2018 periodic review draft determination

Supplementary document – financial framework

June 2018

Contents

Context

The 2018 periodic review is the process through which we determine what Network Rail[1] 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.

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[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

- FNPO route
- System Operator

Route review summaries

England & Wales

- Anglia route
- LNE & EM route
- LNW route
- South East route
- Wales route
- Wessex route
- Western route

Supplementary documents

SBP assessment

- Scorecards and requirements
- Health & safety
- Review of Network Rail's proposed costs
- Other single till income
- Stakeholder engagement

Policy

- Financial framework
- Review of network licence
- Overview of charges & incentives decisions
- Infrastructure cost charges consultation
- Variable usage charge consultation

Other documents

- Glossary
- Consultancy & reporter studies

Conclusions to earlier consultations

- Conclusions to working paper 8 on managing change
- 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.

Executive summary

This is our draft determination for the PR18 financial framework. It follows the consultation on our minded to proposals that we published in March 2018 and takes account of the responses we received. It should be read in conjunction with the overall draft determination for PR18.

In this document, we set out our decisions for the CP6 control period for Network Rail that will run from 1 April 2019 to 31 March 2024 on:

- a switch from RPI to CPI for inflation indexation;
- a range of other financial issues; and
- financial risk management.

We have not set out draft revenue requirement determinations at this stage because we have agreed a process with Network Rail, in which – without prejudice to its right to object to our final determination at a later stage – it will make a set of targeted adjustments to its England & Wales strategic plans over the summer. This might affect the income and expenditure figures for route level calculations. We have however, provided the format we expect to use for our final determination of revenue requirements in due course. Where we have identified issues with financial data in the SBPs we have also asked Network Rail to address these in its updated submissions. We will show full calculations in our final determination of revenue requirements.

Inflation indexation

After considering responses to our financial framework documents, our decision is to switch from RPI to CPI for the indexation of track access charges and payment rates in other mechanisms where we set the method of indexation mainly because:

- RPI is no longer regarded as a robust measure of inflation;
- there is a broad national and international consensus on the benefits of using CPI; and
- Network Rail is no longer directly exposed to movements in RPI on its index-linked debt.

We outline the methodology we expect to use to apply our decision to route and overall revenue requirements and explain why there is expected to be a limited direct impact on Network Rail, train operators and passengers.

Budgetary flexibility

We said in our earlier documents that, following Network Rail's reclassification as an arm's length public sector body, it was likely that it would be subject to restrictions on:

- spending money in different years than initially agreed with the governments; and
- switching expenditure between operating (resource) and capital expenditure, in both cases with reference to total amounts (as opposed to route level) for England & Wales and for Scotland.

The Department for Transport (DfT) has now set out (in its response to our second consultation) the budgetary flexibility that Network Rail can expect to be allowed during CP6 in respect of Great Britain, as it is the position for Great Britain that is consolidated into DfT's accounts. This gives Network Rail significantly more flexibility than most other arm's length public bodies.

Our understanding is that the flexibilities will be the same for Scotland and for England & Wales. We are aware, however, that Transport Scotland is discussing budget flexibility arrangements for Scotland with the UK Government.

Financial risk management in CP6

We have considered the three approaches to financial risk management for Network Rail that we referred to in our second consultation:

- Network Rail's proposal for a group portfolio fund (GPF)[3];
- the inclusion of contingent renewals in route work programmes; and
- a hybrid approach.

We have done so in the context of responses to our second consultation, including from DfT, Transport Scotland and Network Rail.

In developing our decisions, we have taken into account:

- information provided by DfT on the budgetary flexibility that should be available to Network Rail during CP6, in light of its reclassification as an arm's length public sector body in 2014;
- a report to us by Cambridge Economic Policy Associates Ltd (CEPA) on Network Rail's proposed approach to financial risk management in CP6; and
- the interests of Network Rail's stakeholders, including rail and freight service users, train operators, and the funding governments.

Our decision on financial risk management is that we are going to use a hybrid approach that combines funding being held as a provision for financial risk at both route level and at the centre, and funding allocated to contingent renewals that could be deferred if financial

[3] Some of this fund would be held at route level and some in the centre. None of the fund was proposed to be committed for use upfront, it would be used if risks materialised.

risks materialise. However, if some risks do not materialise, the contingent renewals could be taken forward to improve outputs.

Network Rail's total proposed risk funding for England & Wales of £2,311m (in 2017-18 prices) presently appears appropriate to us. However, our draft determination is that the balance between risk funding held in the routes and the centre should be different and we have moved £856m from the centre to the routes, as contingent renewals funding. The allocation of risk funding for England & Wales is therefore:

- route-controlled risk funds: £600m;
- contingent renewals: £856m; and
- centrally-controlled GPF: £856m.

We are presently discussing the risk funding approach for the Scotland route with Network Rail and Transport Scotland in the context of the separate funding arrangements for Scotland. Whilst we consider the total risk funding of £284m (in 2017-18 prices) proposed by Network Rail to be appropriate, we have not yet decided whether this should be allocated to route/centrally-controlled risk funds or contingent renewals. In any case, risk funding for Scotland will be ring-fenced from the amounts for the England & Wales routes, so there can be no movements between England & Wales and Scotland.

In its SBP, Network Rail allocated route-controlled risk funding amongst the routes in England & Wales, largely in relation to the levels of planned expenditure in the routes, with a weighting in favour of capex. Although this approach reflected route level risks to some extent (because capital expenditure tends to carry greater risk) we expect Network Rail to refine its risk profiling in its delivery plans, taking account of views expressed by route managers. In addition, when Network Rail plans how the contingent renewals should be allocated across the routes in its delivery plans, it should take account of asset sustainability, and whether the profile of financial risk across the routes affects the allocation, especially for the smaller routes.

It is important that the governance Network Rail puts in place for the management of financial risks is appropriate and supports continued devolution of management to the routes. We have asked Network Rail to review its proposed arrangements, in particular with respect to the role that routes will play. We will provide an opinion on Network Rail's updated governance arrangements in our final determination.

We have included proposals on possible changes to the financial conditions in Network Rail's network licence in our separate licence review consultation document.

Other financial issues

We have also set out decisions, and our reasons for them, on a number of other financial issues including:

- setting and updating RAB values for CP6;
- determining weighted average cost of capital (WACC) and cost of debt values;
- re-categorising other single till income (OSTI) for presentation purposes; and
- discontinuing 'early start' provisions and corporation tax and VAT incentive mechanisms - we will not be using these policies in CP6, but we will reconsider the position for future periodic reviews if the funding structure for Network Rail changes significantly.

Illustration of route level and overall revenue requirements

As noted above, we have agreed a process with Network Rail, in which – without prejudice to its right to object to our final determination at a later stage – it will make a set of targeted adjustments to its strategic plans over the summer. This might affect the expenditure requirements set out in each route strategic plan. Therefore, instead of including draft revenue requirement determinations at this stage. We have set out the format we expect to use for our final determination of revenue requirements for the geographical routes, the Freight and National Passenger Operator route, and the System Operator.

Allocation of central costs

We have also outlined the findings of a report prepared for us by CEPA on the basis on which Network Rail allocates central costs amongst the routes. CEPA said that Network Rail's allocation of central costs uses well established methods. However, we think it is time to re-consider whether these methods remain suitable when there are devolved funders. For the draft determination, we are not making any specific changes to Network Rail's cost allocation approach.

However, we will carry out a limited but more detailed review of central cost allocations before the final determination, working with Network Rail on some aspects of this process. Any changes identified may help strengthen the accountability of centrally provided services to Network Rail in Scotland. Throughout our review, Transport Scotland has noted its concerns over the level of central costs.

Introduction

This is our draft determination for the PR18 financial framework, setting out our decisions in light of the responses we received to our earlier consultations.

In our second consultation on the financial framework, published in March 2018, we explained our minded to proposals:

- to switch from RPI to CPI for the indexation of track access charges and payment rates in other mechanisms where we set the method of indexation; and
- on a range of other financial issues.

We also outlined important considerations in respect of budgetary flexibility and financial risk management for Network Rail in CP6 in the context of proposals included in its strategic business plans.

We summarise the responses we received to our second consultation, in chapter 1 of this draft determination.

In chapter 2, we explain our decision to switch from RPI to CPI for the inflation indexation of track access charges, and payment rates in other mechanisms where we set the method of indexation. We consider the impacts of our decision in the light of views expressed by respondents and outline the methodology we propose to use to implement the switch in our determination of route level revenue requirements for CP6.

In chapter 3 we set out our decisions on the following financial issues for CP6:

- setting and updating route level regulatory asset base (RAB) balances (including for the SO);
- setting weighted average cost of capital (WACC) and cost of debt values;
- other single till income (OSTI) re-categorisation;
- the treatment of asset disposal proceeds;
- early start provisions;
- incentives relating to corporation tax and VAT adjustments;
- treatment of Schedule 4 and 8 costs;
- treatment of electricity for traction; and
- the opex memorandum account.

In chapter 4, we explain our decisions on financial risk management for Network Rail in CP6 in the context of the more limited budgetary flexibility that will be available to it, reflecting its reclassification and the governments needs for appropriate controls to effectively manage public finances. We outline the views that have been put forward by Network Rail and the governments as well as information provided in a report to us by CEPA. We also outline the position on grant dilution and re-opener provisions.

In chapter 5 and in Annex C, we outline the calculation of revenue requirements at a route level (including for the FNPO and SO) for CP6. We explain how they fit into the overall financial picture for Network Rail (including expenditure that will be separately funded by governments[4]). We also outline how recharges between geographical routes, the freight and national passenger operator route, and the SO are handled in our calculations.

In chapter 5, we also address central cost recharges within Network Rail and our affordability assessment.

There are four annexes to this document:

- Annex A contains a list of related documents that provide context for our document;
- Annex B is the glossary;
- Annex C shows the format of a route revenue requirement calculation; and
- Annex D provides an illustration of expenditure for Great Britain, England & Wales and Scotland using Network Rail's SBP expenditure forecasts.

[4] Funding that is not included in the SoFAs.

1. Responses to our second consultation

1.1 We received ten responses to our second consultation, including one from Network Rail.

Responses to our proposal to switch to CPI

1.2 Most respondents expressed support for our proposal to switch from RPI to CPI for inflation indexation of track access charges, and payment rates in other mechanisms where we set the method of indexation. However, the following particular points were made:

(a) There should be clarity that the actual inflation experienced by Network Rail (general inflation plus incremental input price effects[5]) is not necessarily equivalent to either RPI or CPI.

