There is therefore a risk that the standard approach is lost and that there is therefore a lack of consistency nationally in the way things are done. There are also technologies coming along from Network Rail with virtual workites and the use of camera technology on the front of trains to gather data. There was a fear that the measures Network rail is putting in place for their own staff, in terms of crossings etc, that this would not be opened up to suppliers also. Their view was that technology could be a game-changer but that whilst Standard 006 exists it is seen as a constraint to innovation.		3	Apart from the changes associated with the new contracts there was little else evidenced by the Region. Reference was made to the use of technology to make changes in the way the examinations are delivered but this wasn't quantified. The impact of the WSP Tranche 1 work was however considered to be 'potentially huge'.
39	Changes 2	What are the specific benefits anticipated to accrue from the changes, how will these be measured and to what timescales will they be delivered?	E026 E029 E030 E036	E026/029/030 - these tables of non-conformances by period show the impact of the change in tolerances	E026/029/030 - apart from a reduction in the level of non-conformance what is the anticipated benefit from the change in the tolerance levels for examinations?			The standard should be reviewed to aid efficiency for technology, as the time available on examinations is very precious. Standard suggestion changes: how a report is conducted- moving from text based reports to coded systems, which is not an unreasonable task. The BCM already exists for bridges and culverts. Can be applied for tunnels and other assets	3	The benefits from the Tranche 1 work were described earlier and it appeared that hopes of a significant change in the examination approach would be achieved from this work. Noting that TR 61432 represented a taster of the outcome of this work. The timescales for the delivery of Tranche 1 are documented.
40	Changes 3	What is the expected impact of these changes on the current level of non-compliance over time, and how will it impact specific elements or outputs of the examinations process (e.g. quality of reporting etc.)?							3	The fact that the Tranche 1 work is on-going by WSP meant that the impact of its implementation is not clear at this time however it was believed that it would see a shift away from the current compliance windows to something more risk based.



#25529 Review of Structures Examination Compliance Southern Region Heat Map

**Southern Region
Ratings Distribution**



Confidence Rating	Description
4	Evidence presents a clear understanding with no identifiable area of weakness or inconsistency in the approach.
3	Evidence presents a reasonable understanding but with some gaps, inconsistencies, or weakness in some areas in the approach.
2	Evidence presents significant gaps in understanding, inconsistencies and weakness identified in the approach.
1	Evidence incomplete and limited understanding shown with major inconsistencies and gaps identified in the approach.
0	Insufficient information provided.

Theme	
Context	
Constraints	
Behaviour	
Delivery	
Impacts	
Technology	
Changes	

Topic	Question	Doc. Ref	Evidence form Documents	Queries	Evidence form Regional Stakeholders	Evidence from Delivery Stakeholder	Assessment (24 02 2022)	Evidence Assessment Summary	Opportunity for Network Rail
Context 1	With respect to your organisation's scope of work how many assets are covered by the examination regime and how do these split into the various types e.g. bridges, culverts, retaining walls, tunnels, coastal/river defences, ancillary structures etc		Across Bridges and Other Assets the Wales and Western portfolio consists of 13969 structures these are split across the two routes as follows, Wales 6734 and Western 7235. Wales consists of 2204 Bridges and 4530 Other Assets Western consists of 2715 Bridges and 4520 Other Assets. All bridges will be in scope for a visual examination as per the standard with some undergoing detailed examinations instead.	What is the scope of work for Xeiad for 21/22.	We have four delivery partners Amey, GW Marine and Inspire in Wales, and Xeiad delivering in the western route. Work bank for Visuals is stable as all assets have to be inspected the changes are due to details The region are in the situation where Wales are operating in the second of a contract where as Western are in their first year of the new contract. Wales supplier Lots and breakdown: Bridges and Retaining Walls: Amey Tunnels and Culverts: Inspire Under Water: GW Marine Year three workbank for Western is reduced as due to the three month contract change period where Amey continued to deliver before Xeiad were in place. .	N/A	4	The Region has a clear indication of the scope of works. The workbank is split according to lots for Wales and the entire Western portfolio. The region is responsible for the management of 13969 structures approximately split 50/50 between the two routes. They are supported in the delivery of examination by the following suppliers: supplier Lots and breakdown: Wales Bridges and Retaining Walls: Amey Wales Tunnels and Culverts: Inspire Wales Under Water: GW Marine Western All Assets: Xeiad The work bank is accurately distributed to suppliers through the P&R process to align delivery as closely as possible to compliance dates. The deliver partner accurately presented their breakdown of their Y2 awarded workbank.	
Context 2	How do you apply the requirements of Standard NR/L3/CIV/006/1A		Supplier contracts are written so that examinations are conducted as per the requirements of NR/L3/CIV/006/1A. Suppliers are therefore required to meet the tolerance as outlined in the standard which should allow network rail to meet compliance tolerances.		We hold the suppliers to account against the standard and the tolerance windows outlined there. The TNC has not been applied and used only as an internal tracker and reported to the Orr to understand the impact of changing the windows.	N/A	4	Suppliers are held to account to deliver the examination as stipulated by the Standard. Wales and Western suppliers are held accountable to different technical standards due to the issue of a technical specification on the western contract. The TNC has not been applied against how we monitor their compliance position only to report our overall position to the ORR.	
Context 3	To what extent does the Standard complement your processes and fit your needs, and what issues do you have with the process as outlined in the Standard? How is compliance to the Standard tracked and what is your current level of non-compliance for the examination / submission / evaluation stages of the process?		Compliance of delivery teams are tracked through weekly reporting of delivery teams progress against the programme. The region provides monthly reports to the Technical authority and the ORR which detail their compliance position for visual, detailed and underwater examinations. Three categories of compliance are tracked, Site Examination Tolerance, Submission Tolerance and report evaluation. Current levels of non compliance have increased over the three periods that have been provided.	Does the standard allow you to ensure that suppliers are completing examinations to programme.	The standard is applicable for the management of risk for Detailed Examination and takes a risk based approach to developing interval periods between the examinations. The tolerances around these dates are appropriate for the magnitude of timelines for the overall portfolio. Engineering judgement says I see the assets one a year what happens in-between, need to understand the change seen and the information that a VE gives. Standard is appropriate given the levels of deterioration seen between VEs, however weather the tolerances are right for when a VE is undertaken is reasonable needs to be looked at which we are doing alongside the Technical authority. National tracking at a period against the standard which goes top TA and then goes to the ORR. Generated in week one of each period every four weeks to report.	N/A	2	The region feel that the risk based approach applied to the detailed examinations and the tolerances to meet compliance are appropriate. Tolerances are reasonable given the risk profile associated between detailed examinations. With regards to visual examination the region view is that the tolerance periods for compliance need to be reviewed, which is being undertaken. The frequency of visual examinations is appropriate given the levels of deterioration seen between examinations.	
