



2018 periodic review draft determination

**Supplementary document –
Health & safety**

June 2018

Contents



Context	3
1. Our assessment of health and safety	5
Overview	5
Introduction – our expectations for health and safety	5
Background and context	5
Our review of the SBPs	6
Conclusions	16

Context

The [2018 periodic review](#) is the process through which we determine what Network Rail¹ should deliver in respect of its role in operating, maintaining and renewing its network in control period 6 (CP6)² and how the funding available should be best used to support this. This feeds through into the:

- service that passengers and freight customers receive and, together with taxpayers, ultimately pay for; and
- charges that Network Rail's passenger, freight and charter train operator customers will pay for access to its track and stations during CP6.

This document forms part of our [draft determination](#), which sets out our overall decisions on PR18 for consultation. We have also published an [overview document](#), setting out:

- our proposed decisions in all the main areas of PR18; and
- a summary of how we will regulate Network Rail's delivery in CP6;

In addition, there are high-level summaries of our main decisions for each of [England & Wales](#) and [Scotland](#). The full set of documents that form the draft determination is set out in the diagram below. After taking account of consultation responses, we will publish our final determination in October 2018.

A map of our earlier consultations and conclusions that have led up to our draft determination is available [here](#).

Responding to the consultation on our draft determination

We welcome comments on this document and/or the other documents that form part of our draft determination by **Friday 31 August 2018**. Full details on how to respond are set out in Appendix B of our [overview document](#). This includes how we will treat any information provided to us, including that which is marked as confidential. Subject to this, we expect to publish responses alongside our final determination in October 2018.

We have provided a [pro-forma](#), should you wish to use this when responding. If you choose not to use the pro-forma, we would be grateful if you would make clear in your response that you are commenting on this supplementary document. This will assist our process for reviewing comments.

¹ All references to Network Rail in this document are to Network Rail Infrastructure Limited.

² CP6 will run from 1 April 2019 to 31 March 2024.

Our draft determination documents (includes weblinks)*

PR18 draft determination overview document		
England & Wales summary	Scotland summary (and supporting annex)	
Draft settlement documents	Supplementary documents	
FNPO route	SBP assessment	Scorecards and requirements
System Operator		Health & safety
		Review of Network Rail's proposed costs
		Other single till income
Route review summaries	Policy	Stakeholder engagement
England & Wales		Financial framework
		Review of network licence
		Overview of charges & incentives decisions
		Infrastructure cost charges consultation
		Variable usage charge consultation
		Anglia route
	LNE & EM route	
LNW route		
South East route		
Wales route		
Wessex route		
Western route		
Other documents	Conclusions to earlier consultations	
Glossary	Conclusions to working paper 8 on managing change	
Consultancy & reporter studies	Conclusions on our approach to assessing efficiency & wider financial performance	

*Please note that some documents, including consultancy and reporter studies and impact assessments, will be published following 12 June 2018.

1. Our assessment of health and safety

Overview

This chapter sets out the findings of our review of health and safety issues in Network Rail's SBPs, which have fed into our draft determination.

Introduction – our expectations for health and safety

- 1.1 In our SBP guidance to Network Rail³, we set out our expectations regarding health and safety management. We stated that it needed to explain how it would:
- (a) implement its health and safety strategy – “Transforming Safety and Wellbeing” – finding more effective ways to achieve commitments given around culture, rules and competence, innovation and assurance;
 - (b) focus on ensuring it can achieve its maintenance, renewals and operational output to support a safe infrastructure;
 - (c) ensure compliance with all its relevant legal obligations under health and safety legislation over CP6; and
 - (d) where full legal compliance is difficult due to legacy infrastructure characteristics, describe the trajectory to improved compliance and explain how risk is managed in the interim.

