

Rob Cairns,
Regional Managing Director,
Wales and Western Region

Feras Alshaker Director,
Planning and Performance

29 April 2024

Dear Feras,

Potential Licence Contravention relating to railway service performance in Wales & Western

Thank you for your letter dated 09 April 2024. This substantive response follows our interim response received by you on 24 April 2024.

We have engaged fully with your investigation and submitted a substantial body of evidence responding to your initial questions, providing responses to further clarification questions, and contributing to expert meetings on specific topics. We continue to be committed to co-operating and working with you to satisfy your concerns and in parallel driving sustainable improvements for customers.

We note that your letter does not refer to the original nine lines of enquiry, instead setting out four areas of potential contravention followed by an annex that presents findings under six different headings. We also understand, as set out in our interim response letter, that the ORR's case to answer now focuses solely on Licence Condition 1. We are not altogether sure therefore which lines of enquiry remain open. We note what is set out in your letter of 26 April but remain of the view that it would be helpful to see and have the opportunity to respond to the detailed evidence (whether primary or provided by third parties on which the ORR has relied in reaching its preliminary view on contraventions.

Thank you for confirming which Holding Network Rail (NR) to Account policy has, and will be applied to this process.

We ask that the ORR, when making any decisions, consider the following points:

- In accordance with its policy on Holding Network Rail to Account ORR must act in line with regulatory best practice (which involves acting in a risk-based, targeted, proportionate and transparent manner) to achieve a fair and reliable outcome allowing Network Rail to plan its business with the requisite degree of assurance.
- We think that our actions were appropriate and justified at the time and in the specific circumstances rather than looking at the position with the benefit of hindsight. Licence Condition 1 is not an absolute duty; it requires Network Rail to achieve the Network Management Purpose to the greatest extent reasonably practicable having regard to all relevant circumstances, including the ability to finance its activities. Network Rail has done this as demonstrated by the evidence previously submitted and what is

set out below. We ask ORR to take account of the constraints that Network Rail was and is operating under in forming its judgments.

Network Rail has acted appropriately throughout the period under consideration to ensure that the operation of the network is carried out in accordance with best practice and in a timely, efficient and economical manner to satisfy its stakeholders' reasonable requirements to the greatest extent reasonably practicable. In the circumstances, the ORR should not find Network Rail in breach or issue an enforcement order, financial penalty or financial sanction.

Structure of the Response

Our response is structured around the four potential contraventions identified in your letter and is supported by more detail in the Appendices. The response focuses on new material and updates since the February 2024 submission. The additional material in respect of Project Brunel applies across all the four areas and is covered once, in the next paragraphs.

Similarly, some of the areas of comment under each of the four headings apply more widely. ORR is asked to consider this evidence against each of the four target areas identified.

The letter describes actions already taken and highlights where further action is planned to be taken in the near term.

Leadership Update

As previously outlined, we have taken proactive positive action to recruit the right leadership to meet the Region's future needs. Marcus Jones, Route Director, and Sophie Bancroft, Operations Director, have brought a wealth of operational experience to the team, including having previously run metro railways. Rob Cairns has now been in the region for 4 months and has had a very positive impact on the leadership approach and delivery of outcomes within the region. He has made a number of further improvements to the capability of the senior team, the details of which are provided in Item 4 and throughout the document on the specific actions taken.

Project Brunel (Thames Valley) Update

Since the last submission NR has continued to develop Project Brunel. Project Brunel was set up in December 2023 to address performance improvement covering both assets and operational issues. The submission shared with ORR in February demonstrated our emerging work focusing on activity to improve the reliability of critical assets and stabilise performance by reducing the number of incidents.

Project Brunel is a combination of activity which aims to enhance maintenance, and renewals and introduce activities which will lead to performance being sustained, these are largely in the form of process and controls. Project Brunel has and will continue to evolve directed by data led insights. We have developed a scope of work focused on the operational management of the network and the response to incidents, as well as consolidating the project plan. Additions include:

- Operational Management - the use of technology, operational reviews, data analysis, and process improvement, along with enhanced leadership training for our workforce.
- A focus on reducing the risk from trespass and vandalism and improving the industry response to incidents, including the use of insight from the FUSION unit and agreement to deploy a BTP unit

- focused on reducing the impact of disruption (cable theft, antisocial behaviour, people in precarious positions, trespass, suicide and management of significant incidents).
- Addition of subject matter experts to enhance the skills and knowledge around track, OLE, Points, Train Detection, Access Planning and delivery, and engineering assurance.
 - A defined schedule of works for the three phases of the Brunel programme (stabilise, improve, and sustain), the focus being on performance improvement and alignment to resilience/readiness for the construction and opening of Old Oak Common station. We continue to build on a timebound, detailed and quantified project plan.
 - We have matured the organisational structure. We monitor progress on a weekly and periodic basis for delay minutes and drivers of performance loss to ensure alignment with the wider recovery programme. We have financial controls in place with an acceleration and change panel to review and approve improvement initiatives, putting the governance in place to manage the project effectively.

The detail in Appendix 1 and the presentation supplied with this letter provide additional illustration of these developments. We will continue to keep ORR briefed about the development and delivery of the improvement plans and their outcomes through our regular performance meetings.

Item 1 - NR did not sufficiently plan for the cumulative changes on the network

This section should be read in conjunction with the Project Brunel section provided above.

The changes to Wales and Western (W&W) brought by GWEP and Crossrail are articulated in our last response, including the activities taken to plan, prioritise and deliver the many changes affecting the Route. In the section below we set out:

- How we have used insight and data to develop asset management and engineering access plans.
- Our plans for assessing, reviewing, and renewing the overhead lines from Paddington to Airport Junction and a maintenance plan to ensure reliability.

Asset management plans and engineering access plans

We have undertaken close analysis of the Thames Valley core route asset performance using data and peer review from North & East (N&E) Route, Technical Authority (TA) and external validation.

Improved insight is enabling us to understand and predict the failure mode of assets and to implement interventions which reduce the number of incidents and lessen the impact of these incidents. The findings have been used to inform Project Brunel as well as other interventions, including continuous improvement of our operating model.