Context 4	How does the current level of non-compliance compare to the historical position?			What is the comparison of current non compliance over the last few years.	Prior to the contract change the region believe that they were in a reasonable position compared to others with the level of non compliance, compliance profile probably best in class. There is a cyclical nature of the non compliance with the region moving towards compliance closer to the end of the year. Wales is getting back to a place similar compared to pre contract change levels. 1% DE on site and 6% VE on site works, the regulator has asked to look at three stages of site where as previously this had only been on site. Regionally owned process, sign off, should be at zero and are working to activate this.	Wales and Western one of if not the most forward thinking region which has allowed us to achieve a low level of non compliance in Y2 of the contract. Y1 of the contract we were always playing catch up as the awarded was three months late amend we had to deliver 12 months work in 9months. Overdeliver of on site - is due to having balance in the work bank. P&R process allows us to level out the workbank and have some float with how we deliver. try to programme to ensure examiners a programme to go to one area once. The float in the workbank is important to manage staff illness and leave, and access constraints. We try not accelerate delivery too much as this places congestion in the following year with the rolling examination dates as per the contract. So we try to maintain the smooth delivery profile. We try to develop a level programme that is repeatable year on year. We undertook additional culvert examination in the Western Route to support NR as they were going non compliant on critical structures due to the delay in the appointment of the new delivery partner for Western.	3	The region have experienced higher levels of non compliance overall than they have done, however this must be looked at across the three levels that compliance is measured and across. Wales have shown improvement during the second year of the contract and at Period 8 had no compliance across all lots as 239 Detailed, 740 Visual and 50 Underwater exams a reduction in non compliance over P6-8 is seen expect for Detailed examinations. For visual this breaks down across the three stages of compliance Site, Submission and Sign off as 40%, 43% and 17% respectively. Data from Inspire highlighted that submission compliance does large behind site compliance. Western have seen a rise in non compliance since the change of the contracts which were delayed by three months and now see the highest levels of non compliance since the start of the CEFA period. Over the three periods analysed there is a growth submission non compliance. Wales route partners have had to be used to ensure critical structure were examined.	
Context 5	What has been the impact on the process following structures examinations being placed on the Regulatory Escalator		Wales and Western have produced a recovery and sustainability plan. They are working alongside the TA to understand how risk assessments can be used as an interim measure to manage the risk when failing to maintain an appropriate level of information on asset condition due to examination non compliance.	Alongside producing a recovery and sustainability plan and working with the TA	There has been no impact on the process for delivering the workbank. However, there has been an increase in the frequency of the meetings regarding monitoring of progress. The region are undertaking weekly meetings to report and manage compliance and delivery of examinations.	Used to have four weekly meeting and reports but now doing a week at a time better reporting, very collaborative approach. As WW are one of the more communicative regions these process have been in place and it a change to reporting frequency. Very Collaborative approach with WW.	3	There has been no impact on the process for delivering the workbank. However, there has been an increase in the frequency of the meetings regarding monitoring of progress. The region are undertaking weekly meetings to report and manage compliance and delivery of examinations. The Delivery partner was complementary of the communicative approach that Western and Wales take in working with them to achieve compliance.	
Constraints 1	Given your level of non-compliance what constraints across the process are causing this and to what degree are the types of constraint impacting on the non-compliance e.g., financial, staffing (numbers and competence / training), contractual, site accessibility/possession (including reliance on others for access), planning, information systems, fluctuations of inspection work bank volumes etc.?		The following constraints have been identified in the Recovery Plan for the region. Work banks have not been issued early enough to support robust planning Changes to issued work banks have not been sufficiently controlled Access dependencies have not been sufficiently understood (e.g., third party, track access) There is a tension between delivery organisations planning for instructed exam due dates and planning for efficient delivery. Payment on delivery of completed examination under previous contracts was softened so that most of the payment was made on completion of site examination. Constrained examiner and examining engineer resources limit capability to respond to emerging risks and opportunities.	Recovery plan	Historically regional/route constrained budgets limited any resourcing or programme changes that could have been made. This has been addressed in the new contracts and now we have more flexibility with costs to allow training and paying contractors to train. Delivery partners like to constrain the skill base and resources to achieve what is required based on the workbank. With respect to Wales partners they are relatively rich in resourcing and so have had limited impact on contract change in year one and have been able to get back to normal in Y2. Xeiad have more of an issues as the planning team did not all come over and there is significant under-resourcing of STE02. This is leading to an upward trend in submission non compliance. New open line working problems have been resolved. We are getting a very few line blocked access. The planning teams are well developed in terms of planning on site work. Planned enabling works, generally vegetation and de silt and de water. Contract to undertake the de silt and de water was only awarded in November so we are had to program all the culverts that needed this being done into the back half of the year and so some are non compliant until we can undertake them. To plan enabling works when we get the workbank in November we have until January to plan out when work needs to be undertaken. Work bank changes - this year we have had to undertake the ancillary assets, with them being issues in November adding to the programme disruption and also mean we are non compliant from the start of the issue of the contract until the end of year.	In the first year was hard to try and recruit and get them trained, we had to pull people in initially to train and deliver the workbank. Track access, getting the access rolled over and over again which impacts the whole plan of work. Ban on open line walking and crossing the line. Big issues with the crossing line as the new process is not in place and with the nature of culverts having headwalls either side of the track (Headwall to Headwall) it has increased the time taken for an exam significantly. Getting a line blocked is quite tricky and would mitigate the issues until crossing the line processes enacted. Planned enabling works, generally vegetation and de silt and de water. Contract to undertake the de silt and de water was only awarded in November so we are had to program all the culverts that needed this being done into the back half of the year and so some are non compliant until we can undertake them. To plan enabling works when we get the workbank in November we have until January to plan out when work needs to be undertaken. Work bank changes - this year we have had to undertake the ancillary assets, with them being issues in November adding to the programme disruption and also mean we are non compliant from the start of the issue of the contract until the end of year.	2	Within Western the supplier is currently under resourced with regards to STE02 and planning roles though they are undertaking training programs to bring new resources onboard. Wales suppliers had some resource development in Year 1 of the contract but this was managed and are now fully resourced. The relative lack of competition from the tendering of other regions made it easier to do so. The delivery partner (Inspire) outlined how they had developed a resourcing and development plan to meet the requirements of the contract prior to award and ensured mitigations were in place to meet the requirements. There have been changes to working practices due to the Track Worker safety initiatives that have been introduced. The ban on open line walking has been managed however the delivery team made note that the crossing line process has not been implemented yet which has had knock on effects with regards the time to undertake each examiner. The supplier noted that historically and in the first year of the contract that enabling works had been an issue and led to failure of examinations on site or having to requested line blocks to gain access to structures. However, the enabling works manager has now been brought into the conversation with between the supplier and region which has improved communication. Comment was made that this proactive approach was taken by the region and greatly appreciated by the supplier.	