(b) Effective adjustments should be made as part of the switch, to limit the impact on Network Rail's overall revenue requirement.

(c) The case for using CPIH should be kept under review.

(d) The impact on track access charges in Wales should be considered.

1.3 Several respondents made the point that we should determine Network Rail's revenue requirements for CP6 in such a way that Network Rail is no 'worse off' as a result of the switch to CPI indexation. One felt that the approach for inflation across the rail industry should remain aligned and one referred to a potential impact on train operators of indexing Schedule 8 payment rates by CPI if rail fares continue to be indexed by RPI.

Responses relating to budgetary flexibility and financial risk management for Network Rail

1.4 Most respondents said that Network Rail should receive sufficient funding for risk and uncertainty in CP6. One suggested carrying out cost/benefit analysis of the different possible approaches to financial risk management. Two respondents noted the additional inflation risk associated with the non-indexation of network grants in CP6.

1.5 Most respondents considered that Network Rail should be allowed adequate budgetary flexibility to promote efficient business management and supply chain

[5] See glossary – this has the same meaning as real price effects.

sustainability. Two respondents said that lessons should be learnt from previous experience of increased costs resulting from re-planning requirements and one commented that Network Rail's cost forecasting and profiling should be improved. Three respondents made the point that budgetary flexibility should not be allowed to prevent transparency on Network Rail's financial performance, with one suggesting that any drawdown of centrally held funding should be reflected in scorecard performance.

1.6 Three respondents supported Network Rail's proposal to hold some risk funding centrally, with one commenting that it should reduce the need for transfers amongst routes. Two respondents noted that a centrally-held fund would affect the budgets available to routes to deliver outputs and one expressed concern at the 'P50' confidence levels associated with the baseline expenditure levels set out in route strategic plans. In the context of possible budget transfers between routes, one respondent pointed out that effective governance arrangements should apply to proposals affecting Wales.

1.7 One respondent said that the financial risk management approach adopted should promote route devolution and two expressed a view that route managers should be involved in governance arrangements for any centrally held funding. Several respondents urged caution in relation to the use of 'cancellable' activities to manage risk, citing concerns around disruption to supply chain relationships with consequences for efficiency levels.

1.8 Whilst one stakeholder suggested that Network Rail should consider commercial insurance options when appropriate, another pointed out that, as a public sector body, Network Rail should only use commercial insurance where there is a legal requirement to do so.

1.9 One stakeholder repeated a view that additional disaggregated cost information should be available to stakeholders in CP6 to increase transparency and allow challenge.

1.10 Network Rail supported the retention of existing re-opener provisions in track access contracts.

Responses on other proposals and additional comments

Re-categorisation of other single till income items

1.11 Two respondents expressed support for the proposal to reclassify some OSTI items so that OSTI consists only of income from charges that ORR does not set and income from commercial agreements. They felt that we should make clear that this would have no overall impact on Network Rail's revenue requirement or track access charges.

1.12 One respondent, however, felt that the change might add complexity without bringing clear benefits.

RAB values in CP6

1.13 Most respondents agreed with our proposed approach to setting and adjusting RAB values in CP6.

1.14 Network Rail reiterated its view that the RAB should not be adjusted for non-core asset disposals and that a replacement cost approach (scaled to the value of the RAB) should be used in relation to core asset disposals.

Presentation of revenue requirements

1.15 There was broad support for our proposed presentation of Network Rail's revenue requirements for CP6, showing their relationship with the separate funding for some costs in CP6. The views of respondents included:

(a) There should be clarity on how the separate HLOSs and SoFAs affect England & Wales and Scotland.

(b) The price bases used in presentations should be made clear.

(c) There could be merit in tailoring the complexity of the information for different audiences.

(d) In relation to the System Operator:

- greater regulatory emphasis is welcome; and
- there should be transparency on SO expenditure in respect of Wales and other routes.

Other points

1.16 Respondents' other points included:

(a) Network Rail should be incentivised to explore third party funding possibilities in CP6.

(b) Even if there is no early start mechanism, Network Rail should be ready to implement its PR18 strategic business plans promptly from the outset of CP6.

(c) In relation to the Wales route, there should be consultation with:

- the Welsh Government in respect of any proposed asset disposals; and

- the route supervisory board in respect of any proposed changes to infrastructure programmes.

2. Inflation indexation

2.1 In our second consultation we set out our minded to proposal to switch from RPI to CPI for indexation of Network Rail's track access charges, and payment rates in other mechanisms where we set the method of indexation[6].

Approach to inflation indexation

Impact assessment in our second consultation

2.2 We considered that there should not be a significant direct impact on Network Rail because we would increase the incremental input price effects in Network Rail's opening expenditure forecasts to take account of lower expected indexation increases during CP6[7]. Our methodology for this is outlined below and takes account of the process we have agreed with Network Rail, in which – without prejudice to its right to object to our final determination at a later stage – it will make a set of targeted adjustments to its strategic plans over the summer.

2.3 We acknowledged that if the differential between CPI and RPI were to change significantly (both lower or higher), the impact of the switch could be greater than expected. In practice, this would have the same effect as a difference between the actual input price inflation Network Rail faces compared to our determination assumption. This risk is one of the risks that the risk funding will cover.

2.4 We commented that train operators might be affected to a limited extent by:

(a) slightly higher opening variable track access charges (VTACs) - we estimated around 2% of the charge - offset by lower indexation increases during CP6;

(b) lower Schedule 4 payment rates - but with a limited impact because the access charge supplement will also be indexed by CPI; and

(c) transaction costs if, for example, invoice payment systems needed to be updated.

2.5 It currently appears that for a period of time there could be different inflation measures in use for indexing track access charges on the one hand, and regulated passenger rail fares on the other.

[6] These include station charges, Schedule 4 and Schedule 8 payments.

[7] Assuming that CPI continues to be lower than RPI and both are positive.

Decision

2.6 After considering the responses to our financial framework documents, our decision is to switch our method of indexation from RPI to CPI because the benefits will significantly outweigh the limited impacts noted above, and in particular:

- there is a broad national and international consensus on the benefits of using CPI, and RPI is no longer regarded as a robust measure of inflation;
- as a better measure of inflation, CPI should provide more appropriate economic signals for Network Rail and its stakeholders;
- Network Rail is no longer directly exposed to movements in RPI on its index-linked debt; and
- it is likely that most economic regulators will move to the use of a CPI measure over time.

2.7 We have decided to use the CPI measure rather than CPIH for CP6 because:

- it is the measure of general inflation currently targeted by the Bank of England; and
- there is presently greater availability of CPI forecasts.

2.8 We also note the differences between CPI and CPIH rates are relatively small, with CPI having been, on average, 0.18 percentage points higher than CPIH over the past ten years. We expect to review the use of CPIH at our next periodic review.

Indexation of RAB balances in CP6

2.9 Because it is a better measure of inflation, after considering the responses we received to our financial framework documents, we have also decided to use CPI for the indexation of the RAB in CP6. This will mean that the value of Network Rail's RAB will be appropriately preserved going forward.

Methodology for switch from RPI to CPI

2.10 Our draft methodology for implementing a switch from RPI to CPI in respect of each route level settlement is described below[8].

Presentation of revenue requirements in 2017-18 prices

2.11 We will present Network Rail's CP6 revenue requirements in constant 2017-18 prices. To do this we will take the revenue requirements in 2017-18 prices per

[8] These are simplified examples covering a one year period, which ignores the effect of compounding.

Network Rail's submission and apply the forecast differential between RPI and CPI (e.g. 1.0 percentage point).

Illustration 1

Revenue requirements	£m
Revenue requirements in 2017-18 prices[9]	100.0
Add: An estimate of the future RPI/CPI differential (1.0%)	1.0
Revenue requirements in 2017-18 prices (including the adjustment for the RPI/CPI differential)	101.0

Presentation of revenue requirements in cash prices

2.12 We also need to calculate Network Rail's CP6 revenue requirements in cash prices[10]. This is important, because the funding totals in the governments' statements of funds available (SoFAs) are stated in cash prices.

2.13 To do this, we will apply our CPI inflation forecast of 2.0 percentage points to the revenue requirements in 2017-18 prices (including the adjustment for the RPI/CPI differential).

Illustration 2

Revenue requirements	£m
Revenue requirements in 2017-18 prices (including the adjustment for the RPI/CPI differential)	101.0
Add: CPI inflation forecast (2.0%)	2.0
Revenue requirements in cash prices	103.0

Limited direct impact on Network Rail

2.14 As noted in paragraph 1.57 of our second consultation, there should be a limited direct impact on Network Rail of a switch from RPI to CPI indexation because in our determination:

- Network Rail's revenue requirements in cash prices should be the same, because we will increase the incremental input/real price effects component of expenditure forecasts to take account of lower expected indexation increases (see paragraph 2.11); and

[9] In Network Rail's strategic business plans, income and expenditure was presented in 2017-18 prices but included an incremental input/real price effect factor (see glossary) of 0.5 percentage points, which Network Rail said represented cost 'headwinds'. In light of the targeted updates Network Rail will consider over the summer, which may affect a range of headwind factors, it will no longer be clear how much of this factor will be included in our final determination.

[10] This means including the impact of forecast inflation.

- we will adjust our determination of fixed track access charges and/or annual network grant amounts[11] to take account of lower levels of income from VTACs (as explained below) .

2.15 In our second financial framework consultation, we commented that a switch to CPI would result in a relatively higher increase for access charges at the start of CP6, but relatively lower indexation increases during CP6.

2.16 However, we have separately announced proposals to cap the variable usage charge (VUC) for freight and charter operators. Reflecting this, there will be no upward adjustment to VTACs for the RPI/CPI differential at the start of CP6 for these operators and the yearly charges will be indexed to CPI.

2.17 The yearly VTACs for franchised and open access train operators will also be indexed by CPI. However, for these operators we are still considering whether to make an incremental upward adjustment to VTACs at the start of CP6 for the RPI/CPI differential.

2.18 If we do not make such an adjustment to the charge at the start of CP6. Then, all other things being equal, Network Rail's total income from VTACs, in cash terms, will be lower by the estimated annual VTAC income x 1.0^t % in each year, where t represents the number of elapsed years of CP6. However ultimately, Network Rail would receive the same amount of money in total, when fixed charges/network grant are included.

Updating track access contracts

2.19 The implementation of our decision on inflation indexation will take place by updating the indexation provisions in the track access contracts to refer to CPI instead of RPI where appropriate.

