12. Financial framework

Key messages in this chapter

- We have allocated to Network Rail the risks that it is best placed to manage, e.g. input price changes. This will help incentivise it to deliver continuous improvements in value for money and operate commercially where appropriate.
- The revenue that we allow Network Rail in CP5 should be sufficient for it to deliver the required outputs if it operates economically and efficiently, taking into account normal fluctuations in costs and revenues.
- In our financial framework, we have not provided funding for risks in advance of them occurring. But Network Rail's balance sheet buffer is fully available for it to use to manage risk and hence fund unexpected increases in costs. In addition, other material exceptional risks can be dealt with through the re-opener provisions.
- We will only allow Network Rail to recover our forecast of its efficient financing costs in charges, as it is not expected to issue unsupported debt in CP5. This approach, everything else being equal, significantly reduces Network Rail's revenue. This reduction in revenue could cause financial sustainability issues. So, we have increased the amortisation charge and for our draft determination we have made amortisation in CP5 equal to our forecast of renewals expenditure in CP5. This is called the adjusted WACC approach.
- Our preferred method of funding Network Rail is for all of its income to come from train operators and other customers and not through network grant. But we recognise that the governments' reporting and affordability issues mean there are advantages in Network Rail receiving a portion of funding directly from the governments. So we have decided to allow part of Network Rail's income to be provided directly by the governments through network grants, which will be set ex-ante for each year of CP5, as we did in CP4.
- In order to improve transparency we have also published in annex F what our determination of Network Rail's revenue requirement and access charges would be if we had used its cost of capital without making the adjusted WACC adjustments or using the PR08 ring-fenced approach. We also show what access charges would have been without network grants.

Introduction and context

12.1 This chapter sets out our determination of the financial framework for Network Rail in CP5. The decisions set out in this chapter are important as they can have a significant impact on Network Rail, e.g. on the level of its revenue requirement and how we treat risk. In the impacts of financial framework on financial parameters chapter (chapter 13), we set out the impact of our decisions on the financial framework on Network Rail's revenue requirement and financial costs.

12.2 It is essential that customers and funders get the best value from the money they put into the industry. To achieve this it is important that our financial framework policies deliver an appropriate allocation of risks to Network Rail (i.e. those risks that it is best placed to manage efficiently). If it manages those risks efficiently, then it can expect to earn an appropriate return.

12.3 The revenue that we allow Network Rail in CP5 should be sufficient for it to deliver the required outputs on the basis that it operates economically and efficiently, taking into account normal fluctuations in costs and revenues. However, providing Network Rail with a surplus within allowed revenues, i.e. an in-year risk buffer that is sufficient to compensate it for all possible risk, is unlikely to represent value for money as Network Rail is unlikely to be best placed to manage all risks[178].

12.4 Therefore, in this chapter we also consider how Network Rail can deal with the financial consequences of unexpected increases in costs[179] and we have decided that this can be done through the use of the balance sheet buffer[180] and re-openers[181].

12.5 Network Rail's balance sheet buffer is fully available for it to use to manage risk in all situations not just in exceptional circumstances, and hence fund unexpected

[178] When considering risk buffers, it is also necessary to consider how the underlying income and expenditure allowances have been derived, i.e. whether the assumptions are too cautious or too aggressive.

[179] These cost increases could have arisen from material events that are beyond reasonable management control or could not have reasonably been foreseen.

[180] The balance sheet buffer is the difference, at a point in time, between Network Rail's actual level of financial indebtedness and the level of financial indebtedness allowed by its network licence. In its network licence the restriction on its level of debt is presented as a percentage (i.e. debt/RAB).

[181] Re-openers are mechanisms that can be used to re-open the price control in certain situations to allow changes to be made to the revenues that Network Rail is allowed to recover, for example, where material events have happened that are beyond reasonable management control or could not have reasonably been foreseen. Hence, the financial consequences of some elements of the risks that Network Rail faces are transferred to Network Rail's funders and customers.

increases in costs. This should allow it to deliver its required outputs and will also allow Network Rail to be more innovative and to take some risks when developing ways of improving efficiency[182].

12.6 The decisions we have already taken on the financial framework are important and in particular our decision to use the adjusted WACC approach affects other parts of our financial framework, e.g. risk buffers and the restriction on the level of financial indebtedness.

12.7 This chapter covers the following issues:

(a) our approach to risk and uncertainty. This includes:

(i) inflation and input prices;

(ii) early start;

(iii) traction electricity, industry costs and rates;

(iv) risk buffers;

(v) level of financial indebtedness; and

(vi) re-openers;

(b) the adjusted WACC approach;

(c) amortisation and RAB;

(d) other financial issues:

(i) incentive strengths;

(ii) network grant;

(iii) rebates;

(iv) grant dilution;

(v) tax;

(vi) the financial ring-fence; and

(vii) outperformance.