Background and context

Legal framework

- 1.2 Network Rail has duties under the Health and Safety at Work etc. Act 1974 (and subsequent regulations) to ensure the safety of employees and others affected by its undertaking. Network Rail must assess the risks arising from its activities, identify, and implement controls to eliminate them or prevent them. These general duties are made specific to the railway environment by the Railways and Other Guided Transport Systems (Safety) Regulations 2006 (ROGS), which set out what must be included in a duty holder's Safety Management System (SMS) and introduce Safety Authorisations and Certificates.
- 1.3 Most health and safety legal duties are required to be carried out 'so far as is reasonably practicable' (SFAIRP). This test requires a control measure to be implemented unless an employer can demonstrate that the cost and effort required to do so is grossly disproportionate to the risk being addressed. This test is sometimes referred to as 'ALARP', meaning the risks have been reduced to 'as low as reasonably practicable'. Affordability is not part of the test of reasonable practicability

³ [Guidance on Network Rail's strategic business plans](#), ORR, February 2017.

– it is whether the amount of time, trouble, cost and physical effort to achieve a control is proportionate to the risk or not.

Legal status

1.4 During CP5⁴, Network Rail has had the challenge of balancing centralised legal accountability with implementing a devolved route structure. We asked that the CP6 plans outlined how Network Rail proposes to achieve this balance, allowing for the devolved management of risk at route level, whilst maintaining the overall health and safety responsibilities and accountability of the company. Network Rail is still a single duty holder under law, holding one ROGS Safety Authorisation for the whole network. Further, we asked Network Rail to ensure that its plans were consistent with the whole industry Health and Safety Strategy – ‘Leading Health and Safety on Britain’s Railway’.

Funding and HLOS requirements

1.5 Within the devolved legal framework for periodic reviews, the Secretary of State retains responsibility for safety for Great Britain as a whole. His high-level output specification⁵ (HLOS) for CP6 said:

“The Secretary of State considers the continued safe operation of the railway to be vital. He recognises the good standard of safety achieved by the control of risk across the rail industry and seeks for this to continue...He is not specifying any particular safety initiatives and would expect risk control to be attained through existing processes and funding.”

1.6 So, while for CP5 there were specific requirements and ring-fenced funding relating to safety that we had to take account of in our 2013 periodic review (PR13) determination (such as in respect of level crossings), in PR18 our review of the SBPs has focused on legal compliance: delivering what is reasonably practicable.

Our review of the SBPs

Our approach to the assessment

1.7 Our assessment of the SBPs built on the work of our safety inspectors during CP5. Our review itself included a range of meetings with Network Rail, including those on specific assets, which ORR safety and engineering staff attended together as part of a joined up safety and economic approach.

⁴ Control period 5 covers 1 April 2014 to 31 March 2019.

⁵ [Railways Act 2005 statement: high level output specification](#), Department for Transport, July 2017.

Overall observations

Strategy for health and safety

- 1.8 In PR13, we set Network Rail the challenge of articulating its long-term vision for health and safety. It did this through its 'Transforming Safety and Wellbeing' – a strategic plan stretching over two control periods. Network Rail has matured in its vision to deliver its health and safety strategy and the 'Home Safe' plan is well established as its means to deliver the strategy. It is a rolling, prioritised programme to implement the main themes and targets of Network Rail's strategy and is actively monitored at the centre.
- 1.9 In the CP6 route strategic plans (RSPs), every route has committed itself to fulfil the demands of the programme. The plan is the culmination of a lot of analysis, discussion and challenge. It is targeted, prioritised, resourced and Network Rail needs to ensure that the routes are held accountable for its delivery.

Accountability

- 1.10 We considered that the business plans (whether route or central) described the matrix framework between themselves and other parts of Network Rail well. There are clear lines of accountability, and a distinction between those areas that must comply with a single 'company way' of doing things and those areas where innovation and distinctiveness at route-level are encouraged. We persistently challenged this area during the periodic review process, as we were keen to understand what powers and sanctions the centre had to ensure that a route was fulfilling its legal obligations.

New relationships

- 1.11 The matrix framework embraces some of the newer parts of Network Rail and we paid close attention to the content of these plans. The most important were the strategic plans of the System Operator and Route Services. When we reviewed the December 2017 draft versions of their plans⁶, we found that both lacked maturity in articulating the role of the organisation in ensuring system safety for the whole network. In both cases, though, it was clear from our subsequent discussions that there was good understanding of and commitment to accepting the opportunities to lead and improve network-wide risk control. Both plans articulate this vision and the System Operator plan gives an undertaking to report on this aspect of its activities annually.