We have modelled the impact of the timetable on the asset condition and the access time required to maintain the asset. We continually reassess the infrastructure maintenance regime to maintain our assets within the performance parameters required of them. As a result of GWEP, Crossrail and the structure of the timetable, assets are required to operate to a level of performance (reliability and availability) that is greater than the original intended design.

Evidence shows old assets can perform to a high level of reliability but require additional inspection-based regimes. In support of this an OLE peer review¹ identifies that Western has the most reliable Mk3b OLE in the UK but also the most incidents as it is the most intensively used. The report finds that well maintained Mk3b

¹ Initial report on W&W OLE performance (TA, Dec 23)

OLE can perform at the levels required, with sufficient maintenance. Project Brunel addresses how the asset needs to be managed to ensure performance and the engineering access required to achieve this.

Plans for assessing, reviewing, and renewing the overhead lines from Paddington to Airport Junction

NR remains unclear on the evidence that supports the ORR's assertion that the appropriate asset management intervention would constitute a full renewal of the first 13 miles of the overhead line system out of Paddington. The key issues with the overhead line system between Paddington and Airport Junction are with the operational resilience when incidents occur, rather than the overall asset condition leading to large numbers of incidents. It is NR's opinion that a full rewiring of the first 13 miles from Paddington to Airport Junction would not represent good value for money in the context of a fixed regulatory settlement and would require significant disruptive access in its delivery. Our focus is on addressing the operational resilience rather than system renewal.

The resilience issues, which have contributed to the severity of the dewirement incidents in September 2022 and December 2023, are associated with:

- (1) The headspan design: which means that the overhead lines are not mechanically independent from each other such that damage on one line can result in all four lines being affected;
- (2) The differences between the two incidents, in terms of the mode of failure of the asset; and
- (3) The limited capability to isolate sections of the network, leading to delays in restoring power to get trains moving after incidents.

Project Brunel includes interventions, supported by data, systematic learning and maintenance to improve the asset resilience. Our inspection and maintenance regime was enhanced after the September 2022 incident with a focus on the hook and eye linkages (a previously uncommon failure mode within Western). To date, around half of the inspections have been undertaken with the remainder scheduled this year. We have prioritised vegetation clearance and bird population control to reduce the risk of OLE tripping, with some works complete and the remainder planned by the end of the year.

To design out failure modes the Great Western Mainline OLE was designed with a larger mileage between neutral sections. Following the review of the 07 December 2023 dewirement, we have developed new protocols around re-energising part sections of the overhead system and this work continues. This has already delivered a reduction in re-energisation time and reduction in the lengths affected. We are working with our ECROs, controllers and BTP to take a whole system risk approach to managing trespass incidents, mitigating isolations and the resultant impact to passengers.

For CP7, we are remitting a contract with our specialist contractors to provide expertise, personnel and plant for the recovery of OLE incidents, providing an enhanced engineering response to support maintenance teams in damage assessment and a team available to assist in rectification works.

In the medium term, the replacement of the headspans with multi-track portal structures (200+ structures) is included in our CP7 plan. We are working with suppliers to develop a detailed plan for implementation including the integration of all engineering access requirements. It is apparent that design and implementation of the headspan replacement will be complicated and will need cross-party planning to ensure passenger and freight

flows are effectively coordinated on this heavily used section of railway. It is anticipated that renewal of the catenary and contact wires will be undertaken during CP8.

Our review of the asset, supported by expert and peer review demonstrates that the asset can perform to the level required and in line with the requirements planned during GWEP and Crossrail development. NR adopted the most appropriate cause of action under the circumstances.

Non-OLE assets

An external review into track assets has been led by the Infrastructure Director N&E Route to review asset management strategy and maintenance practice effectiveness. The review involved detailed discussion with Route / Region leaders and Delivery Unit staff supported by site inspection and use of data.

Some 17 recommendations were made and are being implemented by the route. The recommendations seek to apply good practice and range from the strategic to the very detailed, including:

- Explore ways to increase the amount of time that is spent working on the assets. Including, track access arrangements, right time possession start, and reviewing possession protection.
- A component replacement strategy for track components; a comprehensive tamping / stone blowing strategy; a programme of weld repair and track drainage maintenance.
- Review of the effectiveness of the current Regional Operating Model (see Item 4).
- Increase in Track Engineers and review of operative grades.
- A review of TOC/FOC wheel turning regimes and the location of Wheel Impact Load detectors.
- Engagement with drivers on rough ride reports, using a similar approach to that on the East Coast.
- Review of Point Operating Equipment reliability, including the use of measured shovel packing.
- Creation of joint response teams as facilitated in the Modernising Maintenance agreement.

Key asset improvement initiatives included the replacement of track circuits with axle counters on the Paddington – Airport Junction section. While this was expected to deliver better performance based on experience elsewhere, actual performance has been poor and understanding and addressing the root causes has been a key focus of our recovery plan. The performance issue is product related and future installations have taken this into account. We have seen promising results over the past 3 periods following key actions taken on asset, incident and response management.

Item 2 - Wales & Western does not fully understand to what extent different operational factors are driving increased delay when incidents occur

We continue to undertake systematic evaluation of the causes and impact of incidents. Evaluation takes into account operational factors, including primary and reactionary delay, and reviews significant incidents as well as less obvious ones, with focus on process learning. The methodology behind the reviews is designed to provide a linkage between the delay and the causal factors enabling us to design interventions to reduce the number and impact of incidents and to support sustainable long-term improvement.

Alongside Project Brunel other initiatives are providing improved insight into the causes of operational performance. These include:

- A deep dive into service recovery which is looking at data, good practice and applicable lessons.
- External review of Service Recovery Metrics (April 2024) which focuses on control centre processes.
- A deep dive into the operation of the base plan to understand the key pinch points in the timetable. This approach has been successfully applied in Kent and South Western Railway.

- Revisited the National Operations Quality Assurance Review (NOQAR) of the Thames Valley Signalling Centre in March 2024. The NOQAR identified improvements which have been made in the management of operational capability and safety since the last review 14 months ago.
- Use of the RM3, and where applicable RM3-P, to support the Region to put in place the leadership, cultural and governance structure to make the recent improvements sustainable.