[182] If Network Rail is using its balance sheet buffer to fund unexpected increases in costs, depending on the reason for the higher costs, we may also take enforcement action against it, e.g. if there were problems delivering an enhancement project.

Background

12.8 Network Rail's ultimate parent company is a not for dividend company limited by guarantee (CLG[183]) and has members instead of shareholders. As a CLG, Network Rail's ultimate parent company is a private organisation operating a commercial business owned by its members.

12.9 Although members are appointed largely to perform the role of shareholders in general meetings (e.g. approve/reject major transactions and vote on remuneration arrangements), there are crucial differences. In particular, members have virtually no capital at risk[184], whereas shareholders who provide equity for a business would normally take significantly more risk. The owners of Network Rail do not therefore bear the risks or realise the rewards of Network Rail's activities, and therefore the company does not pay them the dividends that shareholders would expect as a return on their risk capital.

12.10 Network Rail is solely financed by debt, therefore all of the profits left after interest has been paid on its debts are retained within Network Rail rather than being distributed to members or, if it had shareholders, as dividends[185]. As members have no material amount of capital at risk they are not directly incentivised to seek to drive the company to improve its financial performance.

12.11 In addition, Network Rail currently benefits from the FIM provided by the UK Government for the company's debt (which at 31 March 2012 was around £26bn in 2011-12 prices). So, although Network Rail raises debt like a normal company (from private sector investors who choose to put money into Network Rail rather than into other companies or investments) the debt is government guaranteed[186].

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[183] A company limited by guarantee is one not limited by shares (i.e. with no share capital), whose members undertake to contribute to the assets of the company in the event of its being wound up. This is in distinction compared to a company limited by shares whose liabilities on winding it up are limited to the amount unpaid on the company's shares.

[184] Network Rail's members have £1 of capital at risk.

[185] Network Rail has used its profits to pay a rebate to DfT and Transport Scotland, invest in the network and pay down debt.

[186] The amount of debt that can be raised under the FIM is currently capped at 90% of the RAB (90% is equal to the debt to RAB licence limit of 75% * 1.2), which is well above Network Rail's current level of gearing (62.5% at 31 March 2012). Network Rail's estimated value of the RAB at 31 March 2012 was approximately £42bn, so the FIM cap was around £39bn at 31 March 2012 (in 2011-12 prices).

12.12 As part of PR13, we have undertaken a thorough review of the financial framework for Network Rail and the incentives that this creates. In May 2012, we set out our high-level decisions on financial framework issues[187]. These decisions included our approach to the cost of capital, price control separation/disaggregation and the duration of the price control. In December 2012, we set out our decisions[188] on some of the more detailed issues relating to Network Rail's financial framework following our consultation on these issues in August 2012[189], e.g. the treatment of reactive maintenance.

12.13 Our framework is consistent with the key transformational goals we set out alongside our PR13 objective, especially aligning incentives and having a clear focus on what matters to passengers, freight customers and taxpayers – particularly improving value for money.

12.14 We have developed the financial framework for CP5 by considering all our statutory duties and using our judgement to apply an appropriate amount of weight to each of them.

12.15 We have also taken into account the views of stakeholders. In particular, we have worked closely with Network Rail, DfT and Transport Scotland to establish a financial framework for Network Rail that meets our objectives whilst also considering the requirements of others.

Approach to risk and uncertainty

Introduction

12.16 All businesses face risk and uncertainty on their costs and revenues from the impact of external events. Regulated businesses such as Network Rail are no exception. For the PR13 regulatory framework, we have decided how these risks, e.g. inflation, are allocated between the company, customers and funders.

[187] *Setting the financial and incentive framework for Network Rail in CP5*, May 2012, available at: http://www.rail-reg.gov.uk/upload/pdf/financial-incentive-framework-cp5.pdf.

[188] This document is available at: http://www.rail-reg.gov.uk/pr13/consultations/financial-issues.php.

[189] This document is available at: http://www.rail-reg.gov.uk/pr13/consultations/financial-issues.php.

12.17 Allocating to Network Rail the risks that it is best placed to manage should ensure that it is incentivised to secure continuous improvements in value for money and operate commercially where appropriate, e.g. in managing its financial risks.

12.18 In this chapter we explain our approach to some specific risks, where some aspects of the risk may not be efficiently controllable by Network Rail, e.g. inflation and input prices and traction electricity, industry costs and rates. We then explain how risk buffers and re-openers can be used to manage risk.