⁶ Network Rail postponed the publication of its SBPs until February 2018. To enable us to begin our review ahead of February 2018, it provided us with developed drafts of the strategic plans in December 2017.

Assurance

1.12 Network Rail's central Safety Technical and Engineering Directorate (STE) is continuing to work on achieving the optimal balance in its assurance activities, as these are central to maintaining an appropriate level of supervision over the routes. We saw evidence of the evolution of this relationship between parties in the matrix framework during our review. After an early iteration of the RSPs, STE intervened to challenge some of the health and safety targets in the Route Scorecards. This intervention arose directly from STE's assurance activities and led to the February 2018 RSPs containing more ambitious Lost Time Injury Frequency Rate (LTIFR) targets. Our discussions have helped to clarify the role and importance of assurance, but it will continue to be an area to develop and consolidate during CP6.

Reasonable practicability

1.13 We found that there was varying ambition, maturity and understanding of health and safety in the individual RSPs and those of the central functions. Some revealed confusion about what SFAIRP means in law – and appeared to rule out reasonably practicable spend based on affordability, with no further explanation. We asked how Network Rail has determined what is reasonably practicable – as required by health and safety legislation – and how this had been communicated to routes. Network Rail stated that its basic approach aligns with the Rail Safety & Standards Board's guidance 'Taking Safe Decisions'⁷.

1.14 STE acknowledged that not every route had reflected this in earlier versions of RSPs, with some appearing to say there were things it would have done, had additional funding been available. However, affordability is not part of the legal test of reasonable practicability – it is whether what would be required to implement a control measure would be grossly disproportionate to the risk being managed. Not every route plan articulated this. Nonetheless, it is positive that this confusion did not survive Network Rail's own progressive assurance processes and, in the formal February 2018 submission, we saw evidence of internal challenge and adjustment. Not every question of what might be reasonably practicable has been resolved – but we have seen evidence of guidance and procedures that have the potential to provide an appropriate framework within which to make such decisions.

Maintenance and renewals

Asset management

1.15 The main area of concern arising from our health and safety review of CP6 was that of asset management. Effective asset management is key to controlling many of the precursors to catastrophic risk on infrastructure; it is also a key component of condition 1 of Network Rail's network licence, obliging it to secure the operation,

⁷ [Taking safe decisions](#), RSSB, 2014.

maintenance and renewal of the network in order to satisfy the reasonable requirements of users and funders of the railway. We probed understanding of this issue, and the calibre of responses, in many challenge meetings at both route and centre. The answers given described a hierarchy of controls. In many cases constrained funding meant that the volumes of renewals proposed were not what the modelled outcomes suggested would be needed to maintain asset condition. Our challenge to Network Rail was whether they maintained risk control with this level of asset renewal.

Renewals

Volumes

- 1.16 Network Rail has described how it has targeted its constrained funding at those assets prioritised by risk, so that renewal brings the greatest risk control benefit. It is confident that its decision-making methodology is appropriate. It has been informed by the experience of delivery in CP5 and this intelligence is reflected in its revised asset policies that have guided routes in their bottom-up investment decision making.
- 1.17 The only asset group where Network Rail acknowledges residual concerns regarding the effectiveness of planned renewals volumes is in the Civils portfolio. It is a welcome sign of Network Rail's growing effectiveness and maturity that its own assurance activities had identified similar issues to ORR's scrutiny.
- 1.18 We challenged the sufficiency of planned CP6 renewals volumes for earthworks and structures. This was based on originally planned works in the CP5 Civils Adjustment Mechanism (CAM), which have been deferred, and on the particular susceptibility of these assets to rapid failure during adverse and extreme weather events. Network Rail responded that it had a better understanding of its assets, and of the effectiveness of its interventions, than at the time of the CAM. Risk control did not depend on simply catching up CP5 volumes and doing prioritised CP6 volumes.
- 1.19 STE has advised the Network Rail Board that it expects that it will be necessary to deploy approximately £300m worth of additional targeted activity on earthworks during CP6 to resolve emerging failures which may arise. This will need to be targeted where the risk emerges, which will likely be driven by locations of extreme weather and we have pressed Network Rail to reconsider the timing and distribution of this amount of money. We acknowledge the need to have true contingencies for events arising (such as Dawlish and Dover sea wall during CP5), but believe some funds can be directed proactively at those renewals that would have been undertaken in a less constrained funding scenario, or other preventive interventions.