Reviews have enabled the following insight:

- Better understanding of the relationship between primary and reactional delay. On Western there are relatively few small incidents and when incidents do occur, they are often complex with a significant impact. There are a range of factors behind this, including the complexity of the train plan, complexity in accessing parts of the route and the operational leadership and processes.
- The approach to managing stranded trains and significant disruption is more complex on a railway with a combination of train services (e.g. Metro trains without toilets/ limited battery life) and with an intensive service pattern. We continue to improve our approach to managing stranded trains with a strategy which prioritises the rescue of stranded passengers as well as the need to manage wider customer risk. We can demonstrate improvement and commit to continue this. We are working with BTP on a revised approach and process for police forces to go-live in summer 2024.
- During incidents, the long length of OLE section from Paddington leads to delay in reopening electrically isolated sections. Electric isolations need to be reduced as soon as possible in the case of an incident. We have embedded our learning from this incident and further operational and technical assessments are underway, supported by the Electrical Control Working Group.
- Passenger expectations have changed and perception of risk around the railway has also reduced². As a result passengers are likely to detrain quickly and once detrained are unaware of the risks. The passenger rescue processes need to be accelerated and this will mean developing appropriate management approaches and identifying additional trained resources at short notice. We are updating and embedding our learning in the management of stranded trains and disruption. We continue to improve our passenger communications approach after each operational incident and in line with emerging customer research and sentiment.
- Access/Egress points need to be better defined in the Thames Valley to accelerate rescue. A Western Route initiative is focused on using GPS or What3Words location to define these locations.
- The approach of BTP and Home Office Forces is inconsistent and does not always align with the need of the railway or take account of railway risk (e.g. detraining). NR is working with BTP and Home Office forces to implement and embed a risk based approach to incident management. Home Office Forces are being trained in better understanding the railway.
- The role of Control Staff in managing incidents is vital. Confidence as well as competency is needed to manage complex situations. Incidents have shown a variability in approach and ability. Emergency training procedures are being reviewed and supported by simulated training building on our current localised and cross-industry training approach. During significant events additional senior support is provided in Regional and Network Control.
- Passenger communications during disruption and support for passengers' wellbeing need to improve (e.g. buses/ taxis to destination). NR and Operators are continuing a range of approaches to improve passenger communications and improve on the ground coordination during incidents.

² Safety Comms Strategy – Qualitative Research Debrief, Yonder, February 2024

Specific completed and embedded actions from past incident learning include:

- Establishment of 24-hour cover of the Senior Network Delivery Manager position.
- Additional Mobile Operations Managers and joint maintenance response teams on the Western route to improve response times to incidents.
- Additional Trust Delay Managers to improve root cause incident reporting.
- Incident Response training: using an exercising facility at Swindon to embed the practical learning crucial to transforming incident responses - taking good practice from East Coast Route at York.
- Introduction of the Control Operational Leadership Academy (COLA) in Summer 24 to develop competence of incident management.
- Technology - the introduction of 'Walk Me', making pertinent information for a given location readily available to control teams to provide consistent incident management response.
- Golden Assets: data-driven review with train operators to review and update our golden asset list to reflect changes to operations - this has already informed our Project Brunel asset works.

Actions ongoing include:

- Working with MTR and GWR to apply and deploy technology and approaches from Swindon control to MTR Control (based in Romford). These include better communications and simplification of information sharing. This aids in understanding the fleet and driver diagramming factors that influence incident recovery.
- Variation to National Operating Procedures to improve the management of stranded trains.
- Trialling coasting boards to enable electric services to continue operating with reduced delays.
- Recruitment: over-recruiting to develop a resilience buffer as well as ensuring we have a named individual for every signalling vacancy and a full complement of shift signalling managers.
- Training our teams in use of technology such as traffic management and assessing the effectiveness of the actions.
- Sandpits: installation of training facilities for maintenance teams.
- Continued use of Luminate data to improve both the timetable and our associated contingency plans before timetable change.
- Development of alterations to ARS at the boundary with Elizabeth Line to help address sub-threshold delay at the interface, a learning from analysis gathered since the opening of the Elizabeth line.

Item 3 - There are weaknesses in Wales & Western's processes for learning lessons from incidents

We undertake reviews after each significant operational incident. These reviews draw on data and first-hand experience and generate a range of tactical and strategic outcomes which are then implemented within the Route and where applicable across the network, and vice versa.

We have reviewed the lessons from GWEP, Crossrail deployment and similar changes across the network, such as the on-going HS2 works at Euston, the ETCS programme on East Coast (EC) and the EC timetable recast. These lessons are being deployed to the HS2 programme design and delivery at OOC, as described in more detail below.

We have extensively reviewed the learning from recent events covering both asset and operational incidents and these lessons are embedded into our future ways of working. Whilst we can demonstrate how we have embedded many lessons that have been learned to date, it is evident that no two incidents are the same with

new and different asset issues being raised each time requiring different response and isolation. Our applicable lessons and embedded learning reflect the wide variation in incident presentation.

Applying and embedding lessons learned from GWEP and Cross Rail to HS2

We have applied lessons learned from major programmes to our planning for the impact of HS2 on Western (primarily the changes at OOC) and will continue to do so. We shared material with ORR on the plans for managing the HS2 construction and the expected impact on performance during the PR23 discussion. This illustrates the continued challenge of finding a robust constrained timetable for 2-track operation that meets stakeholder aspirations for capacity and journey times and delivers acceptable performance. It remains our view that HS2 related construction at OOC, including the new GWML station, is a performance risk for the Region and that considerable cross-industry collaborative effort will be required to manage this.