Inflation and input prices

12.19 Network Rail, like other businesses and households, faces the risk that the prices it pays for goods and services, may rise or fall, i.e. inflation is a general risk faced by everyone.

12.20 The inflation that each consumer faces depends on the particular mix of goods and services it consumes. This is no different for Network Rail, as inflation can affect not only the prices it must pay for labour and materials but also the interest rates it must pay on its borrowings and the real value of its assets and liabilities.

12.21 The general level of inflation in the economy is usually measured by reference to the rate of change in the average prices of a basket of goods and services that is representative of typical consumption patterns. The most common measures of inflation are the retail prices index (RPI), and the consumer prices index (CPI).

12.22 The RPI is the index most commonly used at the moment to adjust payment flows to maintain their real value. For example, payments of interest and repayments of capital on certain government bonds (known as index-linked gilts) are indexed to RPI.

12.23 To the extent that a particular consumer faces higher or lower inflation, compared to RPI, because the average price of the basket of goods and services he or she consumes is rising or falling at a different rate compared to the RPI basket, there is a so-called relative price effect – the difference between the two reflects a change in the real cost of the goods and services consumed compared to the economy-wide average[190].

[190] This is also called input price inflation.

12.24 Each consumer can affect the particular inflation that he or she faces by the choices they make in the selection of goods and services to buy and the way in which they buy them. To this extent, the impact of inflation can be managed.

12.25 In our December 2012 financial issues decisions document, we explained that in CP5 we had decided to retain the key elements of our PR08 approach to incentivising Network Rail's management of inflation risk. Our approach reflects our view that general inflation risk is not efficiently controllable by Network Rail (although the more specific risk of input price changes is efficiently controllable by the company and is taken into account in our expenditure assessment[191]). This is consistent with conventional regulatory practice. It also reflects the view of consultees who responded to our August 2012 consultation on detailed financial issues.

12.26 We have also taken this decision because the majority (approximately 65%) of Network Rail's revenue requirement (i.e. the part relating to amortisation, allowed return and Schedule 4 & 8 payments) is not related to income and expenditure assumptions where we think there are issues with Network Rail's management of inflation risk.

12.27 Reflecting the difference between Network Rail's ability to manage general inflation risk and the more specific risks associated with changes to its input prices, we are incentivising Network Rail to efficiently manage inflation risk in CP5 using the following approach:

(a) we have included in our draft determination, ex-ante forward looking assumptions[192] for both general inflation and input price inflation for CP5[193];

(b) we have included our input price assumptions in our efficiency challenge (for CP5 this is zero for all expenditure). This means Network Rail will gain if it delivers on that challenge and lose if it does not deliver the challenge;

[191] We have decided to make no explicit adjustments to our efficiency assumptions for input price inflation, this is explained in more detail in the overview of efficient expenditure chapter (chapter 4).

[192] This means that we will forecast our view of both general and input price inflation for CP5 and not just assume that the current level of general and input price inflation continues for CP5.

[193] Including input price inflation in our efficiency assumption has a similar effect, in terms of efficiency, as adjusting our inflation assumptions for an estimate of input price inflation.

(c) we have reflected in our efficiency challenge, the findings of a study by Credo[194], our consultants, who have carried out a study to identify how efficiently Network Rail manages inflation risk[195];

(d) to be consistent with the allocation of input price risk to Network Rail, we will not adjust Network Rail's renewals expenditure for movements in a specific inflation index; and

(e) as we do not think that general inflation risk is efficiently controllable by Network Rail, we have decided not to expose Network Rail to variances in general inflation between our assumptions and the actual outturns by continuing to[196]:

(i) index allowed revenue by general inflation (i.e. RPI), which will provide stability for the industry through CP5; and

(ii) adjust Network Rail's RAB by the actual movements in general inflation (i.e. RPI) to retain the real value of its asset base (against which it raises finance).

12.28 For PR08, we used RPI as the measure of general inflation to index allowed revenue and the RAB. However, there are other general inflation measures[197] that could be used instead of RPI, for example, RPIX[198], CPI[199] and the GDP deflator[200], and we could use specific indices that include the effect of input price inflation such as IOPI or COPI[201].

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[194] We summarise the findings of the Credo inflation management study in chapter 4.

[195] The study considered total inflation risk because in practice it is difficult to separately identify general inflation risks and input inflation risk.

[196] This means that Network Rail will neither gain nor lose from the effects of general inflation.