Earthworks

- 1.20 Network Rail did concede that its own assurance found that some routes (London North East & East Midlands (LNE&EM), London North West (LNW) and Wales) were

not delivering the minimum benchmark earthworks renewal activities indicated by its Corporate Risk Assessment Matrix (CRAM) model. The current planned renewal volumes are below the minimum considered necessary to manage the asset portfolio at current levels of risk exposure. It is our view that alternative mitigations such as heavy maintenance or additional inspection activity are not demonstrably effective in controlling risk in every case— especially the risk arising from sudden failure of assets during extreme weather. For this reason we are asking Network Rail, during its wider review of asset renewal to achieve better sustainability, to prioritise geotechnical assets whose renewal was deferred and where the consequences of failure would be most serious.

Structures

1.21 We have identified that, in some routes, structures requiring major interventions have been omitted from CP6 plans due to funding constraints. This is a particular issue in Anglia and South East routes and will likely lead to a bow wave of work in future control periods. Safety mitigations at these structures are limited to some smaller scale repairs, additional examinations and operational restrictions. Even considering these actions, we are concerned at the ongoing risk of failure at these structures with associated impacts on safety and performance. We look to Network Rail to address this issue in response to the process we are requiring it to undertake in response to our draft determination, clarifying how risk will continued to be controlled within the available funding. This process is discussed further in chapter 10 of the draft determination [overview document](#).

Refurbishment, partial renewals and maintenance

1.22 Network Rail is proposing to change the balance of activities so that it undertakes more refurbishment, partial renewals and maintenance work. By not focusing exclusively on full-scale conventional renewals, Network Rail believes it can intervene in more of its assets and still maintain safety levels. We challenged them to demonstrate the effectiveness of this approach and to show that it had the necessary capability to deliver its proposed re-balanced work bank. Network Rail said that it was incorporating the experiences of CP5, where necessity has prompted an enhanced emphasis on refurbishment activities due to the deferral of many planned renewals. In some assets, this is now well established – for example partial renewal of switches and crossings (S&C).

1.23 Network Rail acknowledged that in other assets, such as signalling, there was greater uncertainty about the effectiveness of life-extending works. During 2018 it is drawing up an improved strategy for prioritised corrective actions, incorporating lessons learned from CP5. Effectiveness of refurbishment and life-extending works is an area where Network Rail will have to target its assurance efforts throughout CP6 – monitoring and revising plans as necessary. Network Rail must focus on effective implementation of its risk control framework, as necessary mitigation where

constrained funding prevents wider asset renewal. The importance of securing this improvement becomes amplified in subsequent control periods, if sub-optimal renewal activity volumes continue to challenge the sustainability both of asset condition and risk control.

Prioritising constrained resources

1.24 Network Rail manages risk at its assets by means of a suite of company-wide standards and procedures. Constraints – not just funds, but also access, competent staff and supply chain capability – mean that in some respects Network Rail will not be fully compliant with its own standards in CP6. It has plans into the following control periods, for example, in respect of vegetation management. This is also true with regard to some of Network Rail’s statutory obligations: there are long term plans to achieve better compliance with requirements for working at height, electrical safety, managing asbestos risk. We have accepted that what is proposed appears to be reasonably practicable, but it is important that Network Rail maintains focus on achieving them and does not defer undeliverable volumes of work into the future.

Inspection

1.25 The various plans in the SBP refer to increased reliance on maintenance and inspection activities. We asked questions about these areas – how Network Rail could demonstrate their effectiveness in controlling risk and how it could show it had all the required resources and capability to deliver. Network Rail pointed to the opex (operating expenditure) sums within RSPs as evidence that increased funding has been made available. It conceded that much of this activity is targeted at dealing with anticipated failure of assets, rather than preventing failure. There is an opportunity to make inspection a more effective preventive tool, if it is allied with triggering mitigations.