[11] These amounts are capped by the governments in cash prices.

3. Other financial issues

Introduction

3.1 This chapter sets out our decisions on a number of financial issues for which we included minded to positions in our second consultation on the PR18 financial framework. These are:

- setting and updating route level RAB balances (including for the SO);
- setting weighted average cost of capital (WACC) and cost of debt values;
- OSTI re-categorisation;
- the treatment of asset disposal proceeds;
- early start provisions;
- incentives relating to corporation tax and VAT adjustments;
- treatment of Schedule 4 and 8 costs;
- treatment of electricity for traction; and
- the opex memorandum account.

Setting and updating RAB balances for CP6

3.2 As noted in our second consultation, Network Rail's RAB will not be used in the calculation of its revenue requirements for CP6. However, after considering responses to our financial framework documents, we have decided to maintain a RAB value for each geographical route and for the system operator, together with total values for England & Wales and Scotland to:

- provide a metric to refer to for valuing railway assets;
- enhance understanding of the long-term financing of the network;
- facilitate comparability with other regulated network businesses; and
- support the valuation of assets for disposal or transfer purposes.

3.3 We will not establish a RAB value for the FNPO because it has few tangible assets of its own.

RAB balances for geographical routes

3.4 After considering the responses we received to our financial framework documents, our decision is to use the RAB balances included in Statement 2a of Network Rail's regulatory financial statements as at 31 March 2018, as the basis for the opening RAB value, for each geographical route in CP6. These values are reported in accordance with the Regulatory Accounting Guidelines (RAGs).

3.5 We will forecast opening CP6 values for 1 April 2019 in our final determination based on the latest accounting updates available at the time. These will be adjusted in Network Rail's 2018-19 regulatory accounts to reflect actual outturns in 2018-19 in accordance with our RAGs.

3.6 Route RAB values will be adjusted downwards in order to establish the SO RAB as described below.

RAB balance for the SO

3.7 After considering responses to our financial framework documents, our decision is to establish and maintain a RAB balance for the SO in CP6 and that a positive opening RAB value should be set to reflect the fact that the SO already has tangible assets.

3.8 Our decision is to set the opening RAB balance for the SO at a value of £80m (in 2017-18 prices) as proposed by Network Rail. We have sense checked this value using the formula:

$$\text{SO RAB} = \frac{SO\ Capex}{Total\ Capex}\ X\ \ Network\ Rail\ RAB$$

3.9 Applying this formula to an approximate average annual SO capex expenditure value of £8m, approximate average annual total capex in CP5 of £6.15bn and a RAB value at 31 March 2017 of £61.8bn[12] gives a value of £80.4m, which is close to the value proposed by Network Rail.

3.10 After considering responses to our financial framework documents, our decision is to establish the opening SO RAB balance, by reducing the opening RAB balance for each geographical route by the same proportion of the £80m value as its RAB bears to Network Rail's total RAB. This includes a deduction from the Scotland RAB as the SO's functions cover the whole of Great Britain.

Updating RAB balances during CP6

3.11 After considering responses to our financial framework documents, our decision is that the following steps should be followed to update route and overall RAB balances in CP6:

[12] Provided by Network Rail from its financial records.

(a) Inflate the value at the start of each year using CPI indexation.

(b) Add capital expenditure (renewals and enhancements[13]) during the year.

(c) Deduct renewals funding included in our revenue requirement determinations, at the end of the year; this is a proxy for amortisation[14].

3.12 This differs from the proposal in our second consultation as we are now proposing that grant funded enhancements should not be added to the RAB because on balance we think this would not aid transparency.

3.13 Under this approach, in real terms, RAB values going forward should remain broadly in line with their opening values during CP6 because additions and deductions each year should broadly be in line with each other.

3.14 We expect to include detailed provisions for how the RAB is rolled forward from year to year in the RAGs that we will publish for CP6.

RAB roll forward incentive/risk sharing mechanism

3.15 We proposed in our second consultation, to continue to apply the current RAB roll forward incentive/risk sharing (25% risk sharing mechanism) to the capital expenditure additions referred to in paragraph 3.11(b)[15]. However, on review, we do not think this would be consistent with some aspects of the funding and financial performance assessment approaches that will apply in CP6, in particular because:

- we do not propose that there should be a risk sharing adjustment to the financial performance measure for capital expenditure in CP6; and
- Network Rail can no longer borrow to fund an overspend.

3.16 Therefore, our decision is not to apply the current RAB roll forward incentive in CP6. However, we would revisit the issue, if Network Rail, or a part of it, were to be privately financed at any time or other changes to Network Rail's funding structure took place.

Spend to save

3.17 After considering responses to our financial framework documents, our decision is to discontinue the spend to save mechanism in CP6, but we would consider

[13] Only enhancements that are not grant funded. At the moment, we are assuming that all DfT and Transport Scotland enhancements in CP6 will be grant funded.

[14] In CP5, we used long-run average efficient renewals expenditure as a proxy for amortisation.

[15] Further information on the CP5 RAB roll forward incentive adjustment is provided in chapter 6 of our first consultation on the PR18 financial framework.

reintroducing it if Network Rail, or a part of it, were at some point to be privately financed or its funding structure changed.

WACC and cost of debt values

3.18 In our second consultation we said that, although a WACC would not be used in our revenue requirement calculations, we would still determine WACC values[16] for Network Rail for the purpose of:

- showing what Network Rail's revenue requirements might be under a full WACC approach[17];
- calculating the cost of capital for facility charges payable by third parties who have promoted enhancements financed by the governments through Network Rail[18]; and
- providing a benchmark discount rate/internal rate of return for internal projects (and other economic decisions) by Network Rail in CP6.

3.19 At this point, we need to determine three values for Network Rail in CP6:

- a real vanilla weighted average cost of capital to illustrate Network Rail's revenue requirements on a 'WACC' basis;
- a real pre-tax real weighted average cost of capital for facility charges (where the charge payer should cover the tax cost associated with the equity component of the cost of finance); and
- a real pre-tax cost of debt figure for the purpose of the Crossrail supplementary access charge paid by TfL to Network Rail in respect of infrastructure associated with Crossrail[19].

3.20 The current (CP5) values for the real vanilla weighted average cost of capital and the pre-tax real weighted average cost of capital are:

- real vanilla weighted average cost of capital: 4.31%;
- real pre-tax real weighted average cost of capital: 4.93%; and

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[16] Definitions for these values are provided in the glossary in Annex B.

[17] Using a hypothetical cost of capital Network Rail might face if it were financed in the private sector (without government support) by a mix of debt and equity.

[18] We also noted that the cost of debt will be used for the Crossrail supplemental access charge.

[19] The Crossrail track access option deed includes provision for payments by Crossrail, through supplementary access charges (SACs), to allow Network Rail to recover the costs relating to works for Crossrail that took place on its network. The costs will be recovered over the life of the assets concerned, and the SAC's include a finance cost component.

- pre-tax cost of debt: 3.00%.

Determining values for WACC and cost of debt

WACC values

3.21 Although approaches can and do vary, most economic regulators apply the following formulas to calculate WACC values:

Vanilla weighted average cost of capital

= (pre-tax cost of debt x gearing) +

(post-tax cost of equity x 1-gearing)

Pre-tax real weighted average cost of capital

= (pre-tax cost of debt x gearing) +

(cost of equity grossed up for corporation tax x 1-gearing)

3.22 The gearing value is commonly a notional percentage, representing the proportion of finance provided by borrowing.

Determination of values for Network Rail for CP6

3.23 Network Rail has proposed the following ranges for the hypothetical cost of capital it might face if it were financed in the private sector (without government support) by a mix of debt and equity:

- 2.8 to 3.4% for real (RPI) vanilla WACC;
- 3.4 to 4.2% for real (RPI) pre-tax WACC; and
- 1.4 to 1.8% for real (RPI) pre-tax cost of debt.

3.24 These ranges were derived some time ago based on analysis by Oxera. Other regulators have since published more recent views on cost of capital values for their sectors. The most recent cost of capital determinations are summarised in the annual update published by the UKRN[20]. Ofwat and Ofcom have published provisional views in relation to forthcoming cost of capital determinations, as summarised in Table 3.1 below.

[20] http://www.ukrn.org.uk/news/today-we-are-publishing-our-latest-cost-of-capital-annual-update-report-and-a-ukrn-position-paper-on-the-use-of-inflation-indices/

Table 3.1 – Reference WACC values

Parameter	Network Rail low (based on Oxera analysis[21])	Network Rail high (based on Oxera analysis)	Ofwat PR19 provisional	Ofcom WLA[22] provisional (Openreach)	Ofcom WLA provisional (other)
Inflation treatment	Real RPI	Real RPI	Real RPI	Nominal	Nominal
Cost of debt (pre-tax)	1.4%	1.8%	1.3%	3.9%	4.0%
Cost of equity (post tax)	5.1%	6.1%	4.0%	7.9%	9.2%
Notional gearing	62.5%	62.5%	60.0%	30.0%	30.0%
Vanilla WACC[23]	2.8%	3.4%	2.4%	6.7%	7.6%
Pre-tax WACC[24]	3.4%	4.2%	2.7%	7.9%	8.9%

3.25 The values in Table 3.1 reflect quantitative analysis, but also judgement on a range of factors and, as noted for Ofwat and Ofcom, are mainly at a provisional stage.

3.26 The features of the hypothetical scenario for which we are determining WACC and cost of debt values for Network Rail are also, to a significant extent, a matter of judgement. In particular, we consider that the following issues are relevant:

- Our duties with respect to the financing of network activities, referred to in section 4 of the Railways Act 1993.
- The view that regulated network businesses are less risky than in historical cost of capital determinations.
- The risks of the comparator sectors included in Table 3.1 (water and telecoms) may be similar to rail but are not the same.
- The low cost environment for debt and equity in recent years, that is also expected to exist for CP6. However, we are aware that future developments are uncertain.

21 Oxera's analysis was performed in August 2017 and has not been updated since that time to reflect any changes in market conditions.

22 WLA means Wholesale Local Access.

23 The Vanilla WACC values for Ofcom have been calculated using the vanilla formula in paragraph 3.21.

24 The pre-tax WACC value for Ofwat was calculated using the pre-tax formula in paragraph 3.21.

- The level and cost of embedded debt.