[197] These measures of general inflation include productivity improvements in the wider economy. Therefore, when considering our efficiency and inflation assumptions (and in particular our frontier shift efficiency assumptions) we need to take this into account. Further information can be found at http://www.ons.gov.uk/ons/rel/cpi/consumer-price-indices/may-2012/stb---consumer-price-indices---may-2012.html#tab-background-notes.

[198] RPIX is RPI excluding mortgage interest payments.

[199] The Consumer Prices Index (CPI) measure the prices of goods and services purchased for the purpose of consumption by households in the UK and is similar to RPI but excludes mortgage interest payments and other costs and is calculated differently.

[200] The GDP deflator is a much broader price index than RPI, RPIX or CPI (which only measure consumer prices) as it reflects the prices of all domestically produced goods and services in the economy. Hence, the GDP deflator also includes the prices of investment goods, government services and exports, and subtracts the price of UK imports.

[201] COPI is the colloquial name for the Department for Business, Innovation and Skills (BIS) Output Price Index for New Construction: All New Construction and is derived from the relationship of current

12.29 These other measures of inflation may or may not provide a more accurate index of the effect of inflation on Network Rail. However, any assessment of the effect of inflation on Network Rail would also need to consider the effect of inflation on Network Rail's financing costs and at the moment most financial instruments are normally indexed by RPI. Approximately 50% of Network Rail's gross debt (£15bn) is index-linked[202] and the index used to adjust the value of that debt for inflation is RPI.

12.30 Materially, the biggest effect of inflation on Network Rail is the effect on its financing costs as illustrated in Table 12.1 below.

Table 12.1: Materiality of inflation on Network Rail (based on 2011-12)

In £millions	2011-12	Impact of higher inflation (e.g. 3%)	% of total expenditure
Expenditure categories			
Controllable opex	906	27	13%
Non-controllable opex	420	13	6%
Maintenance	968	29	14%
Schedule 4 & 8	172	5	2%
Renewals	2,455	74	35%
Enhancements	2,077	62	30%
Total expenditure	6,998	210	100%
Finance categories (as a percentage of expenditure)			
Financing costs	1,470	44	21%
Net debt (at 31 March 2012)	26,489	795	379%
RAB (at 31 March 2012)	42,371	1,271	605%

Note: Approximately 50% of Network Rail's debt at 31 March 2012 is index-linked and its value changes each year for inflation. The interest payments in relation to nominal debt will also include the estimate of inflation assumed when the debt was issued.

12.31 Respondents to our May 2011 document generally favoured retaining RPI for indexation of the RAB, and the use of RPI to index Network Rail's RAB would be consistent with regulatory precedent.

price and constant price construction output volume figures produced by the ONS. In other words, it represents the movement in the cost to clients of work carried out on new construction in a period.

[202] This is the level of index-linked debt at 31 March 2012. Index-linked debt is debt where the value of the debt is adjusted for movements in inflation, instead of the assumed level of inflation being included in an interest payment.

12.32 Given the above factors and in particular that financial instruments are indexed in the markets by RPI and approximately 50% of Network Rail's debt is indexed by RPI, we have decided to use RPI to index Network Rail's RAB for inflation in CP5.

12.33 The formula that we will use to index access charges will be included in our consultation on changes to access contracts and the network licence to implement PR13, which we will publish on 12 July 2013.

Early start

12.34 In PR08 we introduced a policy called 'early start', which allows Network Rail in certain circumstances to request early notification in the periodic review process about whether or not we would allow activity and expenditure to be funded through its access charges.

12.35 Therefore, the early start mechanism provides more clarity of the required outputs of the determination and the allowed revenue at an early stage of the price control process. This should mean that Network Rail does not delay investment. This is important, especially for projects with long lead times, as delays can reduce the efficiency of investment and increase costs in the supply industry.

12.36 In our May 2012 document, we decided that we would retain the current early start mechanism as it is an appropriate policy to address some of the issues of a fixed control period, e.g. to help manage the peaks and troughs of Network Rail's workload and avoid delays in investment.

12.37 The early start mechanism required Network Rail to propose in its SBP the expenditure and outputs in the first year of CP5 that it considered should qualify for the early start mechanism. In order to qualify for consideration for early start funding the investment would have to have a defined (observable/measurable) output, have clear and agreed dates for delivery, have firm cost proposals, and have funder support (if relevant).

Traction electricity, industry costs and rates

12.38 The key issue for us in determining the treatment of traction electricity costs, industry costs and rates is ensuring that, where appropriate, Network Rail is incentivised to efficiently manage these costs. These decisions were taken in the December 2012 financial issues decisions document. We set out below, how we have decided to treat

each cost category. In the traction electricity, industry costs and rates chapter (chapter 6), we set out our assumptions on these costs.