Remote monitoring, Intelligent Infrastructure and weather arrangements

1.26 We asked for evidence of a consistent strategic approach to remote monitoring and to adverse weather arrangements. Both of these had been included in RSPs as being significant mitigations of risk. We had struggled to get routes to give a convincing account of the rationale for their deployment decisions, as these are vital controls ‘of last resort’ when assets may have failed. With respect to remote monitoring, Network Rail acknowledged that there was variable maturity in routes’ understanding of this topic, and some over-optimism about what can be achieved, especially in relation to monitoring earthwork condition and failure. It described its fully funded ‘Intelligent Infrastructure’⁸ programme and Weather Resilience and

⁸ Intelligent Infrastructure is an ambitious programme to optimise Network Rail’s safe and efficient management of its assets. It employs enhanced asset condition and fault data to tailor maintenance regimes for existing assets and inform improved design of new assets.

Climate Change Adaptation Strategy⁹ to us. Detailed development of some aspects is still in progress and it is vital that Network Rail ensures there is an effective strategy to optimise the benefits of remote monitoring at those assets whose failure would have the greatest consequences. This must include a clear framework for analysis of data and criteria for real-time decision-making. It is really important that STE provides every assistance to routes to enable suitable and sufficient implementation of such a strategy.

Supply chain competence and capability

1.27 Network Rail STE relied on the deliverability assessments carried out by Infrastructure Projects (IP) to demonstrate that it had the capability to deliver its re-balanced work bank as far as supply chain and access were concerned. Our challenge meetings did not give us total confidence that IP's scrutiny had been at such a level of granularity that routes could be certain of the conclusions. STE described its initiatives around staff competency and the introduction of a new single competency framework as contributing to greater certainty that its own staff could deliver these activities. It will need to assure its capability to deliver consistently and comprehensively. We also note that there are challenges about how well positioned the supply chain is to begin planned work effectively at the beginning of the control period and to cope with delivering some of the peaks in planned work, such as signalling volumes in mid-CP6.

Adverse weather contingency measures

1.28 Allied to effective monitoring is the need for Network Rail to have effective contingency arrangements in the event of adverse and extreme weather, when assets, particularly earthworks, are vulnerable to rapid, catastrophic failure. We challenged Network Rail to show that it has learned lessons and optimised these arrangements.

1.29 It explained that it had reviewed and rationalised various instructions in this area and brought them together into one company standard. It has a clear framework for invoking operational controls in adverse weather. It recognises that its ability to predict such events when they are highly localised is limited – but part of its proposed research and development funding is to explore enhanced capabilities in this area and to investigate increased asset resilience by intervening on specific components. Failure of assets is presently inevitable, and the contingency funding in the Group Portfolio Fund¹⁰ exists to cover the consequences of such eventualities. Network Rail must, throughout CP6, monitor, review and revise its contingency arrangements in

⁹ This lays out the key principles and actions necessary to get to the position where weather and climate risk management is embedded in decision making processes across the business.

¹⁰ See chapter 8 of our [draft determination overview](#) document for further information on the Group Portfolio Fund.

the event of adverse and extreme weather to optimise their effectiveness in controlling risk.

Electrical infrastructure

1.30 Within the funding available to Network Rail, STE had guarded provision within the business plans to improve control of risk at its legacy electrical infrastructure and bring it into better legal compliance. This is a sign of maturity. The proposed Electrical Safety Delivery Plan spend is targeted at areas of greatest risk (securing isolations) but also those that will bring the greatest performance benefits by shortening the time needed to take a possession and thus increasing 'time on tools'. This approach is a blueprint for sensible decision taking. The fund is overseen from the centre, but allocated to routes. This is a pragmatic decision, reflecting the variable maturity of the routes. Network Rail's aim is to migrate greater investment decision making to routes as their maturity grows.

Level crossings

1.31 Network Rail's strategy on level crossings has been rewritten to reflect that there is currently no additional specific funding for reducing safety risk for CP6 and to provide a clear steer on what routes are expected to deliver in this context. The strategy has guidance about spend per life saved, what is grossly disproportionate and how cost-benefit analysis can inform decision-making.