Constraints 2	What are the levels of cancellation of examination activities due to lack of resources or access constraints?		The region have outlined that a significant factor in delivery examinations is labour, which is expensive and currently under resourced across the business not just within W&W. Wales have managed to maintain resource through contract transition. Western have had reduced STE02 capacity in 21/22 but suppliers have undertaken trials.	How do resource constraints lead to cancellations	Across the region we are able to maintain our access, in busy areas such as Paddington we may get bounced out and this requires planning redundancy / alternatives into the plan to try and mitigate. 12% of examinations cancelled due on site failure. Issues come when we do lost out and it takes a long time to get back onto site. Loss of access results in risk assessments being undertaken, this is for all examinations types. Risk assessments use the available information to determine if there are safety critical issues that need to be examined and accordingly access needs to be gained to assess the asset rather than waiting for access to be granted by the operations team. Senior quality assurance manager works with third parties to ensure access could be maintained and examiners. Suppliers working under a four week schedule. Back up possessions are put in place to ensure work can be completed.	Tunnels extremely low due to pre planned cyclical nature of the way Wales have programmed them. For Culverts is low to medium rate of failure with track access (line block being refused) or working separate is not possible due to vegetation not allowing a safe walking corridor. Majority of examinations that have not been undertaken on site are due to enabling works (27/38).	3	The region estimate that there around 12% of examinations are cancelled due to on site failure (site attended but no examination undertaken). When access is not possible, due to cancellation or lack of access, the replanning of work can lead to non compliance due to time get new access. Resource constraints are not relevant, as they effect workbank planning and delivery.	
Constraints 3	How do the identified constraints affect the different asset types across your portfolio and how is this managed					Culverts are effected more by constraints that tunnels due to the way tunnels are programme. Culverts and Ancillary we don't have the DE and VE baseline from year to year and being able to plan things efficiently in to the future.	3	The region and supplier don't see constraints affecting one asset in particular more than another. Tunnels are planned in a more cyclical nature which reduces access constraints. The lack of resources effects all asset types and leads to reduced capability rather than effecting one asset in particular.	

10	Constraints 4	To what extent are resources for examinations shared nationally			<p>Not within the region but delivery partners have the ability to move across the boundaries depending on location. They need to be able to deliver the work bank and it is up to them to manage their resources. If they are delivery to compliance standards then not so much of a problem and wont be normally tracked.</p> <p>Financial constraints mean moving of resources is not normally undertaken given the location factors of the examiners. This can be more of an issue with desk based STE02. In western a slight issues with western STE2 note moving across but staying with Amey and working on southern.</p>	<p>STE4 tend to regionally based and as we need more of them and the are based within the region to provide support as needed and the scale of the workbank.</p> <p>Tunnel engineers tend to work across the regions given the specialist nature of the examinations.</p> <p>STE2 work across all the contacts that we work across to sign off any report.</p>	4	<p>There is no sharing between regional resources but delivery partners have the ability to move resources as they see fit as long as they are meeting the required performance metrics.</p> <p>STE04 resources tend to be locally based due to the volume and scale of work, this leads to them not be shared nationally.</p> <p>The region stated that they believed the STE02s did work at a more national level in order for suppliers to meet the demand. The supplier confirmed that they use a pool of STE02 to meet demand across the network.</p>
11	Constraints 5	What do you believe could be done to reduce the impacts of the identified constraints			<p>Cyclical programming of tunnels work pre plans access in across multiple years which is reducing cancellation.</p> <p>De silt de water now using specialist equipment mean we don't have to. Now using drones for visual examinations with three drone pilots these supports transverse examination of culverts where open line working allows.</p> <p>At the start of each year we undertake a vegetation desktop to understand which site have issues and plan miniatous in advance of exams, using sprays to deter plant growth and maintain appropriate site access.</p> <p>OPEX constraints and access to headcount and special skills that we have identified with internal process we have identified may not be feasible until we have a clear understanding of what Great British Railways is going to deliver.</p>	<p>Create more safe walking routes to give access which would mean we don't need line blocks to gain access to a structure. Access to line blocks as required which would be in situations where they are necessary.</p> <p>We would like to move toward the use of blockades, we can then do exams in daylight working which reduces risks, go back to structure birthdays which are pre planned that allows everyone to go in and do all the examinations done. This could work on some of the less heavy traffic lines. Programme of blocks shared monthly/bi monthly but this does not enable them to be used in in the workbank planning and causes disruption if we want to use them which has more impact on the workbank delivery.</p>	4	<p>Both the supplier and the region have similar views on how constraints can be managed.</p> <p>Developing a cyclical programme for as many assets as possible would enable pre planning of access and allow asset to be grouped using a line of route approach. A similar approach has been used on tunnels to reduce access requirements.</p> <p>The region stated that they undertaken vegetation management exercises to ensure access can be gained by the delivery partners. The supplier noted that ensuring these enabling works are undertaken is a key activity as it allows for clear safe walking routes to be utilised which in reduces the need for line blocks and cancelled or delay of access.</p> <p>Within the Western route there is a need to develop the resource base to ensure that there is sufficient capacity to deliver the workbank.</p>
13	Behaviour 1	To what extent does the relationship with external contractors or an internal delivery organisation, as appropriate, associated with the structures' examination process impact on the level of non-compliance	<p>Wales and Western have three delivery partners: Amey, Inspire and XE/AD.</p> <p>Amey are delivering on LOT 1 at 93% of visual examination on site and have submitted 215% against the baseline to date. Delivery of Detailed Examinations sit at 74% and 137% for site completion and submission respectively.</p> <p>Amey are delivery on Lot 2 at Inspire are delivering visual examinations at 94% & 221% for site completion and submission respectively. Delivery of detailed examinations 92% and 217% for site completion and submission respectively.</p> <p>Inspire statistics are shown in the table with good delivery on site but a delay in submission of reports to the region.</p> <p>Xe/AD statics not available.</p>		<p>Having a good relationship with suppliers is critical to ensure we are moving towards a position of compliance. It allows us to have the right conversation with the individuals at the top of the organisations to outline or vision and bring them with us. The TUPE process has allowed staff, critically project managers, to stay in post which has maintained strong relationships with key staff delivering and planning the contracts.