At the end of 2023 we commissioned two independently led reviews into different aspects of the work to deliver (and ultimately operate) OOC station which will provide connectivity between HS2, Elizabeth Line and GWML services. There are many deliverables, challenges, and decisions to be made over the coming years related to the delivery programme both during the most disruptive construction phases from 2024-2030 and following the opening of the station after construction. The review reports emphasised the benefits of a cross-industry collaborative approach to planning and delivering the new infrastructure, noting that success can only be achieved through a cross-industry effort involving multiple organisations, needing the whole sector to come together in an integrated way. The reviews were led by independent experts with significant operational and delivery experience across a range of projects. Their knowledge, the insight of the people they spoke with, recent HS2 experience and learning from previous projects including Crossrail has enabled us to develop the plan for OOC with cross industry consensus, built around a series of firm, evidence-based recommendations for action, ensuring that the needs of customers and the interests of taxpayers are kept at the forefront of planning activity.

Learning and Implementing Change from Recent Events

Overhead line failures on 19 September 2022 and 07 December 2023

Cross-industry Significant Performance Incident Reviews (SPIRs) were undertaken on the two major OLE incidents with key learning points captured and a range of actions identified to help reduce the risk of future incidents occurring and mitigate the impact of incidents. One action from the December 2023 SPIR was to review the extent to which the actions from the previous incident had been acted on and were effective. This review, undertaken by David Davidson, (Kent Route Director) concluded that:

- Some actions, notably the replacement of the headspans, could not have been implemented in time; and
- Industrial action on the day of the incident undermined the ability to effectively respond to the incident and mitigate its impacts.

Pangbourne Learning and Application

In response to the fatality at Pangbourne on 04 January 2024, NR and BTP have set up a tactical working group on fatality management. The approach has been shared across the industry, most recently at the Network Performance Board (NPB). [REDACTED]

[REDACTED]. Alongside, the working group is addressing a range of learning, including swifter classification and the ability to “blue light” relief drivers to site.

Application and Embedding Learning

Lessons have been applied to recent incidents, resulting in improved outcomes. Examples include a tree on the OLE at Burnham on 26 February 2024, where the Mobile Incident Officer was able to resolve the incident safely and quickly, working with the ECRO team in applying lessons from the 07 December incident.

Lessons Learnt from the Management of Nuneham Viaduct

We have reviewed the response to the closure of Nuneham Viaduct (Item 4) and have gained learning and insight from passenger and freight operators.

Leadership were aware of the risk and the impacts of closure. In seeking an effective solution, we took further independent advice from Southampton University in support of our technical authority and specialist engineers. Issues and options were discussed with operators at the TSR Board and with passenger and freight operators prior to and during the closure. The following learning insight and learning is relevant:

- All operators would welcome early and wider engagement in understanding where similar risks may occur. This is evident from stakeholder consultation and one-to-one discussions.
- There is variability over the degree to which alternative rail routes / diversions can be achieved. In the case of Nuneham, there were few suitable alternative routes to keep services running. For the freight sector NR is working, through the National Freight Delivery Unit, to deliver a more robust approach to diversionary options. Sponsored by National Performance Board (NPB), the industry is reviewing driver knowledge to ensure diversionary running remains viable. Finally, under the service recovery workstream we are also working with operators to ensure bus provision for diversions is effective.
- A review will be held into communications with input from the network communications team.

Governance around incident learning reviews

In parallel to the incident learning NR has reviewed its process and governance to ensure that knowledge is effectively shared and implemented and where we can do so, results are tracked as follows:

- Incident learning is tracked at the route and regional business reviews (see Item 4) with a renewed focus on performance recovery at the QBR, including relevant metrics.
- Each Route logs the learning from incident reviews and tracks implementation of specific actions, including those which sit across operators and routes.
- Route and network trends are reviewed at the Train Service Delivery National Strategy Committee (NSC-TSD), including feedback on specific events and learning.
- Support for incidents reviews (SPIRs), deep-dives into service recovery and PIMS reviews, provides assurance, best practice and knowledge sharing across NR and Operators.

Item 4 - There are weaknesses in leadership and governance

Organisation Structure - Regional Leadership Team

As soon as reasonably practicable NR appointed a new interim Regional Managing Director (Rob Cairns) in January 2024, with 28 years of trusted rail leadership experience and a Fellow of both the Track Institute and the Signalling Institute. He has significant technical and delivery experience and has successfully led the IET train introduction, MML electrification and the remodelling of Kings Cross station.

NR is fully committed to responding to the urgent challenge of delivering the performance our passengers and stakeholders deserve. Our leadership focus is to build greater capability in our infrastructure and asset

performance activity, underpinned by strategy and governance for delivering good train performance with appropriate clear line-of-sight and accountability.

Informed by the learning, and in particular the deep dive reviews into asset performance in the autumn, the Regional Leadership has been strengthened by the introduction of two key interim roles, designed to provide extra capability and assurance to deliver the necessary improvements. These roles are:

Regional Infrastructure Director - enhanced provision of engineering and asset management oversight, direction and support; duties include:

- Governing and controlling the asset and framework in infrastructure related decisions and activity.
- Acting as a deputy to the RMD under the Health & Safety Management System.
- Ensuring that cross functional accountabilities shared by maintenance, asset management, infrastructure performance, renewals investment are planned, coordinated and implemented.
- Assuring that asset information is used to build an 'end to end' asset management capability which can inform plan- do-review activities to allow infrastructure performance to be managed in an agile way.
- Assuring that there is adequate coordination between OOC and the maintenance activities for asset resilience required to enable adequate train performance throughout the construction.

Chief of Staff – providing strengthened assurance around business activity (planning, assurance, governance, leadership) is managed and providing the RMD with strategic leadership support.

Organisational structure - route leadership teams

W&W routes have evolved and strengthened the route leadership structure and capability over the last 18 months.

Marcus Jones was appointed as Western Route Director in June 2023, bringing significant transformation and operational reform experience in the operation of metro and suburban railways in TOCs, NR and integrated transport models. His experience and capability was central to preparedness for the changes on the network, bringing significant experience from London Overground, MTREL, and DLR operations.

Sophie Bancroft's appointment as Operations Director further strengthened the route as she has significant experience from her operational and customer roles within LUL, including the Central Line expansion. Additional roles of Head of Metro Railway for Thames Valley and Head of Network Delivery have been introduced, supported by the strengthening of the route performance team.