3.27 Having reviewed the currently available information, our present view on the ranges that could apply to Network Rail for CP6 are:

- 2.5% to 3.1% for real (RPI) vanilla WACC; and
- 2.8% to 3.5% for real (RPI) pre-tax WACC.

3.28 The values in the low end of our range are in line with Ofwat's provisional view for its PR19 review (but after adding back the 0.1% adjustment Ofwat applies for water retail margins, as that is not relevant for Network Rail). The values in the high end of our range are consistent with the mid-points of Oxera's analysis for Network Rail (but we have used a simple grossing up method for corporation tax[25]). We will discuss the treatment of corporation tax in this calculation with Network Rail in the summer.

Pre-tax cost of debt

3.29 Network Rail has proposed that the pre-tax real (RPI) cost of debt should be in a range from 1.4% to 1.8%, taking account of a notional mix of existing and new debt.

3.30 Our view, in light of the more recent information available is that the real (RPI) pre-tax cost of debt could be in a range from 1.3% to 1.6%. The value in the low end of our range is in line with Ofwat's provisional view (after taking account of Network Rail's embedded debt) and the value in the high end of our range is consistent with the mid-point of Oxera's analysis for Network Rail after also taking account of Network Rail's embedded debt.

Impact of switch to CPI indexation

3.31 We have considered whether any adjustments are required to the values referred to in paragraphs 3.27 and 3.30 in respect of our decision to switch to CPI indexation. There are three factors to consider:

(a) a real rate of return expressed with reference to CPI would equate to a lower nominal rate of return than a real rate of return expressed with reference to RPI;

(b) a real cost of debt expressed with reference to CPI would equate to a lower nominal cost of debt than a real cost of debt expressed with reference to RPI; and

(c) RAB values will increase at a slower rate under CPI instead of RPI indexation,

in each case assuming that RPI is higher than CPI.

[25] Oxera's approach was to convert the real vanilla WACC into a nominal figure (using an inflation assumption of 3.1%) and then adjust for corporation tax. After that, the figures were converted back to real prices.

3.32 The values for vanilla WACC, pre-tax WACC and pre-tax cost of debt set out above are expressed in real terms with reference to RPI.

3.33 In order to determine equivalent real values with reference to CPI, we will need to take account of our estimate of a one percentage point (100 basis points)[26] differential between CPI and RPI going forward[27].

Consideration of RAB CPI indexation

3.34 We have considered whether we should apply a further adjustment to the WACC ranges because Network Rail's RAB value will be indexed by CPI instead of RPI in CP6. This means that the allowed return component in allowed revenues calculated under a full WACC approach could be lower because, in simple terms, they are calculated as RAB x WACC.

3.35 However, we presently do not think that the complex calculations involved would be warranted, because Network Rail's RAB value will not be used in revenue requirement calculations in CP6. We will review this issue, if there are changes to Network Rail's status or funding arrangements in the future.

Other Single Till Income

Category changes

3.36 After considering responses to our financial framework documents, our decision is to apply the reclassification of other single till income items shown in chapter 1 (Figure 1.2) of our second financial framework consultation. This means that in CP6, only the following items will be classified as OSTI:

- qualifying expenditure recharges for managed stations;
- lease income for stations owned by Network Rail but operated by train operators;
- depot charges;
- property rental;
- facility charge income - for example relating to network enhancements commissioned by train operators and Network Rail;
- property sales (net of the costs of selling the asset); and

[26] One percentage point is the same as 100 basis points.

[27] Network Rail's forecast is also 1 percentage point, which is consistent with the OBR's latest forecast. This is available at: http://obr.uk/download/march-2018-economic-and-fiscal-outlook-supplementary-economy-tables/

- any other income not derived from regulated charges.

3.37 Income from the following categories will now be included in net revenue requirements instead of being included in OSTI:

- open access operator charges;
- long-term charges for managed stations; and
- long-term charges for TOC operated stations.

3.38 This change will have no overall impact on revenue requirements and charges because the reduction in forecast OSTI income will be offset by a commensurate increase in the net revenue requirement.

Asset disposal proceeds

3.39 Network Rail, in the normal course of business, disposes of assets that are surplus to its operational requirements. After considering responses to our financial framework documents, our decision on the treatment of asset disposal proceeds is that:

(a) A common RAB adjustment policy should apply to all asset disposals (core and non-core) by Network Rail in CP6, i.e. if Network Rail sells an asset, the value of the RAB will be adjusted (with no de minimis exceptions).

(b) RAB deductions should be valued as an amount equal to actual sales proceeds because of the objectivity/transparency associated with this approach (but subject to the possibility of bespoke treatment in exceptional circumstances[28]).

(c) Adjustments should be applied to the RAB for the route in which the asset is located (and to Network Rail's England & Wales, and Scotland RAB values).

3.40 This approach would mean that assets, which no longer formed part of the business, would not be included in the RAB, which is the most appropriate approach for the purposes outlined in paragraph 3.2.

3.41 We have considered Network Rail's views that:

- a de minimis threshold should apply before RAB adjustments are applied;
- no RAB adjustments should be made in respect of non-core asset disposals; and

[28] An example of bespoke treatment might be the disposal of assets by Network Rail to Transport for Wales as part of the process of devolving responsibility for the core valley lines. In this case we have referred to a depreciated replacement value as a starting point for ascertaining a value for the assets concerned because of the inter-governmental nature of the process.

- RAB adjustments should be based on an estimate of the replacement cost of the assets concerned, scaled to the value of the RAB.

3.42 We think Network Rail's proposed approach would not be as consistent with the purposes set out in paragraph 3.2, would not be as transparent as our decision and would increase regulatory burden on Network Rail.

3.43 In its response, Network Rail questioned whether the use of replacement cost values for the core valley lines valuation was consistent with our minded to approach to asset disposals. We do not think there is an inconsistency, for two reasons:

(a) Firstly, our approach is not calculating the value of an asset for the purposes of a sale. Instead, it is considering the treatment of the sales proceeds of an asset once it is sold.

(b) Secondly, we have referred to the possibility of bespoke treatment in exceptional circumstances (see paragraph 3.39).

Our decision

3.44 After considering responses to our financial framework documents, our decision is that transfers of assets between routes should be recorded using the scaled replacement cost basis proposed by Network Rail because no sales proceeds value would be available and the total RAB value for the business would not change.

3.45 RAB adjustments for asset disposals would be included in Network Rail's annual regulatory financial statements produced under the RAGs.

3.46 Forecast disposal proceeds will continue to be treated as OSTI in our determination of revenue requirements.

Early start

3.47 In our earlier consultations, we referred to the 'early start' policy we used in our PR13 review of Network Rail. This allowed Network Rail to apply for confirmation of financing in CP5, for particular renewals and enhancements (that would commence during CP4) ahead of our PR13 determination.

3.48 Whilst we expect Network Rail to be fully prepared to implement its strategic plans from the outset of the CP6 period, the revised funding arrangements following re-classification and Network Rail's financial performance in CP5, mean that an early start policy would not be possible in relation to PR18.

3.49 We have therefore decided not to include an early start policy in the PR18 process. We will reconsider the need for an early start approach, if there are changes to Network Rail's status or funding arrangements in the future.

Corporation tax/VAT adjustment incentives

3.50 After considering responses to our financial framework documents, our decision is that we will not include provisions in our draft determination for incentive adjustments in respect of:

- material VAT rebates; and
- corporation tax credits and enhanced capital allowances.

3.51 This reflects the broadly neutral VAT position of Network Rail's business and the separate funding of Network Rail's corporation tax liabilities in CP6.

3.52 We will reconsider the position in future if there are changes to Network Rail's status or funding arrangements.

Schedule 4 and 8 costs

3.53 Apart from being affected by our decision to switch to CPI inflation indexation, we have decided to make no changes to the existing treatment of Schedule 4 and Schedule 8 costs in the financial framework for CP6.

Electricity for traction

3.54 As noted in our second consultation, Network Rail procures electricity for the railway under a long-term supply contract and the cost of the electricity used to power trains is then recharged (passed through) to train operators, increasingly on a metered basis. This is therefore a broadly neutral item for Network Rail. Network Rail does use some traction electricity for its own rail vehicles and stations and this is an operating cost of the route or central function concerned.

3.55 After considering responses to our financial framework documents, we have decided not to make any changes to the treatment of electricity for traction costs in CP6 in our draft determination for CP6, i.e. the non-Network Rail cost will be treated as a non-controllable cost.

Opex memorandum account

3.56 After considering responses to our financial framework documents, our decision on the opex memorandum account is to confirm the position we set out in our second consultation:

(a) We will not use an opex memorandum account to log-up amounts, for example relating to higher than expected industry costs, for remuneration at a subsequent periodic review, because funding from the Department for Transport (DfT) and Transport Scotland is at fixed levels.

(b) We would consider using it again, if Network Rail, or a part of it, were at some point to be privately financed or its funding structure changed.

Third party investment

3.57 As noted in our second consultation, guidance for prospective investors in the railway is now available on our website[29]. We are also reviewing the role of the risk/fee funds included in the current investment framework to ensure that they do not act as an undue barrier to entry. We are presently considering initial views provided by an independent reporter on this.

3.58 We will encourage routes to pursue appropriate third party funding opportunities in CP6 and we will attach importance to this issue in route delivery plans.

[29] http://orr.gov.uk/__data/assets/pdf_file/0018/27342/second-consultation-on-the-pr18-financial-framework-march-2018.pdf

4. Budgetary flexibility and financial risk management in CP6

Introduction

4.1 In this chapter we:

- outline what we mean by financial risk;
- explain the three broad approaches to financial risk management that we have considered;
- summarise the budgetary flexibility that DfT has indicated will be available to Network Rail for England & Wales;
- summarise a report prepared for us by Cambridge Economic Policy Associates Ltd (CEPA) on financial risk;
- set out our draft determination on the level of financial risk funding that we are providing Network Rail with; and
- outline governance arrangements for risk funding in the context of regulatory processes for managing change.

Background

4.2 Like any company, Network Rail needs appropriate provisions in place to manage the risks it faces, such as inflation, cost shocks and adverse events, such as the flood damage at Lamington viaduct in 2016. In previous control periods, Network Rail has been able to borrow money to raise funds, should that be required to cover any such risks. However, this is no longer possible.