Traction electricity (£238m in 2013-14)

12.39 We have determined the efficient level of traction electricity costs and set an ex-ante allowance for each year of CP5. For those elements of the costs that we consider controllable by the company, Network Rail is on risk for the outturn being different to the ex-ante assumption. These are:

(a) transmission losses; and

(b) Network Rail's own use of traction electricity, e.g. power supplies for signals and stations.

12.40 We have decided that the elements of traction electricity costs that we deem not to be sufficiently controllable by Network Rail (i.e. all traction electricity costs except for transmission losses and Network Rail's own use of traction electricity) will be passed through to train operators. This will be implemented in CP5, through the four-weekly billing process and end of year reconciliations that the industry already uses to charge for traction electricity. This is explained further in the access charges chapter (chapter 16).

British Transport Police (£71m in 2013-14)

12.41 We have determined an efficient level for Network Rail's share of British Transport Police (BTP) costs and have set an ex-ante allowance for CP5. We consider these costs to be sufficiently controllable by Network Rail[203] and so the risk of the outturn being different from our assumptions will be borne by Network Rail. We think that this treatment is important as some of the benefits that are provided by BTP (such as reductions in delay minutes) relate to cost and performance issues that Network Rail is incentivised to deliver. BTP costs will be included in any efficiency or financial performance assessment in CP5.

RSSB costs (£9m in 2013-14)

12.42 We have determined an efficient level for Network Rail's share of RSSB costs and have set an ex-ante allowance for CP5. We consider these costs to be sufficiently

[203] Network Rail is a member of the BTPA and one of its directors is also a representative on the board of the BTPA. It is the largest funder of the BTP and can exercise industry leadership. We think that it has sufficient influence over these costs for us to treat them in the same way as support costs.

controllable by Network Rail[204] and so the risk of the outturn being different from our assumptions will be borne by Network Rail. RSSB costs will be included in any efficiency or financial performance assessment in CP5.

Licence fee and safety levy (£17m in 2013-14)

12.43 As we do not think that the licence fee and safety levy is sufficiently controllable by Network Rail, we will log-up/down any variances in these costs between the assumptions in our determination and the outturns and the variances will be included in the opex memorandum account[205]. These costs will be excluded from any efficiency or financial performance assessment in CP5.

Business (cumulo) rates (£151m in 2013-14)

12.44 We have decided to include an ex-ante forecast of business rates in Network Rail's CP5 allowed revenue. As long as Network Rail can satisfy us that it has negotiated efficiently with the Valuation Offices, we will log-up/down any variations from the level we assumed in our determination and adjust Network Rail's allowed revenues in CP6. If we determine that it has negotiated these costs efficiently, then we will exclude these costs from any efficiency or performance assessment in CP5, otherwise we will include them.

Reporters' fees (£3m in 2013-14)

12.45 We commission independent reporters[206] to provide assurance in relation to different areas of Network Rail's regulated activities, e.g. the sustainability of its asset policies and asset information quality. The volume of work that we commission will reflect the level of confidence that we have in Network Rail's information and processes. Therefore, Network Rail has significant control over these costs. However, we also have some influence over the level of work that is required and we will work with Network Rail to develop more joined-up, effective and efficient assurance processes making better joint use of reporters, Network Rail's own internal assurance and independent assurance commissioned by Network Rail.

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[204] Network Rail is a member of the RSSB, and two of its directors are also on the RSSB Board. It is the largest funder of RSSB and can exercise industry leadership. We think that it has sufficient influence over these costs for us to treat them in the same way as support costs.

[205] This is an account where monies due to Network Rail, e.g. incentive payments are held.

[206] Independent reporters are consultancy firms who provide independent expert advice and are used by us to review some aspects of Network Rail's performance, plans and activities, e.g. its financial reporting. They owe a duty of care to both ORR and Network Rail but Network Rail pays for their costs.

12.46 As a result, we are proposing that we will determine an efficient level of reporters' fees for CP5. If at the end of CP5, Network Rail can show that any material under/over spend is the result of our actions instead of being driven by an issue at Network Rail, then we will log-up/down the costs of our actions and adjust Network Rail's CP6 revenue requirement through the opex memorandum account in CP5. These costs will be included in any efficiency or financial performance assessment in CP5 but we will adjust for variances caused by our actions.

Risk buffers

12.47 In PR08, we established an 'in-year risk buffer' for Network Rail. This was the amount we thought that it needed to enable it to manage business risk and normal fluctuations in cash flow. In PR08, the in-year risk buffer was £226m for England & Wales and £28m for Scotland per annum (in 2012-13 prices).