In Wales and Borders, Nick Millington has strengthened the team by the appointments of an Operations Director, Performance and Transformation Director and a Passenger Strategy Director. These roles have been pivotal in evolving the performance culture within the route. A Head of Performance role has also been created and the performance team strengthened with more analytical and programme management resource. RM3-P is being followed to continually improve performance maturity, and this is being independently overseen by a representative of the Rail Delivery Group.

Assessment and Refinement

Assessment of the status of W&W, including a 100-day review by RMD supported by external advice and peer review has concluded/included:

- A focus on understanding what is happening (our data), verifying our insights into that, and finally looking for trends or repeated themes, and taking steps to establish both 'quick wins' and priority areas.

- Review of whether the organisation (our model) is delivering our core purposes, and then, in sequence whether our structure is supporting our operational model. This is to establish if we are directing our resources and energies in the right places, and according to our priorities.

In terms of the operating model and organisation the following assessment has been made:

- The region introduced an operating model as part of Putting Passengers First (PPF) that did not include roles such as Infrastructure Director. Subsequent learning and experience from other regions shows that moving to this model brings significant benefits. The Route Directors have brought drive and energy under challenging circumstances, but they do not have all the key levers under their control needed to directly influence better outcomes. The Route Directors will have the accountability levers for the 'within control period' command of operations, maintenance and renewals. Additionally, we have placed a focus on extraneous activity enabling people to focus to a much narrower field of higher impact activities.
- Both Route Directors have continuously improved their structures. Actions are in place to continue to strengthen the top-line team including the use of secondments to provide support.
- The investment programme has revealed areas of improvement in relation to clienting capabilities, and control layers.

Engineering and asset management

Changes are currently being assessed and reviewed in line with the original PPF principles and the McNaughton review of engineering capability. Devolving accountability for Asset Management to the Routes aligned with Maintenance under Infrastructure Directors is being considered, replicating other regional models. Our target operating model intends to improve safety and performance by creating clear accountability within each route for asset engineering lifecycle during CP7, whilst maintaining clear line of sight to the regional engineering team. This will be a change from the existing structure where there is a separation of decision making for maintenance and renewals.

The aim of the Engineering and Asset Management Directorate will transition to supply strategic leadership and direction on all engineering, asset management strategy and system safety matters. This will include developing the strategy and framework for the region, including regional policy standards, governance, assurance, competency, improvement, and innovation programmes.

The regional team will provide a single point of leadership for asset management, that will enable improved alignment of plans to deliver route objectives and deliver increased capability and capacity for market and performance led decision making.

At a route level, engineering and asset management leadership will be established under the Infrastructure Director. The role of this function will be to develop, optimise and safely implement the maintenance and renewal asset management plan within the control period. The route will be the asset owner and budget holder for the control period and will retain responsibility for ensuring asset integrity, safety and performance.

Next Steps in Organisational Delivery

An organisational update is planned for Q4 this year, this will involve the routes having an asset management capability devolving, in all likelihood under a newly created (route) infrastructure directorate.

Opportunity will be taken to establish an HR, Commercial and Finance capability within each of the routes. Primarily, this is to enable the routes to become enabled to link asset reliability, with the available budgets to the extent that decision making cycles can be shortened.

This change will strengthen the support service functions, including Capital Delivery, and Commercial and Finance, to devolve accountabilities to a route aligned approach, ensuring that our routes receive dedicated service which is tailored towards our passenger and stakeholder requirements, and where appropriate retaining the benefit of regional scale.

Any organisational and structural potential changes will, if taken forward, be subject to Union consultation, safety validation and other relevant governance.

Engagement and Listening

NR undertakes an annual Your Voice staff survey. Headline results were reported in April 2024 and demonstrate an increase in W&W engagement of 6% on last year with positive movement in the perception of action being taken from the previous survey. We will have greater insight in the coming weeks.

Last year the survey told us people wanted better recognition for a job well done and we launched the PROUD recognition scheme. We have 8% of people being recognised each period and we will be extending the programme in 2024 by increasing the number of colleagues being recognised.

During May we are dedicating time as a leadership team to review the results to understand and really listen to the people who are delivering day in day out as to what can make their jobs easier and continue to drive focus on our ambition to make W&W region a brilliant place to work.

Governance, reporting and accountability

We have reviewed and revisited governance and reporting to ensure there is a clear line of sight and appropriate and defined accountability. Our governance, line of sight reporting and accountability is a key part of our delivery and this is set out within the regional 'Enabling Framework'. Everything that we do is enabled through key policies, standards, process and approaches. We expect all Managers across our region to know what they are accountable for and to understand how business planning, governance, risk management, assurance and improvement processes contribute to success in their role. We also expect everyone to understand how they contribute to achievement of our priorities and how to apply the enabling framework to their everyday activities.

Evolving this to support our operating model and business outcomes is a key area of our improvement ambition. The first phase review has delivered changes to our governance as set out below. The Route and Region are supported by subject matter experts from across NR to ensure data led analysis and application of best practice. This is an ongoing review and a phase 2 review is underway in line with operating model proposals.

Recent changes include:

- Introduction of a Route weekly KPI session with the executive teams, in addition to the performance visualisation session with TOC and FOC colleagues, external stakeholders from Passenger Focus and technical experts
- Changes to Quarterly and Periodic Business Reviews (QBR / PBR) from February 2024 to ensure focus on analysis, delivery of outcomes, good practice identification and sharing.
- Implementation of a periodic safety board to drive safety and performance.
- Development of Project Brunel to include operational workstreams and introduction of a deep dive fault reporting processes, based off wider industry best practice (FRACAS).

- Commissioning a further deep dive by the Network Performance Analysis Team to see if there is additional insight from analysis of performance data (starting May 2024 with an 8 week review period).
- Enhanced engagement with stakeholders, under the dedicated leadership of the Chief of Staff

Management of Nuneham Viaduct

NR has provided details about the sequence of events leading to the Nuneham viaduct closure. NR accepts that a short notice ad hoc blockade is not optimal for our passenger and freight customers, we do not accept that this demonstrates weakness in our governance processes or is evidence of a contravention of any of its licence conditions.