</p> <p>however, keeping the same people we may not be as agile to bring on new ways of working that would improve non compliance.</p> <p>Delivery partners are aware that we are on the regulatory escalator and it is being used as stick where appropriate. the carrot can be used that we are in a good place and to keep pushing forward. May have affected relationships within the region with regards to the how we report and show progress.</p>	<p>Need a good working relationship that is collaborative and has the same goals.</p> <p>Tunnels in WW is best in class, network rail plan and own the access one machine is booked to look at high areas or undertaken maintained. Low level examination and work is undertaken. They are doing more routine preventative maintenance than other regions.</p> <p>Enabling worse manger who works directly with the us and now attends all the programme meetings. This enables all three party's to work together. Not the same in other routes.</p>	3	<p>A good working relationship is critical to the delivery of the examination programme. Both the supplier and the regional team spoke of the good relationship that they have with each other. Both parties have a shared vision of achieving compliance and delivering the workbank. The TUPE process has allowed a maintenance of relationships and transfer of skills.</p> <p>Which allows them to have constructive conversations to achieve the same goal. The supplier was complementary of the collaborative nature that Western and Wales take with them and the process that they have enabled such as the bringing in the enabling's works manger to planning meetings.</p> <p>The supplier noted that the approached used for tunnels in Wales and Western they consider to be best in class across Network Rail.</p>
14	Behaviour 2	Within the organisation how much of a priority are structures examinations (do other disciplines understand the importance of structures examinations as a safety critical activity)			<p>They are a key pressure point within the structure portfolio as you go further up the organisation they are less of a priority though they do appear on the nationally distributed chief engineers report. They are given the appropriate due care and attention that they require from other disciplines. They are a key technicians for ensuring the safety of the network is managed.</p> <p>The fact that several regions are on L3 and one on L4 for the escalator does place it on the radar of the exec and this is being fed back to the regional structures leads that improvement needs to be made. This has not altered the process or priority that structure examinations receive within the region.</p> <p>The execs primary focus is to ensure that the network within the Wales and Western performs at the required level to operate a safe railway that meets the needs of the customers. Given that the current level of non compliance within the region is not affecting this performance it is reasonable that the exec are not actively engaged at this current time. As the RAM MS has the appropriate amount of support to manage the safety of the network.</p>	<p>Tunnels are booked by Wales region so are less likely to get kicked out. Culverts are a lot simpler as we are not generally putting machinery on to site and can operate under just a line block. We can therefore piggy back or get out own access.</p>	3	<p>The placement of examinations on the regulatory escalator has promoted examinations in recent months. Though they are not seen as a priority across the business but are now receiving more priority and appear on chief engineer reports. The Execs primary concern is performance and safety of the railway and unless examinations or lack of impact performance the region feel that is reasonable.</p>
15	Behaviour 3	What role does the leadership team in your organisation play in monitoring and directing action to reduce non-compliance?			<p>The execs primary focus is to ensure that the network within the Wales and Western performs at the required level to operate a safe railway that meets the needs of the customers. Given that the current level of non compliance within the region is not affecting this performance it is reasonable that the exec are not actively engaged at this current time. As the RAM MS has the appropriate amount of support to manage the safety of the network.</p>	<p>N/A</p> <p>Have little contact with Ex of NR and talk to the regional leadership team.</p> <p>It would be great to have feedback from senior ex and directors on positive.</p>	3	<p>The regional exec are looking to understand why the examinations are on the regulatory escalator and the process to move down the steps within the escalator. They don't however have involvement in the development of strategy or day to day monitoring of the compliance or non compliance position which is appropriate given the current state of non compliance and the improving state within the region. The region demonstrated that if safety was being impacted by the state of non compliance then this would be escalated to the exec as needed but given the risk profile associated with the network at this time it is not needed.</p>
16	Behaviour 4	To what extent is the level of non-compliance reported within the organisation, what KPIs are used to track compliance, and how do these link to any incentives			<p>There is flexibility with the Wales contracts to flex suppliers to under take work on other Lots if they are no proofing to the required standard of compliance expected by the region.</p> <p>Payment for examination is structured 60/40 with respect to on site and submission, this can be flexed depending on performance against compliance for site and submission tolerances depending on what is lacking. KPI within the contracts to submit a report within 28 days of the site examination, non compliance to this results in formal warning to improve performance. This is also the case for additional. These metrics are being spoken about and tracked at weekly catchups between the Region and Delivery teams.</p>	<p>Weekly report of the non compliance for VE/DE we get the programme in Jan.</p> <p>We get compliance dates Live data is really important to re plan, reconciliation between new compliance dates in the programme and the actual compliance dates that</p>	3	<p>Weekly reporting of examination compliance and examination progress is made by suppliers to the region.</p> <p>The region have structured payments on the contract 60/40 with respect to site and submission. This can be flexed depending on performance against compliance to promote adherence.</p> <p>Contractual KPIs monitor performance against submission of a report within 28 days of site examination. Non compliance to this results in formal warning, progress is monitored weekly against the KPI.</p>
17	Behaviour 5	To what extent is non-compliance accepted as the norm in the organisation?			<p>Non compliance is not the norm but we should have varying levels of compliance through the year. However, given the work bank and the standard what is an acceptable tolerable level of non compliance. The regulators view is that we (NR) wrote the standard and should therefore have zero non compliance. However the standards has been in place for many years and we have not been able to meet it.</p> <p>Personable view that 10% of asset stock is defensible as the best we have ever achieved is 1% DE and 5% VE non compliance on site. Until such time that we have fat within the resource base to ensure 0% to ensure cover for when peaks come to ensure compliance through these peaks (normally periods 7,8,9)</p>	<p>It is not accepted, but it does get out of peoples control at times. Late award of contracts has led to a lot of the impact. Would make sense for contracts to be awarded months in advance of the start date.</p> <p>There will be some non compliance due to track access and without putting more people on site it would not be possible to meet the current standard.