12.48 We decided in December 2012 not to provide Network Rail with an in-year risk buffer in CP5. This is because we consider that, for a number of reasons, the benefits of an in-year risk buffer may not be achieved in practice and circumstances have changed since PR08. These reasons include:

(a) given it is not likely that Network Rail will issue unsupported debt in CP4 or CP5 and as it has the FIM, it will be able to continue to deliver our determination irrespective of whether an efficiency initiative has failed;

(b) Network Rail not planning to issue unsupported debt in CP5 will, everything else being equal, mean that we expect the consequences of Network Rail experiencing an unexpected increase in costs will be less severe than we thought in PR08. This is because as Network Rail is still using the FIM, it should still be able to access financial markets on reasonable terms. Therefore, the benefit an in-year risk buffer provides in relation to this issue is not significant for CP5;

(c) in our PR08 determination, our base case assumption was that Network Rail would perform in line with our determination and would not require the use of the in-year risk buffer. Therefore, in PR08 we assumed that the annual in-year risk buffer in CP4 would be used to reduce debt and not used to fund overspends. If we provide Network Rail with an in-year risk buffer for CP5, it is likely that we would take the same approach. Therefore, this money in practice just increases

the balance sheet buffer[207], which means that the real issue is whether the size of the balance sheet buffer is appropriate;

(d) in PR08, when we assessed Network Rail's financial sustainability, the adjusted interest cover ratio (AICR) was a very important financial indicator for us to consider. This was because of its use by credit rating agencies to assess the financial position of a company. Without an in-year risk buffer, Network Rail's AICR would have been significantly lower. This could have made it more difficult for Network Rail to issue unsupported debt in CP4. However, in CP5 we do not expect Network Rail to issue unsupported debt. Therefore, it is not necessary to provide Network Rail with an in-year risk buffer for financial sustainability reasons;

(e) providing funding for Network Rail in advance of it being needed could be perceived as being an unnecessary cost at a time of constrained funding and current overall pressures on public finances, and it could weaken incentives. This is particularly the case given that we have confirmed in our May 2012 document that we will be using the adjusted WACC approach to determine Network Rail's allowed return and that we do not expect Network Rail to issue unsupported debt in CP5; and

(f) as well as Network Rail's statutory accounts, we also require Network Rail to prepare regulatory accounts and we report on its efficiency in our annual finance and efficiency assessment. Therefore, the overspend (everything else being equal) caused by the failure of an efficiency initiative would still be included in our efficiency monitoring in our annual finance and efficiency assessment, as our reporting needs to be balanced. Therefore, the financial consequences of the failure of an efficiency initiative would still be clear.

12.49 Network Rail has expressed concerns about the potential impact on profitability of our approach to risk and the adjusted WACC approach. We will explore these concerns further with Network Rail before publication of our final determination, in order to support the company being able to manage risk in its business.

[207] The balance sheet buffer is the difference, at a point in time, between Network Rail's actual level of financial indebtedness and the level of financial indebtedness allowed by its network licence. In its network licence the restriction on its level of debt is presented as a percentage (i.e. debt/RAB).

12.50 We agree that it is important to retain the flexibility to change Network Rail's financing structure. Although at the moment there are no current plans to introduce risk capital, either through concessions or other means. If a situation arises in CP5 that requires a different approach to Network Rail's cost of capital we could deal with that situation as we discuss below.

12.51 Also, as in CP4, Network Rail has a balance sheet buffer that can be used to manage risk. We will finalise our CP5 assumptions on the level of the balance sheet buffer in our final determination. As an indication, if we assume that Network Rail's financial indebtedness limits are 72.5%[208] for each year of CP5, the balance sheet buffer would be on average during CP5 £2,440m for Great Britain, £2,092m for England & Wales and £349m for Scotland (2012-13 prices). The balance sheet buffer in this example is the difference between a debt/RAB ratio of 72.5% and our forecast of Network Rail's debt/RAB ratio in our determination for each year of CP5.

Level of financial indebtedness

12.52 The restriction on Network Rail's level of financial indebtedness has an important effect as it incentivises Network Rail to control its costs. This is because, unless we have consented otherwise, Network Rail could be in breach of its network licence if it does not use reasonable endeavours to ensure that its total financial indebtedness does not exceed the limits specified in that licence. Also, the difference between its limit on financial indebtedness and its actual debt/RAB ratio provides Network Rail with a balance sheet buffer that is fully available for it to use to manage risk and hence fund unexpected increases in costs, which should allow it to deliver its required outputs.