4.3 In our second consultation we referred to the need to manage a number of financial risks faced by Network Rail in CP6:

- planned activities could cost more than forecast, for example as a result of new asset condition information or enhancement project decisions;
- more activities might have to be carried out than were planned (scope risk), or there might be a higher proportion of expensive activities (mix risk);
- high impact/low probability cost shocks could occur (such as extreme weather damage);

- income levels might be lower than forecast (in particular from lower levels of OSTI);
- high levels of payments might have to be made under Schedule 4 and 8 provisions; and
- inflation might be higher than forecast - especially important because network grants will not be index-linked in CP6.

4.4 If these risks are not managed effectively, there is the potential for seriously adverse impacts on the deliverability of renewals and other activities.

4.5 We noted that DfT had not provided any particular risk funding in its SoFA and that Network Rail would not have access to borrowing or additional equity funding in CP6.

4.6 We identified three broad approaches for financial risk management:

(a) A group portfolio fund (GPF) approach proposed by Network Rail under which some of the opex and capex funding included in the governments' SoFAs would be used to manage financial risk by:

- holding some GPF funding at the centre, and some at route level;
- profiling the GPF funding across CP6 to cover assessed risk levels, but releasing it for investment if risks diminished or did not materialise; and
- applying governance arrangements to the use of the funds.

(b) An approach under which all available SoFA funding would be allocated to routes, with a requirement that routes include contingent renewals in their plans that could be cancelled, to release funds, in the event that financial risks materialised.

(c) A hybrid approach under which some GPF funding would be reserved at the centre and at routes, and some additional contingent renewals would be included in route strategic plans.

4.7 We have summarised the view of respondents to our second consultation on this issue in chapter 1.

Position on budgetary flexibility

4.8 In our second consultation we noted that, following its reclassification as an arm's length public sector body, it was likely that Network Rail would be subject to restrictions on:

- spending money in different years[30] than initially agreed with the governments; and
- switching expenditure between operating (resource) and capital expenditure,

in both cases with reference to total amounts (as opposed to route level) for England & Wales and for Scotland.

4.9 We also outlined a number of reasons why Network Rail, as a complex infrastructure business, should be allowed appropriate levels of budgetary flexibility to:

- allow managers to respond to changing circumstances, manage risks and exploit opportunities;
- support the integrity of route level settlements in CP6; and
- promote efficiency and work bank stability.

4.10 DfT has now set out (in its response to our second consultation) the budgetary flexibility that Network Rail can expect to be allowed during CP6 in respect of Great Britain, as it is the position for Great Britain that is consolidated into DfT accounts. This gives Network Rail significantly more flexibility than most other arms-length public bodies. Our understanding is that the flexibilities will be the same for Scotland and for England & Wales. We are aware, however, that Transport Scotland is discussing budget flexibility arrangements for Scotland with the UK Government.

4.11 The limitations referred to encompass risk funding held centrally and at route level. These flexibilities apply to budgets from 2019-20 onwards but will be subject to review at the next Spending Review. However, our expectation is that similar levels of flexibility (including year-end flexibilities) are likely to remain after the next spending review in 2019, so they will be there for the whole of CP6. The limitations apply to Network Rail in England & Wales as a whole, and there are no specific restrictions at route level.

Capital expenditure funded in the SoFAs

4.12 With respect to capital expenditure during CP6, Network Rail can expect to be allowed to:

(a) Defer up to 10% of capital expenditure budgeted for a particular year to a later year, subject to consultation with DfT early enough for DfT to submit a request to HMT at least six weeks ahead of the Autumn Budget.

(b) Request deferral of additional amounts of capital expenditure (in excess of the 10% referred to in subparagraph (a)) in extraordinary circumstances, with confirmation by HMT on whether this will be allowed at the Budget.

[30] Network Rail's financial years run from 1 April to 31 March.

(c) Bring forward up to 10% of capital expenditure budgeted for a future year to an earlier year (but not the year in which the request is made) subject to consultation with DfT early enough for DfT to submit a request to HMT at least six weeks ahead of the Autumn Budget.

(d) Request to bring forward additional amounts of capital expenditure (in excess of the 10% referred to in subparagraph (c)) in extraordinary circumstances, with confirmation by HMT on whether this will be allowed at the Budget.

(e) Make updated requests to DfT to defer/bring forward capital expenditure under the provisions in subparagraphs (a) and (c) in December of each year, subject to an expectation that these requests will be within £200m[31] of the position requested under (a) or (c).

(f) Make final update requests to defer/bring forward capital expenditure under the provisions in subparagraphs (a) and (c) no later than the end of the first full week in January[32] of each year (again to be within £200m of the position requested under subparagraphs (a) and (c)).

(g) Seek permission to carry forward up to 2% of a capital budget underspend arising in a particular year, to the following year or a subsequent year, by notifying DfT of the underspend and the reasons for it twenty days after the year end.

The 2% referred to in this subparagraph:

- would be additional to the 10% limit referred to in subparagraph (a); but
- subject to an overall 10% adjustment limit for the year to which the underspend was being transferred.

4.13 There is no flexibility to transfer budgeted amounts from capital expenditure to resource expenditure.

4.14 The references to capital expenditure relate to works funded in DfT's SoFA. DfT's SoFA includes some funding for enhancements. Further information on the approach for enhancement projects that will be separately funded in CP6 is available in DfT's publication: 'Rail network enhancements pipeline - a new approach for rail enhancements'[33].

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[31] In cash prices.

[32] This provision recognises Network Rail's dependence on the critical Christmas periods to deliver substantial components of its capital programme.

[33] https://www.gov.uk/government/publications/rail-network-enhancements-pipeline

Resource expenditure funded in the SoFAs

4.15 With respect to resource expenditure[34] during CP6, Network Rail can expect to be allowed, at the time of supplementary estimate submission in a given year[35]:

- full flexibility to transfer budgeted amounts for the year concerned from operating to capital expenditure; and
- to defer up to 0.75% of operating expenditure for the year concerned to a later year,

in each case, having obtained permission from DfT in particular because DfT itself is subject to an overall flexibility limit of 0.75% for its RDEL[36].

Resource income and capital receipts

4.16 Network Rail's budgetary settlement with the governments will take account of its forecast resource income levels. DfT has said that Network Rail will be allowed to retain incremental income it receives up to a level of 10% of the agreed annual forecasts for use in its business. It might be allowed to retain additional amounts with agreement from HMT.

4.17 Under public sector finance rules, Network Rail will need to obtain approval to retain capital receipts, for example proceeds from asset disposals in CP6. We have included forecast receipts in the OSTI values used for our revenue requirement calculations because our understanding is that approval would normally be granted.

Budgetary flexibility in Scotland

4.18 Our understanding is that similar budgetary flexibility to that outlined above will apply to funding for Network Rail expenditure in Scotland. We are aware, however, that Transport Scotland is discussing budget flexibility arrangements for Scotland with the UK Government.

CEPA report and risk modelling

4.19 We commissioned a report from CEPA on Network Rail's approach to financial risk management in its SBPs (see associated document 5 in Annex A).

4.20 In summary, the main points were:

(a) CEPA considered that Network Rail's overarching approach to estimating financial risk for its strategic business plans was reasonable.

[34] For this purpose, resource expenditure means operating expenditure less income (except grant income).

[35] https://www.gov.uk/government/collections/hmt-supplementary-estimates

[36] RDEL means resource Departmental Expenditure Limit.

(b) CEPA agreed with Network Rail's proposal for a group portfolio fund, with amounts held centrally and at route level.

(c) CEPA felt that:

- spot level expenditure requirements in route strategic plans were probably too high, in particular because they reflected some legacy inefficiency factors; and
- downside (over-expenditure) risk ranges probably did not take account of the full range of relevant risks and might have been affected by top-down scaling by Network Rail.

(d) As a consequence of the points in subparagraph (c), CEPA considered that more of the total funding available to Network Rail should be allocated to risk funding, because otherwise there might be a risk to the delivery of planned activities.

(e) CEPA recommended that Network Rail should review the relationship between financial risk information in individual route strategic plans and its overall SBP in relation to:

- consistency between the approaches used by the routes in the context of varying route business and asset profiles; and
- the allocation of risk funding amongst the routes in the context of their individual risk profiles.

4.21 CEPA also noted that Network Rail had assumed that it would be allowed a high level of budgetary flexibility in its plans and suggested that it should consider risk levels in scenarios with more limited flexibility.

4.22 In our first consultation we said that we would use our own risk modelling to better understand possible ranges of expenditure, However, because we have been able to refer to the CEPA report on risk, and our review of Network Rail's risk modelling, we have decided not to carry out further detailed financial risk modelling of our own.

Financial risk funding

4.23 We consider that there should be adequate funding provision for management of financial risk by Network Rail in CP6 and that arrangements should take account of:

- the most appropriate allocation of resources across Network Rail;
- the need to support a route level approach for CP6, e.g. the route is incentivised to manage risks effectively;
- the need to manage risk at the right level, taking advantage of risk pooling where appropriate, e.g. for high impact low probability (HILP) events;

- the budgetary flexibility information set out in this chapter;
- the potential disruption and efficiency impacts associated with short notice re-planning of activities;
- the need for transparency on operational and financial performance; and
- the non-indexation of network grants in CP6, and our decision to switch from RPI to CPI for inflation indexation of track access charges.

4.24 In light of these factors and after considering responses to our financial framework documents and the CEPA report on financial risk, our decision is that a hybrid approach should be used. We agree with Network Rail's total proposed funding for England & Wales (£2,311m in 2017-18 prices) and Scotland (£284m in 2017-18 prices). However, our draft determination is that the balance between risk funding held in the routes and the centre should be different.

4.25 Network Rail's confidence in delivering its plans, based on the proposed expenditure levels, was around:

- 50%, with no risk funding;
- 60%, with the provision of route-level GPF funds; and
- 80%, with the additional provision of the centrally held GPF funds.

4.26 Deciding on the balance between the amount of risk funding to be held at route level and at the centre is to some extent a matter of judgement. Therefore, we have taken a high-level approach and our decision is that, half of the balance that Network Rail proposed to be held in the centre, should be moved to the routes (as summarised in Table 4.1).

4.27 Our draft determination reflects our broad view that funding for risks such as those associated with severe weather events should be held at the centre, and funding for expenditure level risks such as inflation, should be held at a route level. We consider that approach should achieve an appropriate balance between the factors we outlined in paragraph 4.23.