</p> <p>When we do our planning there maybe 1/2% in the workbank that is non compliant due to trying to align certain structures with each other, this is to ensure alignment of track access. Any non compliance at this stage is risk assessed. Any non compliance would be a few weeks. Some of this will arrest itself as examination dates are aligned.</p> <p>Target date for a compliance efftely move every year and can be unaligned between VE and DE.</p>	4	<p>The regional team categorically don't accept that non compliance is the norm within the organisation. They work hard to achieve compliance and meet the demands of managing the workbank.</p> <p>As writer's of the standard we aim to achieve compliance to the standard and understand why the regulator holds us against this.</p> <p>However, the region do believe that there is a level of non compliance within a year that could be accepted. Meeting the compliance targets would require a larger resource pool and to have additional resource available as and when need to meet peaks and troughs of examinations.</p> <p>Both supplier and region did say that there is some level of non compliance is planned into the workbank due to planning and access constraints. The supplier noted that around 1/2% would be normal.</p> <p>The supplier echoed that non compliance is not accepted and achieving compliance allows them to showcase their ability and potentially win more work.</p>
18	Behaviour 6	What impact has the TUPE transfer of staff had on delivery and behaviour?	<p>XE/AD has been accepting STE02 resource to TUPE across from the old contract holder but this fell through and has led to a lack of resources for 21/22. A training programme has been initiated to meet this gap. "Xe/AD STE02 resource will not be trained internally, they are actively interviewed to cover this skill shortage. Recruitment is primarily focussed externally to suitably qualified individuals"</p> <p>XE/AD are in the process of training other resources to develop their capability at the STE04/07 level "Training will start March 22. Western will have 4 new examiners completing a compressed 12-week intensive STE04/ STE07 training course to May 22. Mentoring will start June 22. Xe/AD are also training up more BSE / Rapid response from their current STE04 resource. This area is still developing."</p>		<p>Transfer for staff went over there was around two periods of reduced mobilisation as staff were mobilised due to equipment not being in place. The contract change in Wales did prepare us for know there would be a slow period of mobilisation but would have accepted it to be faster that it turned out to be. Issues around H&S training and IT training too time to get examiners through the requirements. Behaviour of individuals has not been changed.</p>	<p>No staff TUPEed from within Amey. We built the teams up internally through training and movement of staff.</p>	3	<p>Following the transfer of the TUPE staff there was around 2 months of reduced activity and mobilisation due to the equipment not being in place. The region were aware that they would suffer a downturn in performance during the contract change period.</p> <p>The staff moving through the TUPE process have enabled consistency in relationships to be maintained, there have not been any behaviour changes from the staff and colleagues that transferred over.</p> <p>The supplier did not have any staff come through the TUPE process.</p>

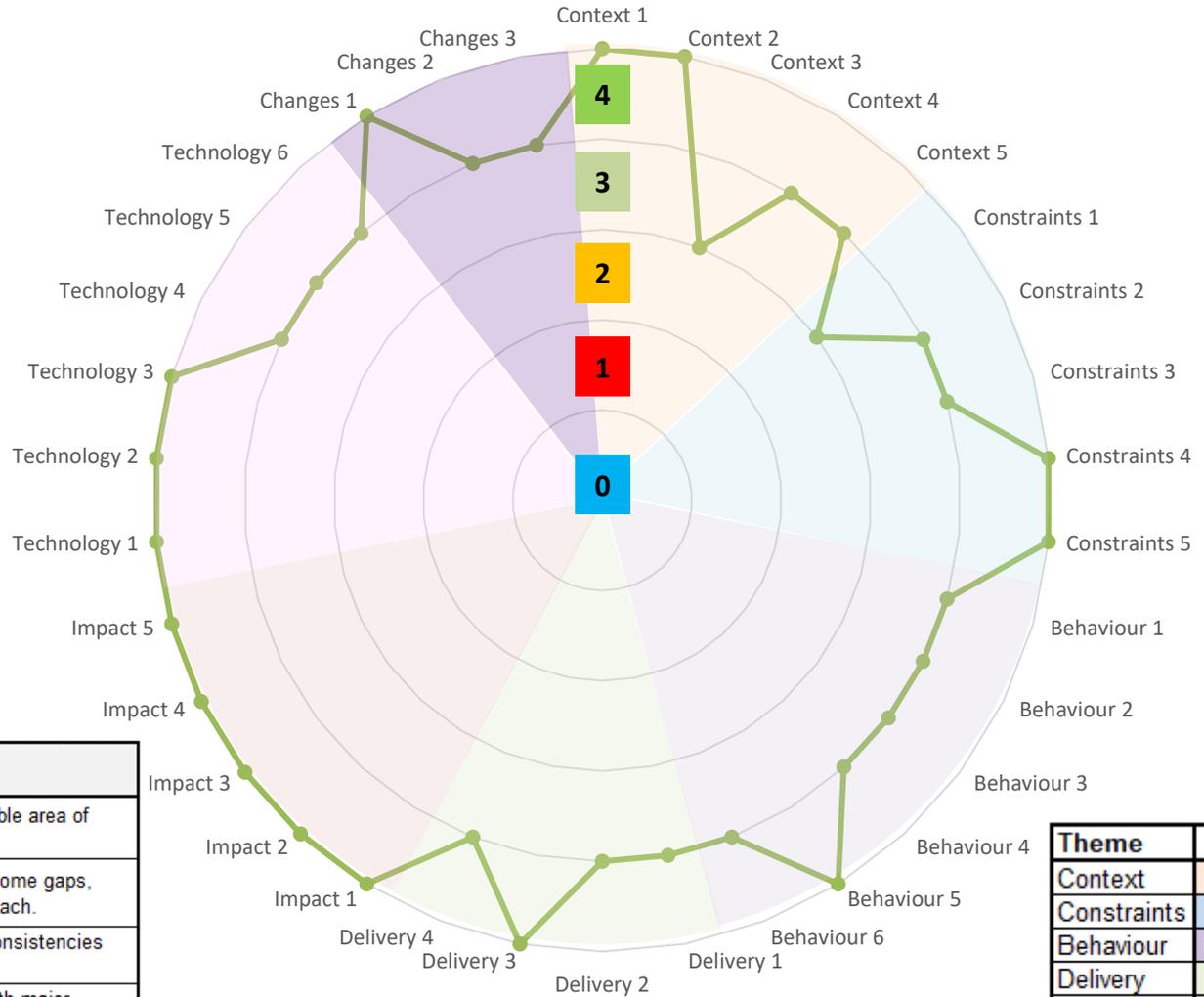
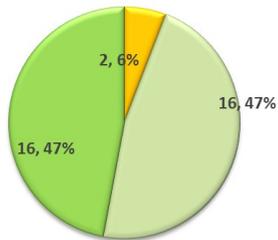
20	Delivery 1	How has the future plan for delivery of examinations been developed and what is the evidence basis to ensure the future examination plan is achievable e.g. milestones, tracking delivery, resource allocation?				<p>The region try not to influence the pattern of activity of suppliers and allow the suppliers to stick to the defined workbank and don't intervene when assets are moving to non compliant status. This is to try and avoid the complexities of resourcing. The region believe they would lose more from undertaking reactive movement of resources. This is the base position and changes as risk levels of an asset changes.</p> <p>Wales - over year 3.4.5 of the contract will get what we should be as per the contract as the plan is being developed with sufficient time and in an efficient way rather than having to negotiate the issues around the embedment of new contracts. Suppliers now understand the volume and where it comes from.</p> <p>Western - Site examiners and the programme management team are in place as they moved across with TUPE. They have developed a resource profile for the planning team which was under resources to deliver the planning requirements of workbank. Xelad have developed a resource capability profile against the size of the workbank that has been issued to them. Need to increase examiner resource by 10-15% above the resource that was being used by Arney to ensure compliance to the contract and the standard.</p>	when we tendered we planned to bring people from other areas of the country to train and undertake the workbank. With additional examiners available we were able to catch up and become compliant by the end of the year. This bought us a year to get the right staff in position and deliver the workbank.	3	<p>The region don't tend to interfere with the planning of the workbank and leave this up to the suppliers to develop. They then agree the work bank with them.</p> <p>The suppliers are given the compliance dates and they plan the workbank to achieve compliance or as close to it as possible (the supplier noted that around 1/2% no compliance is normal).</p> <p>Moving forward suppliers will have the pre planning time and full year to deliver the work bank and achieving a normal level of compliance would be expected by the region.</p>
21	Delivery 2	What assumptions have been made in the development of the delivery plan in terms of resources and other identified constraints including booked access arrangements?				<p>The workbank are provided to the delivery teams to meet the needs of the assets base as programmed by the regional team. Delivery teams then plan out the required DE and VE against their staff resources and access planning constraints. Consequently within the plan there will be non compliance built in as access and staff constraints will dictate some of the timing.</p> <p>Having a consistent planning team with each supplier is critical to delivering the scope of works. The fact that these staff came across with the TUPE process to new suppliers which give confidence to the region that development workbank for each route is being developed and planned effectively.</p>	So we are not looking at condition and time interval periods this has been done before and we don't use information from previous exams to inform when we should attend. This is done by the Asset Engineer.	3	<p>The supplier try to plan and book access for complex locations and plan nearby asset examinations around these to form a workbank plan.</p> <p>Plans are developed by the supplier based on staff availability and ensuring a smooth workbank that meets delivery needs.</p> <p>Network Rail have no control over the assumptions and the ability to mitigate if an assumption is not realised for the delivery of the plan.</p>
22	Delivery 3	How does the type of asset (e.g. bridge, culverts, retaining walls etc.) affect examination process priorities				<p>Strategic assets that need to be prioritised particularly for detailed examination are prioritised particularly if examination is programmed outside of the compliance period or get cancelled as there is a safety critical need to understand where the asset is in its lifecycle.</p> <p>Tunnels is the major area where access is prioritised and planned due to access and mobilisation of staff and the requirement for annual or biannual detailed examinations. To reduce access constraints possessions are booked to allow exams and minor works to be implemented in the same possession. this is booked by NR rather than by the supplier though to help manage the planning.</p> <p>Weather conditions are taken into account and we try to take this into account when planning examination to ensure ease of access and consistency. This is particularly the case for underwaters or culverts.</p>		4	<p>Strategic assets that need to be prioritised are done so this applies particularly for detailed examinations. Assets are prioritised particularly if the examination is programmed outside of the compliance period or gets cancelled as there is a safety critical need to understand where the asset is in its lifecycle.</p> <p>Asset type does not affect the prioritisation of an examination, prioritisation is based on risk the asset type.</p>