Senior leadership were aware of the risk and the potential impacts of closure, but the initial engineering approach, which was to inject the polymer grout to support the structure, was an established and proven approach and was expected to be effective in keeping the viaduct operational while a permanent and complete solution was developed. As previously mentioned, we also took further independent advice from Southampton University, supporting TA and specialist engineers.

The issues and options were discussed with operators at the TSR Board. Alternative engineering interventions were considered but would also have involved planned route closure. The acceleration of the degradation of the viaduct was unexpected and led directly to the short notice route closure.

NR is confident that the approach to Nuneham was in accordance with best practice and its management of the viaduct's accelerated degradation was as timely, efficient and economical as the situation allowed.

Conclusion

In conclusion, NR's view is that we have not breached any of our Licence Conditions and we are already implementing solutions that are effectively dealing with the issues you raised, and taking all steps to secure and/or facilitate compliance. To the extent that the ORR decides to take a different position, it is our view that enforcement action is not possible, and it would be inappropriate and unjustified to impose a financial penalty or sanction in these circumstances.

We have delivered unprecedented change in the Region in the face of significant headwinds and without the control of all the levers necessary to manage all aspects of the situation, as set out in our Strategy Summary submission (and not repeated here). For the purposes of this letter our learnings and improvements have been summarised, further detail is available and can be shared separately. We remain committed to working with stakeholders to implement sustainable improvements and will continue to work closely with the ORR and keep you updated on their delivery.

Yours sincerely



Rob Cairns

Regional Managing Director – Wales and Western

APPENDIX

1. Project Brunel – key operational actions
2. OLE – renewal and maintenance plans
3. Understanding of Operational issues affecting delay per incident
4. Incident learning – wider processes

Appendix 1

Project Brunel – Key Operational actions

The pack provided alongside this letter provides further detail on elements of Project Brunel as set out above. Full detail of operational plans (and all other elements) are included in the overall programme suite. Some of the key initiatives with milestones and planned dates are shown below for reference, addressing ORR's concern about operational aspects.

Training: We are enhancing the training of our teams in use of technology such as traffic management and are to assess the effectiveness of such action. We are also introducing a Control Operations Leadership Academy in conjunction with 21st Century Operations. This training academy will create a step change in the on-shift strategic leadership of the network enabling us to improve and sustain our improvements for the future by driving an improvement in the management and recovery of incidents across the network. We are also installing training facilities for maintenance teams to use when not responding to faults.

- Control Operations Leadership Academy – commence July 2024 for completion by March 2025
- Commence training programme on Luminare – July 2024
- A review of the asset recovery manager process – September 2024
- OLE training facility at Reading – March 2025

Trespass/security reviews accelerations. This includes building on enhancements over the last two years in hardening structures particularly where we have had previous or recent incidents or known hotspots.

- Full review of bridges in Thames Valley to be completed by July 2024; hardening measures to follow subject to acceleration and change panel approval.
- Extension of funding for the BTP static patrols within the Thames Valley.
- Continued funding of the Land Sheriffs security teams (5 teams) within the Thames Valley.

Coasting boards. In Summer 2024 we will be trialling coasting boards on the Western route to enable electric services to continue operating with reduced delays. This enables the reactionary delay from OLE defects to be minimised by not having to divert, cancel or request alternative traction through the affected area.

- Trial completed by September 2024

'Walk Me': which allows our control teams to have all pertinent information for a given incident at a location readily available in order to provide consistent incident management response to incidents. And introduction of digital pit stop plans further enhances our ability to consistently manage incidents. Cumulatively items such as this will make a material difference to primary & reactionary delay.

- Completed

Golden Assets: Through the Thames Valley operations and performance meeting held with train operators, we have used data to jointly identify risks thereby enabling the review and updating of our golden asset list to reflect changes to operations. This has already informed our Brunel asset portfolio.

- Completed

Luminare data: Worked with capacity planning to identify regular changes to the base timetable to enable changes in the long term train plan thereby improving stability. We have also undertaken an assessment of the

June 2024 timetable and our contingency plans using the luminate system to identify underlying issues and correcting them in the base plan before the timetable change date.

- Identification of consistent alterations in Luminate – Complete; apply changes by June 2024
- Assessment of June 2024 timetable – Complete; apply changes by June 2024

Changes to ARS at boundary with Elizabeth Line: We have secured funding through Brunel to make a change to the ARS system at the NR and Rail for London boundary to reduce trains “falling out” of the system between the two. This is key to improving our sub-threshold performance.

- Resonate instructed to make changes – date TBC

Recruitment: Introduction of 24 hour senior leadership within the control centre. Having recruited 6 Senior Network Delivery Managers, we are over recruiting to develop a resilience buffer and to ensure they are able to complete the training programme detailed above. We are also recruiting to ensure we have a named individual for every signalling vacancy and ensuring we have a full complement of shift signalling managers.

- Additional SNDM in place – date TBC
- Signallers commence in business by November 2024 aligned to signalling training course dates.
- Shift Signalling Managers – full establishment for July 2024

Appendix 2

OLE – renewal and maintenance plans

During the period of the Crossrail and GWEP projects, consideration of the impact of future service levels on the infrastructure was made, including the impact on the overhead line system in the 0-12 mile area (which was then lightly used but would eventually become the most heavily used section on the GB network, as measured in pan passes per day). Extensive RAMS modelling was undertaken together with future service patterns overlaid to support performance outcome forecasts and a suite of associated actions to focus improvements and investments. Resilience funding was secured to strengthen assets on the main line and improve the resilience of diversionary routes. This funding included an allowance to strengthen the resilience of the overhead line including component changes necessary with the introduction of the IEP fleet. Full renewal of all overhead line components in the 0-12 mile area was not considered necessary, and would have been extremely disruptive at a time when other major works were in progress.

The 0-12 mile section of overhead line contains a substantial proportion of Mark 3b headspans. These were a cost efficient design for multi-track areas in which the equipment for all lines is suspended from a cross-track catenary system, or headspan. Whilst efficient, this arrangement does not give mechanical independence, such that damage to the equipment of one line can affect all lines. Even if other lines are subsequently shown to be operable at a site of damage, assessment of this takes time.