4.28 Our draft determination on risk funding levels is summarised in Table 4.1.

Table 4.1 – Draft determination on risk fund allocations

£m 2017-18 prices	Route controlled risk funds	Contingent renewals	Centrally controlled GPF	Total
England & Wales				
Network Rail's SBP proposal	600	0	1,711	2,311
Draft determination	600	856	856	2,311
Scotland				
Network Rail's SBP proposal	60	0	224	284
Draft determination	284			284

4.29 For England & Wales, £856m will be allocated to contingent renewals[37]. We are currently discussing the risk funding approach for the Scotland route with Network Rail and Transport Scotland in the context of the separate funding arrangements for Scotland. While we consider the total risk funding of £284m (in 2017-18 prices) proposed by Network Rail to be appropriate, we have not yet decided whether this should be allocated to route/centrally-controlled risk funds or contingent renewals.

Allocation of risk funding amongst routes

4.30 In its SBP, Network Rail allocated route-controlled risk funding amongst the routes, largely in relation to the levels of planned expenditure in the routes, with a weighting in favour of capex. Although this approach reflected route level risk profiles to some extent (because capital expenditure tends to carry greater risk), ultimately it assumes that the risk profiles of the routes are largely the same.

4.31 However, the route risk profiles are not the same, so we do not agree with this approach. We expect Network Rail to review these allocations in its delivery plans, taking account of views expressed by route managers.

4.32 In addition, when Network Rail plans how the contingent renewals should be allocated across the routes for its delivery plans, it should take account of asset sustainability, and whether the profile of financial risk across the routes affects the allocation, especially for the smaller routes.

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[37] This factor would not apply to the FNPO or SO because they do not themselves carry out renewals.

Risk funding for the Scotland route

4.33 The risk funding amounts for the Scotland route shown in Table 4.1 are ring-fenced, and transfers between England & Wales on the one hand, and Scotland on the other are not allowable.

Governance arrangements for risk funding and requirements for managing change

4.34 Financial risk funding in CP6 needs to be subject to:

- appropriate governance by Network Rail so that:
  - good business practice is upheld;
  - management approaches are appropriately co-ordinated across the business; and
  - strategic issues can be effectively managed;

  and
- regulatory requirements for managing change to underpin the integrity of route level settlements in relation to:
  - the use of funding; and
  - any transfer of funding away from a route.

Proposals in Network Rail's delivery plans

4.35 Network Rail's proposals on the governance of risk funding were included in a paper that it submitted to us as part of its SBP. These are summarised below.

Route-controlled risk funding

4.36 In its SBP, Network Rail proposed that:

- routes would not commit route-controlled risk funding to planned works at the start of CP6;
- routes should be able to use route-controlled risk funding to deal with budget shortfalls on planned activity at their discretion; and
- routes would need approval from Network Rail's Executive to commit route-controlled risk funding to additional renewals.

4.37 Network Rail also indicated that central functions and services would not be able to make direct calls on route-controlled risk funding. However, a route would have financial risk management responsibility for projects being undertaken for example by Network Rail's Infrastructure Projects business on its behalf.

Centrally-controlled GPF

4.38 In its SBP, Network Rail proposed that centrally-controlled GPF funds could be used to manage strategic level risks on a pooled basis, and be released for investment in the network if risks did not materialise.

4.39 Network Rail also proposed that:

- routes and central services would be able to make business cases for funding from the centrally-controlled GPF funds to deal with budget shortfalls; and
- there could be a competitive process under which routes could make applications for releasable funding for investment projects under Network Rail's business performance review framework.

4.40 We note these proposals and that Network Rail is reviewing its proposed governance arrangements. Our key issue is that route managing directors should be fully involved in the process.

4.41 We will show:

- route-controlled risk funding;
- contingent renewals forecast expenditure; and
- notional contributions to centrally-controlled GPF funding,

as separate rows in our revenue requirement settlement for each route.

Financial risk governance arrangements and requirements for managing change

4.42 It is important that the governance arrangements that Network Rail puts in place for the management of financial risk are appropriate and support continued devolution of operational management to the routes.

4.43 Given our decision to move funding out of the centrally-controlled GPF into contingent renewals at route level, Network Rail is reviewing its proposed governance arrangements. We will work with Network Rail to develop these, and refer to them in our PR18 final determination. A summary of our current view of financial risk governance arrangements is set out in Table 4.2.

4.44 In our 'Summary of responses and conclusions on ORR's 'Managing change affecting the PR18 settlements' working paper' and in our working paper 8 (Managing change affecting the PR18 settlements)[38], we outlined our conclusions for allowing changes to be made to our settlements in certain circumstances.

[38] The managing change conclusions document is available at: http://orr.gov.uk/__data/assets/pdf_file/0009/27855/pr18-conclusions-to-working-paper-8-on-managing-change.pdf

4.45 Our approach will help to ensure that such changes, which have the potential to undermine the PR18 settlements, are subject to transparent governance processes with ex-ante engagement of affected parties where appropriate.

4.46 We have outlined three different levels of change:

(a) Level I - a change relative to our PR18 settlements.

(b) Level II - a material change relative to our PR18 settlements.

(c) Level III - a fundamental change relative to our PR18 settlements.

4.47 Each level of change carries different requirements:

- reporting requirements to ensure transparency - (levels I, II, III);
- assurance and/or requirements regarding wider transparency and governance, e.g. engagement with ORR on the justification for the change (levels II, III); and
- ORR publishing a formal opinion on the proposed change (level III) and in certain circumstances preventing a change (level III).

4.48 Table 4.2 shows our view of the financial risk governance arrangements and requirements for managing change that should apply to the categories of funding that will be included in our final determination. These reflect the general principle that route management teams should take tactical decisions, keeping the centre informed, and the centre should take strategic decisions where there are business-wide consequences (after consulting the routes and stakeholders).

The managing change working paper is available at: http://orr.gov.uk/__data/assets/pdf_file/0007/27349/working-paper-8-managing-change-affecting-the-pr18-settlements.pdf

Table 4.2 – Financial risk governance arrangements and requirements for managing change

Funding	Financial risk governance arrangements	Managing change requirements
Core route budget	▪ Route's decision to spend. ▪ Route will notify centre of spend through Network Rail's business planning process.	▪ **Level III** change if centre seeks to: – veto/defer spending – transfer funding away from route
Route-controlled risk funding	▪ Route's decision to spend on: – crystallised risk costs; and – other expenditure (if risks have not crystallised). ▪ Route must notify centre of spending intentions.	▪ **Level III** change if centre seeks to: – veto/defer route spending decision – transfer funding away from route
Contingent renewals[39]	▪ Route's decision to spend on contingent renewals. ▪ Route must consult with centre on major spending intentions.	▪ **Level II** change if centre seeks to: – veto/defer route spending decision – transfer funding away from route
Centrally held GPF	▪ Centre to decide with involvement of routes in governance process.	▪ **Level I** change

4.49 The application of these arrangements in Scotland might vary from the position in England & Wales, because of the separate HLOS and SoFA for Scotland and the different asset sustainability and funding positions.

4.50 In general, we consider that:

(a) any deferral of contingent renewals should:

– be impact assessed as soon as a potential requirement is identified, even if the need for deferral has not become certain;

– involve consideration of all options to address a budgetary shortfall, so that deferral of contingent renewals is not a first resort;

[39] Not applicable to FNPO or SO.

- include engagement with supply chain partners and affected internal and external stakeholders; and
- consider the potential disruption and efficiency impacts, for example on unit rates, where a partial deferral of works is envisaged;

and

(b) funding transfers amongst routes should only apply in exceptional circumstances because of the potential impacts on the integrity of route settlements, and the potential disruption to work programmes and consequential effects on efficiency.

Overarching aspects

4.51 Notwithstanding the significant level of control that we consider should be at route level in respect of financial risk management resources, there will be important requirements for central co-ordination and reporting because:

- Network Rail is one company and there is a determination for England & Wales in total as the HLOSs and SoFAs are for England & Wales and Scotland;
- transparency of route performance will need to be retained, especially if GPF funding has been expended, contingent renewals have been deferred, or budgets have been transferred amongst routes; and
- an aggregate position will need to be monitored and managed in the context of the overall budgetary flexibility restrictions for Network Rail described earlier in this chapter.

Financial outperformance

4.52 In CP5, Network Rail could only apply financial outperformance[40] to paying down debt, funding research and development projects, and funding investment to reduce future costs or improve outputs.

4.53 Given the way route governance, risk funding/governance and managing change will work in CP6, we think that we should simplify the process but retain the key requirement that stakeholders need to be consulted before money is spent on additional investment.

4.54 So, we are considering whether a route should be allowed to retain efficient savings against baseline expenditure (i.e. outperformance) and use the savings for either risk management or additional investment purposes, subject to:

- discussions with its stakeholders on any additional investment possibilities;

[40] Spending less to deliver outputs than had been assumed in our determination.

- overall restrictions on budgetary flexibility; and
- efficiency and financial performance reporting requirements under the CP6 RAGs.

4.55 The budgetary rules that will apply to Network Rail in CP6 (see position on budgetary flexibility above) mean that we do not need to separately consider provisions around rebate payments to the governments.

Grant dilution and re-opener provisions and financial licence conditions

4.56 After considering the responses to our financial framework documents, our decision on the re-opener provisions currently included in track access contracts is to confirm our minded to position that they should be retained, for the reasons set out in our second consultation on the financial framework.

4.57 The financial conditions in Network Rail's network licence are:

- 3 – Financial indebtedness;
- 4 – Financial ring-fence;
- 6 – Prohibition of cross subsidy; and
- 11 – Regulatory accounts.

4.58 We have included proposals on changes to the financial conditions in Network Rail's network licence in our separate licence review consultation document.

4.59 In respect of condition 3 (Financial indebtedness), we will consider whether to propose a change to the fee payable by Network Rail[41] for the state financial indemnity of its private sector debt. This is currently 1.1% (on an annual basis) of the daily outstanding amount of indebtedness incurred by Network Rail Infrastructure Finance plc that is supported by the indemnity.

[41] In CP6, the fee will be funded by the UK Government as part of the separate funding of Network Rail's legacy debt liabilities.

5. Route and overall revenue requirements

Introduction

5.1 In this chapter we cover:

- calculation of revenue requirements;
- cost recharges within Network Rail;
- affordability assessment;
- how Network Rail recovers its revenue requirement; and
- non-SoFA expenditure.

Calculation of revenue requirements

5.2 In our second consultation we said that we would use our PR18 financial model to calculate revenue requirements in respect of operating, support, maintenance and renewals (OMR) activities, for:

- each geographical route;
- the FNPO;
- the SO; and
- England & Wales, Scotland and Great Britain in total.