23	Delivery 4	What is the anticipated result of the plan in terms of the outcome of a reduction in non-compliance, and how will this be monitored and reported			Do you have a timeline for recovering.	<p>A lot of the plan and systems being brought in will support the development of asset management tools and impose our management capability and information base. This may not however, have a reduction on the level of non compliance.</p> <p>Wales is showing signs of going back to where a tolerable level of non compliance and the supplier understand the volume and early development of workbank is implemented and should reach previous levels for Y3,4 and 5.</p> <p>Western we need to see what is the plan against workbank and understand how much Xelad can deliver. Site resource are available so should come back to non compliance on site as the rolling nature of tolerance period and forward planning improves, though some non compliance will be introduced as we try to programme in an optimal manner. Submissions are more of an issue the regional AM team will take on the role of STE2 for non complex assets to keep through put up during Y2 of the contract and moving forward, though Xelad are still contractually obliged to complete this work.</p> <p>Track worker safety programme too much access under low control situations which needs to change, however, this will increase the complexity of planning access which was previously not needed. As it will result in examines requiring to be done under a possession, which could limit access and increase non compliance.</p> <p>New tech and systems though will deliver efficiency and greater volume once they are embedded as standard ways of working could cause an increase in non compliance as they are embedded.</p>	Having longer contracts mean that we have the time to train and develop our own capability which is only undertaken with contract certainty. More competition in the market now with the number of contracts and partners now supporting NR so having longer contracts enables growth.	3	<p>The region believes that Wales are in good position to return to a level of what they believe is acceptable non compliance in Y3,4, and 5 of the CP6.</p> <p>For Western there is a need to understand the how the development of examiner resource will be delivered to meet the work bank demands. Site compliance should stabilised with the availability of resources.</p> <p>Will be monitored through the current weekly reporting of compliance. Planning and Robustness programme has not been completed.</p>
25	Impact 1	How does the current level of non-compliance affect day-to-day operations				<p>Day to Day 15% of time to compliance team, 10% of ca team, 15% to Ram and 20% to the asset engineering due to doing risk assessment of non compliance in addition to the examination sign off.</p> <p>Train services are not effected by non compliance.</p> <p>Looking at assets once a year, for 52 weeks a year no visibility which is acceptable from a safety perspective. Of my 5/6% non compliant VEs most are still undertaken with 10 weeks. This is a small amount of time of the total amount of time that the asset stock has not been looked. Looking at the non compliant assets (5% of asset base) how many have a safety implication likely non.</p> <p>If a detailed on a six year cycle is not completed within a six - twelve month period outside compliance then there could be a safety risk, but this is not leading to a performance altering, i.e. TCR, measures.</p>	N/A	4	<p>There is no affect on the day to day operations of trains or impact on service.</p> <p>The region stated that the biggest impact is on staff day to day roles trying to manage the non compliance. 15% of time to compliance team, 10% of ca team, 15% to Ram and 20% to the asset engineering due to doing risk assessment of non compliance in addition to the examination sign off.</p> <p>The region does not believe that the non compliance does not affect the</p>
26	Impact 2	To what extent has the lack of examination input affected your ability to build a reliable maintenance and renewal workbank				<p>With regard to renewals the bottom up work bank is being developed for y5 of CP7 and the current workbank for CP6 is locked in for the next two years.</p> <p>Compliance does not effect the development of the workbank as assets are prioritised based on risk to meet the needs of the constrained workbank. It can effect the maintenance workbank if exams need emergency works if it is score risk 12 and above. Standard maintenance allows 52 weeks for contractor to undertake work, so if a compliance falls three months late then as long as we still get through the process within the year to fix it then that is fine.</p>	N/A	4	<p>There is no impact on the renewal work bank given the long time scales that renewal workbank is planned over. The CP7 year five workbank is currently being planned.</p> <p>The standard stipulates that any maintained activity is required to take place within 52 weeks so any late compliance for submission and sign off has no impact as long as the works are completed in the time window.</p>
27	Impact 3	What do you believe to be the risk profile to 'day to day' operations caused by the level of non-compliance in terms of the uncertainty regarding structures' condition across the network				<p>There is no impact on the day to day operations of the railway due to non compliance. The timescales associated with the examinations and the tolerances windows do not increase the risk. The region outline that given the timescales a between an examination there length of the tolerance window would not increase the degradation of an asset significantly and hence increase the unknown risk posed to the asset that the region would not be aware of.</p> <p>Given compliance is relatively low and the risk assessments have been conducted where applicable any risk would have been identified and managed accordingly.</p>	N/A	4	<p>There is no impact on the risk profile of day to day operations from non compliance.</p> <p>The region were clear that given the timescales between both visual and detailed examination the short length of the tolerance window does not increase the risk posed to the network when a site examination falls outside the compliance window.</p>
28	Impact 4	What subsequent action is taken by your organisation when following the process in Figure 1 of NRL3/CIV/006 leading to the requirement to carry out a risk assessment in accordance with NRL3/CIV/0021?				<p>We are conducting risk assessments on site non compliant structures as directed by CIV006 and CIV021, we are not undertaking them based on the requirements of the TNC that has been put in place. As a region we have undertaken 100% of the risk assessments that have arisen due to site non compliance. Given the state of site non compliance within the region we are not experiencing the need for many risk assessments.</p>	N/A	4	<p>The region are conducting risk assessments as directed by the standards 006 and 021 when site examination falls outside of the tolerance window. There are no outstanding risk assessments within the region at this time.</p>
29	Impact 5	What do you believe is the safety impact of any structures' examination non-compliance?				<p>There is no safety impact from non compliance. Risk assessments are undertaken to determine risk posed to a structure when it moves to site non compliant position which allows for management of any risk posed.</p>	N/A	4	<p>Limited to no safety impact of structures being non compliant.</p>