At the outset of CP6, W&W refreshed the overall strategy for managing the OLE assets. While the new GWEP assets between Airport Junction and Cardiff, with full mechanical independence, are highly reliable, the lack of mechanical independence in the 0-12 section was identified as a key risk. The region began developing a programme for full mechanical independence to involve the removal of all the headspans (c. 200) in the 0-12 mile area. The works required are disruptive and costly and have rightly been subject to rigorous challenge of necessity, scope and costs prior to inclusion in the strategic business plan for CP7. (A small number of

headspans have already been renewed at key station locations, though this was in response to safety concerns following an incident elsewhere).

The impact of mechanical resilience was underlined by the two high impact overhead line failures in September 2022 and December 2023. Both were single failures of components, but had considerable impact, far beyond the extent of the component damage, in part due to the lack of mechanical independence. In the September 2022 incident, the damaged headspan affected the positioning of equipment on adjacent lines, and within ten minutes a train on each of the four lines had struck the same headspan, stranding trains and blocking all lines for an extensive period, and causing very extensive disruption. On the December 2023 incident, a single failure of equipment on one line led to cautionary power outage on all four lines, which was not relaxed for over five hours.

The SPIRs into these incidents reaffirmed the need to replace the headspans with multi-track portal structures. This is the highest priority renewal activity for CP7 and we are currently working with suppliers to develop the renewal plan which integrates fully with the other access needs of the 0-12 mile area, including the OOC works and the Project Brunel works. Cost efficiencies are highly dependent upon efficient access, in a very constrained area. Portal structures which span all lines clearly require an invasive level of access across all lines, but the outcome will be full mechanical independence, plus all of the changes to registration equipment that are needed to transfer from headspan equipment to portal equipment.

At component level, the overall reliability of 0-12 mile overhead line system does not warrant full renewal. The failure rate is in line with that of Mark 3 overhead line equipment in other regions, as confirmed by the Technical Authority review following the December 2023 incident. It is currently anticipated that full renewal of the catenary and contact wires on this section will be undertaken in CP8.

Other works have also been carried out to improve reliability, including the replacement of the conventional fault protection system between Paddington and Maidenhead with the digital RATS protection system. This is the system installed by GWEP through the rest of the region, and has a more reliable performance than conventional designs, particularly in areas of very large traction load such as the 0-12 mile area. The project was initiated in 2020, installed without disruption to the operational railway and commissioned in 2023. Since then, the number of fault trips has reduced, as expected, and it is clear that RATS has removed false trippings that were due to the limitations of the conventional protection scheme.

Appendix 3

Understanding factors impacting increased delay per incident

The Western route has evolved over the last two years and we recognise and understand the factors that contribute to driving delay. These are related to changes to network interfaces, the timetable construction, operation of a metro railway, fleet changes, driver and fleet diagramming, passenger growth. Further detail is set out below for each area.

Network Interfaces

The nature of operations on the Western route has changed radically. Where Paddington used to be the terminus, 10 trains per hour now continue through Rail for London infrastructure to Abbey Wood in the South East route and Shenfield on the Anglia route, along with stock balancing using OOC hourly throughout the day. Where in 2018/19 on average delay events from track incidents would spread 88km from the source of the incident, against a national average of 86km, in 2023/24 this has grown to an average of 114km against a national average of

89km. In that same period there has been a 0.6 % increase in passenger delays occurring on Anglia route due to all incidents originating on Western route, and a 2.2 % increase in passenger delays occurring on private railways (Central Operating Section).

Timetable construction

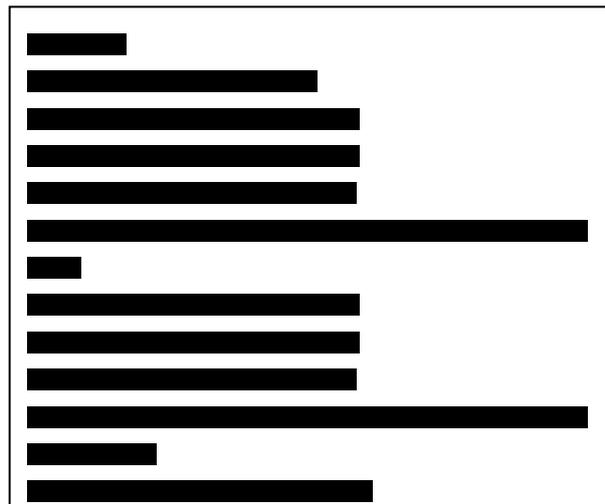
The timetable operating on the Western Route has significantly changed since 2018. Journey times on the main line have been significantly reduced (e.g. Paddington to Cardiff reduced by 14 minutes to 1 hour 53 minutes). More recently the journey time for Elizabeth Line services between Reading and Heathrow into the central operating section have been reduced since the service was first introduced in November 2022 ,e.g. Reading to Paddington reduced by 12 minutes to 53 minutes). Journey times have been accelerated to capitalise on the capability of new trains and infrastructure, enabling additional capacity to be released on the network. However, these benefits to capacity and connectivity come at the price of reduced resilience and greater opportunity for delays to spread when incidents occur.

The quantum of services operating within the timetable has changed. In 2018 the standard off -peak service was 12.5 trains per hour on the main lines and 8 trains per hour on the relief lines. This timetable, for which the GWR main line services were based on HST timings, was maintained until recast in December 2019. This gave an artificial performance benefit as services would regularly have an addition dwell of 2-3 minutes (reference journey time between Paddington and Reading reducing by average 2-3 minutes) thereby providing opportunity to recover delay incurred. This is representative with the analysis in the growth of primary delay, reflecting the increase in the number of trains on the western network at any one time.

In the May 2023 timetable there are now 15.5 trains per hour operating on the main lines and 14 trains per hour on the relief lines. The timetable includes 2x Didcot Parkway services which weave onto the relief lines at Dolphin Junction to call at Slough, Maidenhead, Twyford and all stations between Reading and Didcot Parkway). Undertaking this weave move twice in every hour increases the interaction between services on the mains and reliefs, further increasing the ability to transfer reactionary and sub-threshold delay, the junctions are not grade separated or designed for such moves. This was an industry solution to the timetabling issues with the timetable construction of the concept timetables.