5.3 The format for the calculation of the route revenue requirement is shown in Annex C.

5.4 We confirmed that we would use a ‘building block’ approach, taking account of Network Rail’s OSTI, and explained how we would present the FNPO and SO revenue requirements in the totals for England & Wales, Scotland and Great Britain.

5.5 We have not set out draft revenue requirement determinations at this stage because we have agreed a process with Network Rail, in which – without prejudice to its right to object to our final determination at a later stage – it will make a set of targeted adjustments to its England & Wales strategic plans over the summer. This reflects our views on:

- higher expected levels of property income (in OSTI);

- income from the Crossrail supplemental access charge[42];
- a transfer of some funding from research and development to OMR; and
- changed headwind assumptions.

5.6 At a later stage, Network Rail and the routes will also consider how their plans might be affected by:

- a revised allocation of route-controlled risk funds; and
- the movement of some funding from the centrally-controlled GPF to contingent renewals at route level.

5.7 Although the targeted updates should not have a material impact on the England & Wales revenue requirement, they are likely to affect the route level settlements for CP6. Therefore, we have decided at this juncture, only to present illustrative revenue requirement information for Great Britain, England & Wales and Scotland in Annex D, based on the values in Network Rail's current (February 2018) business plan submissions for:

(a) operating, maintenance and support expenditure;

(b) renewals expenditure;

(c) traction electricity, Schedule 4 and Schedule 8 expenditure;

(d) industry costs and business rates;

(e) route-controlled risk funds, contingent renewals and route contribution to central GPF funding; and

(f) OSTI.

Confirmation for purposes of accounting valuation of Network Rail's assets

5.8 After considering responses to our financial framework documents, we have decided to update the confirmation we set out at PR13 for the purposes of the accounting valuation of Network Rail's assets.

5.9 In principle, if Network Rail's business were operated by an owner with a conventional debt and equity financing structure, we would expect to use a full WACC approach to calculating its revenue requirement. In particular, the RAB would be used in the calculation of the revenue requirement and a cost of capital would be used to calculate allowed return.

[42] DfT has said that its provisional view is that this money should be available to Network Rail in CP6 to deliver HLOS outputs and it will finalise its position before the final determination.

Determination of revenue requirements

5.10 We will present full revenue requirement calculations for each geographical route, the FNPO, and the SO in our PR18 final determination.

Cost recharges within Network Rail

5.11 There will be three types of recharge in CP6:

(a) Recharges by the SO to geographical routes and the FNPO for its services.

(b) Recharges by the geographical routes to the FNPO for use of infrastructure.

(c) Recharges to the SO, geographical routes, and FNPO for centrally managed OMR resources.

5.12 In CP6, there will be significant recharges for centrally managed OMR resources such as:

- centrally provided functions such as IT, procurement and HR; and
- renewals costs (including safety, technical and engineering services that cannot be directly attributed to a route).

CEPA report on cost allocations within Network Rail

5.13 We commissioned a report from CEPA on Network Rail's centrally incurred cost allocation process (see associated document 4 in Annex A). We requested that CEPA pay particular attention to the basis on which costs are allocated to the Scotland route, because of the separate HLOS and SoFA for Scotland.

5.14 CEPA found that, overall, Network Rail's approach to cost allocations was reasonable, but they made a number of recommendations and comments, including that Network Rail should:

(a) Introduce a greater level of challenge, including external challenge, into the process of assigning drivers to cost categories and develop dialogue between central and route finance teams in this area.

(b) Make consideration of alternative drivers a more explicit part of the cost allocation review process.

(c) Ensure that the next version of its cost allocation handbook addresses transparency, and more thoroughly document, not just the final proposed cost allocations, but all steps of the process leading to those allocations.

(d) Broaden the principles that it uses to allocate costs. Instead of just using a cost based methodology it should also consider using a value based methodology for some issues.

(e) Consider adding cost materiality to its existing principles, and focus efforts to improve cost allocations on the larger cost categories.

(f) Review the balance between costs causality and value/benefit considerations in cost allocations.

5.15 CEPA said that Network Rail's allocation of central costs to Scotland uses well established methods. However, we think it is time to re-consider whether these methods remain suitable when there are devolved funders. For the draft determination, we are not making any specific changes to Network Rail's cost allocation approach.

5.16 However, we will carry out a limited but more detailed review of central cost allocations before the final determination, working with Network Rail on some aspects of this process. Any changes identified may help strengthen the accountability of centrally provided services to Network Rail in Scotland. Throughout our review, Transport Scotland has noted its concerns over the level of central costs.

Affordability assessment

5.17 As part of the periodic review, we must assess whether there are sufficient funds available (in the SoFAs[43]) to deliver what the relevant government wants delivered in the next control period (the HLOS). If there are insufficient funds, we must notify the relevant government, which may then revise its HLOS and/or SoFA[44].

5.18 Network Rail considers that its strategic business plans for CP6 are affordable in the context of the governments' HLOSs and SoFAs. In our affordability assessment, we need to consider England & Wales and Scotland separately.

England & Wales

5.19 The Secretary of State's SoFA set out the funding for Network Rail in CP6. As noted above, we have agreed a process with Network Rail, in which – without prejudice to its right to object to our final determination at a later stage – it will make a set of targeted adjustments to its strategic plans over the summer. However, we do not expect that Network Rail's total expenditure requirement would exceed the funding in the SoFA. As such, we consider that the Secretary of State's HLOS is affordable.

[43] There is also some non-SoFA expenditure that will be funded by the UK Government as explained below.

[44] The provisions relating to our affordability assessment are contained in paragraph 1 F of Schedule 4A of the Railways Act 1993.

Scotland

5.20 While not an industry SoFA, the Scottish Ministers' SoFA covered not just Network Rail's OMR but also includes some funding during CP6 for railway improvements. These improvements are not restricted to enhancements on Network Rail's network but could also include improvements to non-Network Rail parts of the railway in Scotland. For example, service based and/or rolling stock solutions. The approach to investment will be governed by the Scottish Government's Rail Enhancement and Capital Investment Strategy, which was published recently[45].

5.21 For the affordability assessment, we only need to consider Network Rail's OMR plan. But to do this we required clarity from Transport Scotland about how much money in its SoFA was for Network Rail's OMR. Transport Scotland has since confirmed that the money available for non-Network Rail OMR costs will be the balance left after our assessment of the costs of Network Rail's OMR.

5.22 There is significantly more funding available in the SoFA (£4.85bn in cash prices), plus £0.49bn of variable track access charges, than Network Rail's forecast OMR spend (net of OSTI) in Scotland (c£4.35bn, cash prices) and we are proposing reductions in Network Rail's SBP costs. We are therefore clear that the outputs required by Transport Scotland's HLOS are affordable.

5.23 As set out in chapter 4, there are a number of HLOS requirements that Network Rail has not fully costed in its OMR spend. This relates to the delivery of the gauge requirement in Scotland, infrastructure enhancements to support passenger and freight journey time improvements and enhancements to support freight growth and to the development of sufficient strategic depot and stabling capability. The Scotland route considers that these areas are subject to further discussion with Transport Scotland, and further plan development with industry. Network Rail considers that further investment in these areas would be subject to business case review and would be best suited for inclusion in the overall investment pipeline.

5.24 As the cost of these projects is not clear, we have excluded them from our affordability analysis. If Transport Scotland wants to fund them, appropriate arrangements will need to be used.

Recovery of revenue requirements by Network Rail

5.25 Our final determination of net revenue requirements for CP6 will set out the amounts we expect to be recovered by Network Rail through:

- VTACs;

[45] This is available at: https://www.transport.gov.scot/media/41836/rail-enhancements-and-capital-investment-strategy-15-march-2018.pdf

- fixed track access charges;
- open access operator charges;
- long-term charges for managed stations;
- long-term charges for stations repaired and renewed by Network Rail, but operated by train operators; and
- network grants (from DfT and Transport Scotland).

Non-SoFA expenditure in CP6

5.26 As explained in our second consultation, our determination of revenue requirements for OMR in CP6 will form part of a bigger funding picture for CP6, with some expenditure and non-SoFA enhancements being separately funded by the governments. The non-SoFA expenditure that will be funded directly by the UK Government under separate arrangements in CP6 are payments for legacy debt liabilities, British Transport Police (BTP) costs[46] and corporation tax costs.

5.27 In our second consultation, we noted a working assumption that the costs of policing the rail network in Scotland would be included in our revenue requirement determination for the Scotland route. This was consistent with Network Rail's assumption in its SBP.

5.28 However, the governments have now confirmed that Network Rail's share of BTP costs for the whole of Great Britain will be separately funded[47]. Therefore, our expenditure forecasts for Scotland in the final determination will be c£40m lower than in Network Rail's SBP.

5.29 Non-SoFA enhancement projects will be separately funded in CP6, subject to approval by the governments.

[46] The UK Government will make available to Network Rail the funds required to meet its obligations to the British Transport Police as a holder of a Police Service Agreement.

[47] Such arrangements will reflect the devolution of the British Transport Police in Scotland to the Scottish Government in due course.