31	Technology 1	What is your organisation's vision for the use and benefits from the application of technology in this area?	WW041			<p>The region have procured on behalf of their delivery partners appropriate night time working equipment to ensure that delivery partners are properly equipped. With the advocacy of new the TWP night-time working is becoming more prevalent and consequently better equipment is required.</p> <p>There are three key areas where technology are being trialled, understanding surface condition, sub surface and geological condition.</p> <p>Train borne cameras look at asset rather than placing examiners on track which mitigates TWS challenges. The nature of the cameras allows the examiner to look at the surface condition of an asset without have to go to site. This can only be used in some circumstance but where appropriate is a This also allows for examiner to check site before attending and ensure that access is possible.</p> <p>Drones, culvert cameras and clear imagery, pole cameras for bridge examinations OHLE to look at structure. For these the examiners look at the live feed on site. Tunnel geometric properties around the bulges in tunnels year on year, use of train mounted RILAR. Remote monitoring and strain gauge without having to go out and understand the changes and track changes to target visuals without having to break the pattern of work. Need to understand how to gather, store, use and understand the data there is along way to go. Panorpic 3d imagery lng which allows us to understand defects on the assets.</p> <p>We will have a 1/4 meeting between tech suppliers and delivery teams. For example inspire use culvert cameras for their examinations which produces a high level of information and data which is extremely useful, however as Amey did not adopt this in western it is not on Xelad strategy to do so. As the region we would like them to as the information gathered is extremely good. How can we transfer the tech, inspire are now doing them for western now so we get efficient delivery but will not share with Xelad as it is their IP. As a region we don't want to have two different lots.</p>	<p>CCTV camera was developed in 2015/16 so is now a really established piece of technology that we use. This was undertaken as the cost of de silt de water was expensive and the jetting of the culvert can cause damage. Reduces the environment impact of the using water jets.</p> <p>Looking to drones tunnel w on walkfly overs to understand the spoil heaps and distortion. We are working with NR to understand how we can use drones for VE. Can we use them to look at the water course and to look at both headwalls without the examiner have to go down the embankment.</p> <p>Benefits include environment from undertaking jetting, drones provide safety benefits from removing examiners from track. It wont replace the VE but will give more detail. Drones will also impact on the number of line blocks and other access issues to undertake</p>	4	<p>The Region and Suppliers within Wales and Western region are embracing the use of technology to improve the quality of examinations and meet compliance periods. The Region and Supplier both see the use of technology as improving quality of examination and supporting examiners</p> <p>They are exploring three different areas of technology: - Surface Condition - Sub Surface Condition - Geological Condition</p> <p>The supplier outlined how they are using technology to reduce the need for desilt/dewatering activities and undertake examinations. They are engaged with the region in developing the regions approach for drones on Tunnel and Culvert examinations.</p>
32	Technology 2	How is the use of technology built into the examination process and what quantified benefits have been identified from its use (specific, measurable and time-bound benefits)?	WW041	<p>The region have identified several different uses of technology to be deployed as part of the examination approach.</p> <p>Inspire are using CCTV/DAXX to undertake a review of the culverts and determine condition of the culvert. They can assess condition without having to desilt and dewater culverts. They are also undertaking panoramic surveys to record and comment asset conditions in the virtual tour and data will be stored in the examination database. Review previous examination results and enable defects tracking.</p> <p>Drones are being used to undertake both visual and additional examinations. These have been deployed for undertake CSNR mast examinations. They are also being used to support tunnel walkovers. #</p> <p>The region have been undertaking SONAR trial projects, this is to allow for underwater examinations to be undertaken when heavy rainfall has not allowed for examinations to be undertaken by the dive team.</p>	<p>Could explain more about the CES, TCM and AES programmes that are being brought on line.</p>	<p>Drones and visual support tools provide better quality of information. They take longer and are more expensive but provide better quality.</p>	4	<p>The supplier referenced that they see the use of technology, such as drones, as providing safety benefits from removing examiners from the track and remove the need for examiners for crossing the live lines.</p>	
33	Technology 3	What new technology is being used / trialled by your organisation in this area, what barriers exist and how is technology best practice / experience shared nationally				<p>Culvert drone examination within Wales should be on line and being used from April.</p>	4		
34	Technology 4	How does the current examination process link to the Network Rail Intelligent Infrastructure transformation			<p>Site adoption of technology both information gathering and system based will need to be driven regionally and we need to understand and direct what the suppliers are delivering. We need to understand how we can assure ourselves against the risk and ensure we gain access to the information we want to see with a regional set of rules.</p> <p>Data transfer is a the major concern with the introduction of new system technology. The technical hardware to develop CES is developed by the II team and they are not compliant because of data transfer and data knowledge not because we are not undertaking the exams.</p>	<p>We have not seen much and have not had the opportunity to understand how this will be rolled out and integrate reporting. CES we have logins but don't know when the change will be made and waiting to commit to the date. Trials have been undertaken for CES and provided feedback but we are unsure how it will fully integrate when it goes live.</p>	3	<p>Site technology to assess condition is not part of the II program.</p> <p>System improvements such as CES are supported by the II programme with the II team directly supporting to ensure that CES interfaces with delivery partner systems effectively. The roll out of CES has been pushed back to ensure that that issues are resolved by the II team and delivery partners. Given the current state of compliance issues with the deployment of CES could have impact</p>	
35	Technology 5	What systems does your organisation use and how are these interconnected in terms of the line of sight from the asset inventory, through the examination process to the outcome in terms of planning maintenance and renewal			<p>CES/SES are allowing the better transfer of information between contractors and internal teams. CARES system based on a simple database that was fit for purposes 10 years ago and can't cope with what we are trying to do with our systems now. need to be really careful that we don't end up in a place where we are non compliant because of data transfer and data knowledge not because we are not undertaking the exams.</p>	<p>A word template has been provided, that can go into CARS which outline what needs to be capture. We write up the exam and then gets uploaded, cant upload any of the visual files or footage which there fore does not get seen by NR.</p> <p>Have to go back and find the right information when required to inform the management of the assets, which requires additional people hours to find, trace and supply. Need a system that allows us to deposit the information.</p>	3	<p>CES /SES are used to allow the better transfer of information between contractors and internal teams. The regions believe that the CARES system is no longer fit for purpose with the type of data that now needs to be processed as part of the examination process.</p> <p>The supplier echoed this statement as they retain any imagines of video files produced during examination a word template is completed to transfer any findings. This leads to a lengthy process if images are required to support the findings by asset engineers.</p>	