1.32 Network Rail has stated that decisions to invest in level crossing safety must also be balanced against other safety risks, such as from embankments, structures, track, signalling, trespass and stations. We have reminded Network Rail that all risk must be minimised SFAIRP, irrespective of other funding pressures. Because of our intervention, Network Rail assesses that this may lead to profiling spend over the whole control period to achieve the necessary safety improvements. Network Rail stated that there should be a clear plan for each level crossing asset, identifying what changes would be reasonably practicable to reduce safety risk.

1.33 We advised that, where level crossing proposals are determined to be reasonably practicable, it might be an appropriate use of reallocated funds to plan such works. We do know from our STE challenge meeting that at least two routes, Wales and LNW, have been challenged by STE to show why 'optional' level crossing spend in Appendix D is not reasonably practicable. From our assessment, we consider that a further £25m should be spent in LNW and £8m in Wales.

1.34 Further, we are concerned that the re-writing of Network Rail's Level Crossing Strategy has removed some of the stretching targets for routes to achieve improvements at passive crossings and those with the least reliable methods of warning crossing users. STE has been overseeing the development of value-for-money solutions at crossings that currently have the least reliable controls. We

consider that this has made some technical improvements reasonably practicable, and that there should be a targeted application of them. That is why we also consider that £25 million to upgrade the highest priority user-worked crossings with overlay warning systems, instead of relying on telephones, is a reasonably practicable measure and should be funded from the outset.

Recommended increased work volumes

- 1.35 It is not ORR's role to determine what is reasonably practicable or to decide Network Rail's priorities. It is, though, our role to judge whether the CP6 SBPs can deliver a safe, legally compliant railway. In determining this, we have challenged Network Rail in a number of areas where it appears to be ruling out expenditure that might be reasonably practicable. This includes the earthworks and level crossing items described above and basic health and safety provisions in the Freight & National Passenger Operator's (FNPO's) plan (described later). Further items include volumes for tunnels in LNW and drainage in Anglia.
- 1.36 In all cases we are recommending that Network Rail includes them as items to be considered for prioritisation in its wider review of renewal volumes to improve asset sustainability. These volumes were identified in the bottom-up plans from the routes but have been ruled out on the grounds of affordability. Provision of overlay protection at the highest risk long-section level crossings does not come from the published bottom-up route plans, but is based on our judgment that current plans have not embraced all reasonably practicable opportunities to improve risk control at the least well protected crossings.

Worker Safety and Occupational Health

Compatibility of solutions

- 1.37 We were pleased to note that Network Rail's plans and solutions are compatible with cross-industry strategies and align with RDG's 'Leading Health and Safety on Britain's railways'. In some cases, Network Rail is providing strong leadership on behalf of all the industry, for example, on suicide prevention and the Rail Technical Strategy Capability Delivery Plan.

Worker safety and the 'Home Safe' plan

- 1.38 Network Rail's 'Home Safe' plan is well established. It is a rolling, prioritised programme to implement the main themes and targets of Network Rail's strategy and is actively monitored at the centre. Every route has committed itself in its plan to fulfil the demands of the programme. Many of the themes within the plan for CP6 will deliver improved occupational health. Revised fatigue management arrangements are one example. With regard to worker safety, STE has made strenuous efforts to provide guidance to routes – and to develop affordable solutions that will enable them not merely to maintain present levels of risk control but to deliver improved

safety. Each technological innovation has a route champion, which will prove the business case for its solution so that other routes can take advantage of the benefits. The plan looks sensible, risk-based and should be given every opportunity to succeed.

Lost Time Injury Frequency Rate (LTIFR) and Risk Management Maturity Model (RM3)

1.39 Through their dialogue with Network Rail STE, each route is now committed to a more challenging LTIFR¹¹ target and each route has agreed to employ RM3¹² to analyse its own effectiveness. The route scorecards provide a useful means of comparison. They will be one of the sources of information about health and safety performance in CP6 – but we will continue to use the full range of means of investigating how well Network Rail is doing to control risks to the health and safety of all those affected by its undertaking.

Depot walkways

1.40 We challenged items relating to basic health and safety legal compliance matters, such as providing level walkways in good condition within depots. These were originally in the ‘optional’ spend scenario in the FNPO RSP and should move into the core spend at a cost of £22m.