Annex A - Associated documents

(1) Our first consultation on the PR18 financial framework – January 2017

http://orr.gov.uk/consultations/open-consultations/consultation-on-the-financial-framework-for-pr18

(2) Our update letter on the PR18 financial framework – December 2017

http://orr.gov.uk/rail/consultations/pr18-consultations/financial-framework-for-pr18

(3) Our second consultation on the PR18 financial framework – March 2018

http://orr.gov.uk/__data/assets/pdf_file/0018/27342/second-consultation-on-the-pr18-financial-framework-march-2018.pdf

(4) CEPA report on Network Rail central cost allocations – April 2018

http://orr.gov.uk/__data/assets/pdf_file/0003/27903/pr18-central-cost-allocations-to-routes.pdf

(5) CEPA report on Network Rail's approach to financial risk management – April 2018

http://orr.gov.uk/__data/assets/pdf_file/0003/27903/pr18-central-cost-allocations-to-routes.pdf

Annex B - Glossary

Building block approach	A term used to describe, in general terms, the approach used by economic regulators to determine revenue requirements for regulated network businesses.
Capex	Capital expenditure.
Constant prices	Financial values all expressed in the price base of a specified year, even if those values are attributable to a range of years and which therefore may need to be inflated or deflated for other purposes.
CP5	The current control period for Network Rail, that runs from 1 April 2014 to 31 March 2019 under a settlement resulting from the PR13 process.
CP6	The control period for Network Rail, that is expected to run from 1 April 2019 to 31 March 2024 under a settlement resulting from the PR18 process.
CPI	Consumer Price Index – a measure of the price of a basket of consumer goods and services.
CPIH	The Consumer Prices Index including owner occupiers' housing costs.
DfT	The Department for Transport.
Enhancement	Construction or works that improve the capacity, capability or amenity of the rail network, including for the connection of new key infrastructure to the existing rail network. Enhancements are classed as capex.
Facility charge	A charge set to recover the costs of an enhancement and paid by the promoter of a scheme.
FNPO	Freight and National Passenger Operator route.
Gearing	A ratio showing the level of debt financing in a business often expressed as a percentage of total financing (from debt and equity).
GPF	Group portfolio fund – a fund, referred to by Network Rail in its strategic business plans for CP6, which is intended to allow financial risk to be managed during CP6. Network Rail proposed that each route should have control of some

	risk funding, and contribute an additional amount to a centrally-controlled 'portfolio' fund.
Headwind	Factors identified by Network Rail, which are outside the control of the business and tend to increase costs.
HILP	High impact low probability event - an event that is not likely to occur, but which will have significant business consequences if it does occur.
HLOSs	High level output specifications by the Department for Transport and Transport Scotland setting out what they want to be achieved by the rail industry during a control period.
Incremental input price effects and real price effects	In this document, a variance (expressed in percentage points) between: (a) the change in Network Rail's input prices (expressed in percentage points); and (b) the change in the specified general inflation index, for a particular year (where both (a) and (b) are expressed as a percentage).
Logging-up	An approach used in CP5, under which adjustments to be considered in respect of Network Rail's revenue requirement or RAB were deferred until our PR18 review. The opex memorandum account (see separate entry) has been the primary mechanism for logging-up non RAB issues.
Opex	Operating expenditure.
Opex Memorandum Account	An account, maintained by Network Rail during CP5, of adjustments that were expected to be applied by us in the determination of the revenue requirement for CP6. However, under the revised funding arrangements for CP6, such adjustments have been reflected in the governments' SoFAs and will therefore not be further taken into account in our revenue requirement calculations.
ORR	Office of Rail and Road – in this document, we say ORR, "we" or "us" depending on the context.
OSTI	Other single till income.

PR13	ORR's last periodic review of Network Rail, which resulted in our determination for CP5.
PR18	ORR's current periodic review of Network Rail, which will culminate in a final determination in October 2018 and review notices in December 2018.
RAB	Regulatory asset base. A regulatory value representing investment in Network Rail's business.
RAGs	Regulatory accounting guidelines.
Renewal	The replacement of an asset that has deteriorated to the extent that it can no longer be maintained, but where the replacement does not result in an enhancement. Renewals are classed as capex and expenditure is added to the RAB.
Route	Any of the eight geographical sub-divisions of the Network Rail business plus the Freight and National Passenger Operator (FNPO) route and, in this document, the System Operator (SO).
RPI	Retail Prices Index – a measure of the price of a representative sample of retail goods and services.
Single till	A regulatory approach where all of the costs and revenues of a regulated business are considered together, under a single regulatory economic settlement. We use this term in relation to Network Rail because we consider its income from network grants, track access charges, and commercial income (for example from property) together with expenditure when determining its revenue requirements.
SBP	Strategic business plans produced by Network Rail. Each route and the SO produced its own strategic plan for consideration in our PR18 review.
Schedule 4	The schedule included in track access contracts between Network Rail and train operators that sets out the arrangements for compensation paid to operators when Network Rail takes temporary possession of the network (e.g. for engineering purposes).

Schedule 8	The schedule included in track access contracts between Network Rail and train operators that sets out the arrangements for compensating train operators for unplanned service disruption caused by Network Rail and other train operators.
SO	The System Operator (SO) is the business unit within Network Rail responsible for planning the railway network and controlling access to it by train service providers through the allocation of capacity. The system operator also plans extensions to the railway network to ensure that future needs are addressed. The system operator function can be distinguished from 'system operation', which relates to real time operation of the network, this is carried out within the routes.
SoFAs	Statements of funds available – set out the public funds that are, or are likely to be, available to secure delivery of the high-level output specifications (HLOSs) by the Department for Transport and Transport Scotland. The HLOSs set out what the governments want the rail industry to deliver during the control period.
WACC	Weighted average cost of capital. We refer to a 'real vanilla' weighted average cost of capital, when talking about the WACC approach. When we are talking about the investment framework, we refer to a pre-tax WACC. The term 'vanilla' reflects, for Network Rail, the separate funding of corporation tax costs in CP6, which means that we only have to factor in: (a) a pre-tax cost of debt – i.e. the percentage charge that could be levied by lenders; and (b) a post-tax cost of equity – i.e. the percentage return equity investors might expect to actually receive, weighted according to our notional gearing assumption. The term 'real' indicates that this form of WACC is presented as a lower percentage than a nominal WACC

	(when inflation is positive) because inflation is not included in the percentage value. The only difference between the 'real vanilla' weighted average cost of capital and the pre-tax WACC is the treatment of corporation tax. For the pre-tax WACC, the post-tax cost of equity is grossed up for corporation tax. This is because in the investment framework, corporation tax is not funded separately by the UK Government, so it needs to be included in the charge.

Annex C – Route revenue requirement illustration

Table C.1 shows the format we expect to use for the calculation of geographical route revenue requirements for CP6.

Expenditure values in rows 1 to 10 are summed to give the gross revenue requirements for each year of CP6 in row 11. The System Operator (SO) expenditure in row 8 represents the route's share of the SO's expenditure recharged to it.

Other single till income in row 12 and the FNPO recharges in row 13 are then deducted to give the net revenue requirements for each year.

Rows 15 to 20 show the recovery of the net revenue requirements through charges and the network grants provided by the governments.

Revenue requirement calculations for the SO and FNPO will use similar tables, but:

- the SO's net revenue requirement will notionally be recovered via the recharges to geographical routes and the FNPO; and
- for the FNPO:
  - some expenditure will relate to recharges from the SO and geographical routes (for the use of their infrastructure); and
  - some of its revenue requirement will be recovered through charges paid by freight and national passenger operators.

Table C1: Geographical route net revenue requirement Illustration in constant 2017-18 prices[48]

£bn (2017-18 prices)		CP5 Total	CP6					
			Total	2019-20	2020-21	2021-22	2022-23	2023-24
1	Support							
2	Operations							
3	Maintenance							
4	Renewals							
5	Contingent renewals							
6	Schedule 4 & 8							
7	Traction electricity, industry costs and rates							
8	System Operator							
9	Route-controlled risk funding							
10	Route contribution to group portfolio fund							
11	Gross revenue requirement							
12	Other single till income							
13	Recharge to FNPO							
14	Net revenue requirement							
	Recovered through:							
15	VTACs							
16	Fixed track access charges							
17	Open access operator charges							
18	Long-term charges for managed stations							
19	Long-term charges for TOC operated stations							
20	Network grant							
21	Total SoFA related income							

Tables C2 to C6 show how we expect to analyse expenditure for each route between expenditure incurred directly by the routes and expenditure sourced through Network Rail's central functions under cost allocation and recharge arrangements.

[48] See paragraph 2.11 in chapter 2 for an explanation of the calculation of 2017-18 prices for the table.

Table C2: Support costs analysis

£bn (2017-18 prices)	CP5 Total	CP6					
		Total	2019-20	2020-21	2021-22	2022-23	2023-24
Route support costs							
Central support costs							
Total support costs							

Table C3: Operations costs analysis

£bn (2017-18 prices)	CP5 Total	CP6					
		Total	2019-20	2020-21	2021-22	2022-23	2023-24
Route operations costs							
Central operations costs							
Total operations costs							

Table C5: Maintenance costs analysis

£bn (2017-18 prices)	CP5 Total	CP6					
		Total	2019-20	2020-21	2021-22	2022-23	2023-24
Route maintenance costs							
Central maintenance costs							
Total maintenance costs							

Table C6: Renewals costs analysis

£bn (2017-18 prices)	CP5 Total	CP6					
		Total	2019-20	2020-21	2021-22	2022-23	2023-24
Route renewals costs							
Central renewals costs							
Total renewals costs							

Annex D – Illustration of expenditure for Great Britain, England & Wales and Scotland

This illustrates for Great Britain, England & Wales and Scotland the expenditure included in Network Rail's SBPs on a SoFA basis, i.e. excluding non-SoFA expenditure. The expenditure values we will use in our final determination of revenue requirements for CP6 are likely to vary from those shown in the tables below. This is because Network Rail will correct some errors in the numbers, we may have a different view of some issues and in our final determination we will incorporate our view of the results of the targeted updates to business plans that Network Rail is carrying out.

Great Britain

£m (2017-18 prices)	CP5		CP6					
	2018-19	Total	2019-20	2020-21	2021-22	2022-23	2023-24	Total
Operating costs	2,997	14,273	3,455	3,503	3,467	3,540	3,549	17,514
Renewals	2,436	14,219	3,132	3,691	3,836	3,349	2,690	16,698
Schedules 4 & 8	340	1,866	359	331	345	330	274	1,640
Group portfolio fund	0	0	311	389	584	584	727	2,595
Total SoFA expenditure	**5,773**	**30,358**	**7,257**	**7,915**	**8,232**	**7,803**	**7,240**	**38,447**

England and Wales

£m (2017-18 prices)	CP5		CP6					
	2018-19	Total	2019-20	2020-21	2021-22	2022-23	2023-24	Total
Operating costs	2,724	12,921	3,136	3,184	3,153	3,216	3,226	15,915
Renewals	2,092	12,535	2,745	3,168	3,346	2,966	2,397	14,622
Schedules 4 & 8	317	1,732	336	305	317	303	251	1,512
Group portfolio fund	0	0	277	346	520	520	647	2,311
Total SoFA expenditure	**5,134**	**27,188**	**6,494**	**7,004**	**7,335**	**7,005**	**6,522**	**34,359**

Scotland

£m (2017-18 prices)	CP5		CP6					
	2018-19	Total	2019-20	2020-21	2021-22	2022-23	2023-24	Total
Operating costs	274	1,353	319	319	314	325	322	1,599
Renewals	343	1,683	387	523	490	383	293	2,076
Schedules 4 & 8	23	134	23	26	29	27	23	128
Group portfolio fund	0	0	34	43	64	64	80	284
Total SoFA expenditure	**639**	**3,170**	**763**	**911**	**897**	**798**	**718**	**4,088**

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