12.53 We decided in December 2012 to retain the licence condition which restricts the level of Network Rail's financial indebtedness, and consistent with our aim of improving the disaggregation of Network Rail's price control, we will include separate terms in Network Rail's licence for England & Wales and Scotland.

12.54 We will finalise the specific levels of Network Rail's maximum level of financial indebtedness in each year of CP5, in our final determination, as the levels need to reflect the entire PR13 package. Our current thinking based on our financial modelling is that the level of financial indebtedness in each year of CP5, should at no point

[208] This is a simple average of 70% and 75%.

exceed a limit set between 70-75% for England & Wales and Scotland. We will conclude on the level of the limits in the final determination.

12.55 We will consult on these proposed changes to Network Rail's network licence in our consultation on changes to access contracts and the network licence to implement PR13, which we will publish on 12 July 2013.

Re-openers

12.56 Re-openers are mechanisms that can be used to re-open the price control in certain situations to allow changes to be made to the revenues that Network Rail is allowed to recover through access charges, for example, where material events have happened that are beyond reasonable management control or could not have reasonably been foreseen. Hence, the financial consequences of some elements of the risks that Network Rail faces are transferred to customers and funders.

12.57 In our May 2012 document, we decided that we would continue to use re-openers as part of our approach to risk and uncertainty. An enduring settlement across the control period is very important both for the incentives that Network Rail faces and to provide certainty to the industry and its investors. So, in our view, it is likely that re-openers will only be sparingly used as they are generally intended to cover exceptional events that have a material effect on Network Rail.

12.58 We decided in December 2012 to retain two of the re-openers that we used in PR08 for PR13, although we will consult on the exact wording of these re-openers in our consultation on changes to access contracts and the network licence to implement PR13[209], which we will publish on 12 July. The two re-openers are:

(a) if there is a material change in the circumstances of Network Rail or in relevant financial markets. This re-opener applies to events in England & Wales and Scotland; and

(b) for Scotland, if Network Rail's expenditure in Scotland is forecast to be more than 15% higher than our determination for Scotland over a forward looking period of three years.

12.59 In each case we would need to determine whether the terms of the relevant re-opener

[209] These re-openers will be implemented by being included in access contracts between Network Rail and TOCs.

had been met and, if so, we would then consider whether there is a compelling case for an interim review in light of our section 4 duties.

Cost of capital

Introduction

12.60 Since PR08 there have been a number of changes that have prompted us to reconsider our approach to Network Rail's cost of capital for PR13 and in particular the approach we take to Network Rail's financing costs. These changes include:

(a) uncertainty in financial markets, which could make it harder for Network Rail to issue unsupported debt in CP5;

(b) a worse economic climate, which means that there is pressure on the governments' funding; and

(c) industry reforms. There are a number of initiatives that are currently in progress or being considered, e.g. Network Rail devolution, alliancing, concessions and REBS.

12.61 In determining our approach to funding Network Rail's cost of capital in CP5, we have considered the changes above.

Adjusted WACC approach

12.62 In our May 2012 document, we confirmed that we will use the adjusted WACC approach[210] to determine Network Rail's allowed revenue in CP5. Using the adjusted WACC approach is consistent with Network Rail not being likely to issue unsupported debt in CP5. Also, given that Network Rail is financed entirely by debt, and its debt is indemnified by the UK Government through the FIM, i.e. the UK Government takes the risk of default, the adjusted WACC approach is consistent with Network Rail's efficient financing costs being significantly lower than its cost of capital[211].

12.63 In the adjusted WACC approach we:

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[210] This approach identifies the cost of capital for Network Rail but recognises that Network Rail's debt is government backed and it does not pay dividends. Therefore, we adjust the cost of capital by deducting the equity surplus (i.e. the potential dividend payment) and on a net basis we fund our forecast of Network Rail's efficient financing costs.

[211] Network Rail pays a fee to DfT for the credit enhancement it gains from the FIM (the FIM fee). By credit enhancement, we mean that effectively Network Rail can borrow at cheaper rates than if it did not have the FIM. This is equivalent to having a higher credit rating.