Research and development

1.41 In the SBPs, Network Rail set out plans for a research and development (R&D) programme for the control period costing £440m. We are clear that R&D has an important role to play in enabling a sustainable railway in the control periods beyond CP6.

1.42 As set out elsewhere in our draft determination¹³, given the more immediate challenges faced on asset condition in particular, we have said that the R&D fund should be set at a minimum of £100m, and embedded within the industry’s governance structure for R&D. This will enable further funds to be targeted at improving asset condition in CP6. However, if Network Rail is able to effectively control its financial risks during the control period, and does not use all of its contingency within the Group Portfolio Fund, it would be able to deploy some of this on R&D instead if it considered this appropriate.

¹¹ The Lost Time Injury Frequency Rate is the number of lost time injuries occurring in a workplace per one million hours worked. At period 1 in 2018-19, the LTIFR was 0.363 overall, but with substantial variations between routes and Infrastructure Projects. All routes have a target of 0.17 for end of CP6.

¹² RM3 describes what excellent management capability would look like for the key elements of an organisation’s health and safety management system as measured against five maturity levels.

¹³ See chapter 6 of our [draft determination overview](#) for our decision on R&D funding and governance.

Conclusions

- 1.43 Our scrutiny of Network Rail's proposed plans for CP6 has shown that there is evidence of growing maturity in its management of health and safety. It has targeted efforts at priority areas in order to improve its health and safety strategy: the Home Safe Plan. In doing so, it has ensured its efforts are focused and have secured route commitment to deliver. It has a challenging LTIFR target for CP6 and is promoting the use of RM3 as a tool for securing excellence.
- 1.44 Network Rail's own assurance activities have been robust – resulting in progressive challenge to route proposals and securing improved arrangements. This is a positive development. The routes show varying degrees of ambition and maturity – but the matrix framework has the potential to drive the required improvements. In particular – there needs to be an evolution in routes' understanding of what 'so far as is reasonably practicable' means for their investment decision-making.
- 1.45 Regarding safe asset management, Network Rail should aspire to unceasing improvement across all asset classes to assure continued safety over the network and greater sustainability over time. Our draft determination asks Network Rail to make targeted adjustments to its plans over the summer to reflect our decisions that funding should be put into improving asset condition and ensuring that minimum safety requirements are met. The process for this is discussed more fully elsewhere¹⁴, but our expectations of this in terms of health and safety issues are that Network Rail should:
- move the FNPO's 'optional' spend of £22 million for basic depot safety improvements into 'core' spend;
 - for LNW and Wales routes, include the 'optional' level crossing spend in 'core' spend;
 - allocate £25 million for priority user-worked crossings with telephones in long sections to upgrade to overlay warning systems;
 - recognising that Network Rail STE's own assurance activity identified a 'gap' of some £300 million in earthworks renewals (paragraph 1.19); we consider that when Network Rail reviews what additional renewals should be added to its base plans for CP6 as part of the process we have asked it to carry out following our draft determination, additional earthworks should be prominent in this. This reflects that it is the group of assets where alternative mitigations are least effective in preventing failure. This also applies to structures (particularly metallic structures), drainage and track.

¹⁴ See chapter 10 of our [draft determination overview document](#).

1.46 Network Rail's SBP has the potential to control safety risk and fulfil its statutory obligations – so long as it reviews its asset renewal plans to identify any additional reasonably practicable work that will deliver safe management of the network. Further – the success of this plan is dependent on continued monitoring, review and revision by Network Rail of the arrangements described. In particular, it must assure itself that the routes are delivering the Home Safe Plan and that they continue to demonstrate the effectiveness of the balance between renewal, refurbishment and maintenance activities. Network Rail must continue to improve its inspection and condition monitoring strategy to deliver optimal risk control. Improved, effective delivery of its risk control framework is fundamental not only to risk control in CP6, but to continued sustainable safe asset management in subsequent control periods.



© Crown copyright 2018

This publication is licensed under the terms of the Open Government Licence v3.0 except where otherwise stated. To view this licence, visit nationalarchives.gov.uk/doc/open-government-licence/version/3.

Where we have identified any third party copyright information you will need to obtain permission from the copyright holders concerned.

This publication is available at orr.gov.uk

Any enquiries regarding this publication should be sent to us at orr.gov.uk