Operation of a Metro Railway

In operating a metro railway one of the primary performance metrics for the Elizabeth Line is headway through the central operating section, the Elizabeth line is now carrying over 780,000 customer per day and the impact of cancellations and headway gaps has a key impact on compounding delay and station overcrowding. It is therefore a greater priority to maintain a service running with a level of delay but maintaining regularity instead of cancelling services, terminating short or skipping station stops, all traditional means of service recovery. In maintaining the regularity of service, it is also important to maintain driver turns and relief points thereby keeping trains moving.



This is particularly important given the growth in passenger demand even before the full end to end service had opened

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Fleet changes

Changing from operating a predominantly diesel traction train plan with the exception of 4 Heathrow Express and 2 Heathrow Connect services each hour, to operating predominantly electric traction throughout the Thames Valley has increased primary and reactionary delay to OLE failures. Prior to May 2019 when the full intercity train fleet was introduced by GWR any electrical failures had a limited effect on the wider route as mainline services could continue to run unaffected. Any OLE related failures today will cause far greater primary and reactionary delay due to impacting all services.

The reliability of the fleet operating on the network is equally an important component of performance, trains operating with traction restrictions both contribute to attributed and sub-threshold levels of delay but more widely can restrict the ability to utilise recovery time in the timetable when recovering from incidents.

Review and understanding of delay causation:

There has been a step change in how operational performance is managed since January 23, which is developing every period. New reports have been built to show the operational teams what impact their decision making has on performance, including clear splitting out of reactionary/primary delays during incidents and clear reports of the impacts of signaller errors. There is now a specific performance analyst to support operations with periodic and weekly reporting on our key areas of focus.

Working closely with maintenance and operations to bring teams together to solve issues at ground level and listen from the ground up to understand issues affecting performance.

NR is not able to control driver and fleet diagramming which is managed and the decision of the train operating company. Where there are multiple driver changes on a single service (see previous submission), or fleet covering multiple different origin-destination pairs this contributes to transferring and increasing delay when incidents occur. While NR can enable/support the industry to grow passenger numbers, the capacity on trains to hold additional passengers, additional dwell time at stations and ability to provide longer trains to cater for such growth is not within NR's control but can impact on the networks ability to recover from incidents. Contractual obligations on operators, such as headway and arrival at destination within 5 minutes being a key performance target of the Elizabeth Line, can be directly contradictory to NR performance incentives. While operating the service consistently at a 3-4 minute lateness during or following an incident can enable the operator to succeed in their obligations to keep passengers moving through the central core of the Elizabeth Line, it results in increased delay to NR and failure to achieve on time targets.

NR worked collaboratively with train operators in developing the sectional running times for the class 345. While initially built upon the existing class 387 timings, these were sped up in May 2023 to enable 12 trains per hour to operate in the peak, 10 trains per hour in the off peak, connecting into the central operating section to enable 24 trains to operate in the core during the peak. We will continue to work with operators on reviewing sectional running times to review and update timings based on actual data collated. This includes making use of GPS and on-board system data collection tools funded jointly between NR and MTR as part of a schedule 8 performance improvement fund delivered in 2023/24.

Appendix 4.**Incident learning – wider processes****ORR challenge: There are weaknesses in Wales & Western's processes for learning lessons from incidents**

Response: There has been progress in securing the operation and management of the network particularly with regards to incident management and the implementation of learning across the region and in Western Route specifically – this is demonstrable across people, process and technology. We recognise that there are specific instances where processes need to more consistently be applied, further the embedding of lessons and for plans to be clearly and routinely implemented in a complex and challenging operating environment (as described in our previous responses).

Western Route has built a new operational performance team based in Thames Valley to own specific programmes to improve our performance based on previous incidents and performance trends with this knowledge shared across the route. Level 1 incidents and any irregularities are raised at a weekly operations performance meeting for any immediate lessons learnt and sharing information.

Revitalised daily meetings to review 'yesterday' and agree level of investigations are held, with these are managed by the performance improvement team and through Power BI report of actions and their progress,

We have changed the 'on call' structure in operations so that experienced operational leaders are identified as crisis commanders, these leaders can provide more support to the SNDM where required.

In the case of Western, there are several examples of both the mechanism of learning lessons together with practical development of operational capability. This includes investment collaboratively with System Operator in an exercising facility at Swindon station to imbed the practical learning crucial to transforming incident outcomes across the industry operations community – taking good practice from East Coast Route at York as well as acting on one of the recommendations from the independent review into the incident on the 19th September 2022.

The Western Route team are maturing the training and competence of incident management capability and recognising the cumulative learning from major incidents through the introduction of Control Operational Leadership Academy (COLA) this summer utilising the 21st Century Operations programme. This academy responds to specific learning from recent major incidents including both the September 2022 and December 2023 dewirement incidents. This academy has been under development since summer 2023 and has a core focus on people change and empowerment as much as operational excellence.

There have been incidents where clear learning has been demonstrated, one such example being a tree falling onto the overhead wires at Burnham on 26th February 2024 where the Mobile Incident Officer resolved the incident safely and quickly, working with the ECRO team following lessons learnt from December 7th incident.

Whilst no one incident is the same, changes are continuously made both to practices in Western Route and also national operating procedures to mitigate the barriers encountered and codify the changes nationally. One specific example being the variation issued expediently following the dewirement event on the 19 September 2022 to not need a Rail Incident Officer at every stranded train (see variation certificate), this change reflecting the scale of these incidents with emergency power switch offs and the challenge they present, with the change being imbedded in the standard. Further technology progress is demonstrated through the digital stranded trains boards – an industry first – providing common situational awareness to the disparate operations controls that the Western Route has to contend with.

Further the System Operator team are developing the sharing of lessons between routes and regions building on the Performance Improvement Management System (PIMS) framework to ensure not just practical lessons are shared between devolved route businesses, but further thematic lessons are collated and shared in a usable and pragmatic way. The region and national team absolutely welcome the opportunity to embrace any specific recommendations and learning identified by the ORR and stakeholders to keep improving.