37	Technology 6	What is the timescale and process for moving any new technologies into BAU?			<p>CES go live 9th May</p> <p>WebTCMI – 1st April – however they are undertaking a trial prior to this date in February /March</p>	<p>Drones are already BAU for tunnels should be routine for culvert from April subject to NR approval.</p>	3	<p>Most of the on site technology is already being deployed at scale or in trail phase to understand the capability and use. Drones will be used for culvert visual exams where appropriate from April.</p> <p>The WebTCMI and CES system initiatives are going live from the 1st April and 9th May respectively.</p>	
38	Changes 1	What are the proposed changes to the current examination framework (as a result of both internal and external factors)?			<p>No fundamental changes are forecast to be made to our ways of working and contracting methods for the suppliers will. We are delivering in accordance to the standard and we are receiving the quality of examination that is being required and we require.</p> <p>All contracts have a certain level of innovation and modification built in to give use the flexibility to introduce technology and innovation This allows us to make changes to allow us to push contractors in the direction we want. We have the flexibility to look at if we need to align the contracts within the region, be that braking down into lots or time scales, this could support the alignment reporting and understand the costs. Don't think we will start to carve it up but we have the options. Maintain contractor terms and lengths gives confidence to suppliers to ensure development and allows training and resources challenges to be met.</p> <p>Need to understand the cost implication of developing and implementing new technologies as suppliers are less likely to take this on with out receiving correct compensation. This will be trick to manage as our delivery teams will not want to take all the risk for this and it is likely to fall to NR to pay for and manage the risk.</p>	<p>No real change to the framework and proceeds but there will be some changes due the systems being deployed.</p> <p>Tolerance and standard review will require contractual changes to until these received.</p> <p>We are working to the 006 which is different and out of date compared to the technical spec that was implemented across the other contracts. Expecting the std to update to fit within the technical spec. Should not need a tech spec and a standard.</p>	4	<p>No fundamental changes to the framework and how the region operates.</p> <p>However, technology and examiner resource will enable better quality examinations to be undertaken. With more resources available suppliers will be able to meet the needs of the workbank, estimate that Xelad need 10-15% more resources to deliver (see regional comment D1)</p> <p>The current contracts are to deliver to the Standard (Wales) and Technical Specification (Western) any required change to the standard would require a contractual change.</p>	
39	Changes 2	What are the specific benefits anticipated to accrue from the changes, how will these be measured and to what timescales will they be delivered?			<p>The changes will allows us to manage risk and improve compliance towards a tolerable position. However, current target would require a level of funding and resourcing that is not currently available to us. We need to understand what targets are for moving from and to the regulatory escalator and within levels, it would be good to have these communicated to us by the regulator to help us understand what the bar for a better place is. Need to understand what these levels are and what an appropriate compliance level is should be undertaken as a mature region and pass that to the TA. However coming to general consensus maybe hard and it needs to be appropriate for each region and what as MS put it he is comfortable with as the asset owner, this may be different compared to other regions or the regulator.</p>	<p>Getting crossing the line process in place will have big impact on the level of risk posed to the cancellation of an exam. Risk assessment should be undertaken to review where a line block is needed and understand where crossing the line is safe to-do so and remove the reliance on signallers.</p>	3	<p>The changes to ways of working, brought about by technology and TWS, development of the resource base in western will allows us to manage risk, improve exam quality. This will move the region towards what they describe as a level of tolerable non compliance based on funding and resourcing constraints.</p> <p>The region are un clear on what the targets are within the regulatory escalator and how they can move down the escalator as they improve, or up if needed.</p> <p>They believe that a level of non compliance should be acceptable given the scale and allow them to manage risk to appropriate level and work with the TA to establish this.</p> <p>The supplier believes the clarity on the crossing the line process needs to be given to inform examiners on the safe way to work.</p>	
40	Changes 3	What is the expected impact of these changes on the current level of non-compliance over time, and how will it impact specific elements or outputs of the examinations process (e.g. quality of reporting etc.)?			<p>Need to be in place to achieve the level we were at before and then what the technology, training and new contracts can deliver before we can start to make a judgment. This will take at least a year to understand for Xelad, Wales are starting to get there now and will help inform. We don't want to be in a position where we achieve a one year wonder as this will lead to more issues in the future.</p> <p>Site compliance is getting there the limitation of STE2 is putting pressure on the submission particularly in Western Route where there is significant under resource. Delivery partners across Wales are starting to perform as expected on submission compliance.</p>		3	<p>Within Wales they believe they will be back to where they were before contract change and delivering historical compliance levels before moving toward a better state.</p> <p>Within Western more time is needed and they will not be achieving compliance at the same level as before the contract move for another year across both site and submission. Site compliance is relatively high but lack of STE02 will continue to impact submission compliance.</p> <p>The region firmly believe that they need to build process that a robust and deliver sustainable compliance not just a one off year of compliance.</p> <p>Wont achieve compliance but will be back to historical levels.</p>	

count percentage
0 0%
0 0%
2 6%
17 50%
15 44%

#25529 Review of Structures Examination Compliance Wales and Western Heat Map

**Wales & Western
Ratings Distribution**



Confidence Rating	Description
4	Evidence presents a clear understanding with no identifiable area of weakness or inconsistency in the approach.
3	Evidence presents a reasonable understanding but with some gaps, inconsistencies, or weakness in some areas in the approach.
2	Evidence presents significant gaps in understanding, inconsistencies and weakness identified in the approach.
1	Evidence incomplete and limited understanding shown with major inconsistencies and gaps identified in the approach.
0	Insufficient information provided.

Theme	Color
Context	Light Orange
Constraints	Light Blue
Behaviour	Light Purple
Delivery	Light Green
Impacts	Light Pink
Technology	Light Lavender
Changes	Light Purple