(a) first, identify the cost of capital of Network Rail (reflecting all the risks that it faces before some of them are ultimately transferred to funders) and hence its full funding requirement. Therefore, the cost of capital will still be clearly visible in our determination. It will still be the basis of the cost of capital that will be used in the investment framework for calculating the financing costs of non-HLOS investment schemes as it is important that investment decisions are made using Network Rail's cost of capital. In the interests of transparency, the cost of capital will still provide the basis for a calculation of what Network Rail's charges would have been if we allowed it to recover the cost of capital rather than our forecast of its efficient financing costs (see annex F for details of the access charges on this basis);

(b) second, identify Network Rail's efficient financing costs[212] including any additional financing costs that need to be provided for financial sustainability purposes, e.g. for the difference between efficient financing costs (in real prices) and efficient financing costs that include implied inflation on nominal debt;

(c) third, recognise that Network Rail's efficient financing costs are lower than its cost of capital, due to the existence and use by Network Rail of the FIM. The difference between Network Rail's cost of capital and its efficient financing costs is called the equity surplus;

(d) then, the equity surplus is recycled before the revenue requirement is determined, i.e. the equity surplus is netted off Network Rail's bottom-line revenue requirement. We do this by including in the calculation of Network Rail's revenue requirement Network Rail's cost of capital in the calculation of the allowed return, then we deduct the equity surplus; and

(e) we then recognise that this approach, everything else being equal, significantly reduces Network Rail's revenue. This reduction in revenue could cause additional financial sustainability issues. So, we address this issue by increasing the amortisation charge, and so in this document we have made amortisation in CP5 equal to our forecast of renewals expenditure in CP5. We will decide on our approach to financial sustainability for CP5 in our final determination.

[212] Efficient financing costs are calculated on a cash basis, i.e. they exclude inflation accretion on index-linked debt. Where inflation accretion is the amount of inflation added to the value of index-linked debt to compensate debt holders for inflation.

12.64 As a general principle, we support the introduction of risk capital and unsupported debt into Network Rail because of the incentives this would bring to bear on management and through this, the behaviour of the company, making it a more 'conventional' company. We therefore want to retain the option for this to happen in CP5. The adoption of the adjusted WACC approach does not preclude the introduction of unsupported debt in later control periods as discussed below.

12.65 In order to improve transparency we have also published in annex F what our determination of Network Rail's revenue requirement and access charges would be if we had used its cost of capital without making the adjusted WACC adjustments or using the PR08 ring-fenced approach.

Other cost of capital considerations

12.66 We have reviewed the other financial framework issues in light of our decision to use the adjusted WACC approach for CP5.

Treatment of financing costs

12.67 Network Rail's financing costs in CP5 will be partly based on financial instruments that it has already taken out, i.e. part of its interest costs in CP5 are already fixed. These costs are referred to as embedded debt costs. As we have reduced the headroom available to Network Rail, e.g. we are using the adjusted WACC approach and we have removed the in-year risk buffer, we decided in December 2012 to take its embedded debt costs into account in our determination for CP5.

12.68 It is important that Network Rail efficiently manages its financing costs, so we have reviewed Network Rail's embedded debt costs as part of the periodic review process. We have included Network Rail's embedded debt costs in this determination, where we consider that these costs were incurred efficiently[213]. This should help to ensure that Network Rail faces the financial consequences of its actions in the run up to our PR13 final determination, i.e. it cannot take out debt and just assume that we will allow the costs associated with it. Our views on the efficiency of Network Rail's embedded debt costs are discussed further in the impact of financial framework on financial parameters chapter (chapter 13).

[213] Our assessment is in the round rather than an examination of every treasury instrument Network Rail has taken out.

Industry reform initiatives

12.69 We have explained above that the adoption of the adjusted WACC approach does not preclude the introduction of risk capital and unsupported debt directly into Network Rail. It should also not obstruct the development of further alliances or a concession.

12.70 In the event of future industry reforms or other significant changes, e.g. a concession, we need to decide how we would handle the effects on Network Rail's price control, e.g. we may need to turn off the equity surplus adjustment.

12.71 However, a policy of turning off the equity surplus adjustment is difficult to put in place ex-ante, as we do not know with enough clarity which industry reform initiatives could happen and how material they could be. Therefore, it would not be clear how much of the equity surplus adjustment should be turned off. There are also other financial effects of the adjusted WACC approach, such as additional amortisation, which need to be considered.

12.72 In an extreme case, where all of Network Rail's business was sold to another party that is conventionally funded by unsupported debt and equity, we would unwind the effects of the adjusted WACC approach, e.g. turn off the equity surplus adjustment. Different industry reforms, such as alliances or operating concessions, may not raise the same issues and may not therefore require an unwinding of the adjusted WACC approach.

12.73 In our August 2012 consultation, we said that we would handle these issues on a case by case basis, i.e. material changes would lead us to consider re-opening the price control, whereas immaterial changes would be logged-up to CP6. Network Rail proposed that we instead develop an automatic mechanism for adjusting the price control but did not explain how this could work. We provided further time for Network Rail to develop an automatic mechanism and in our December 2012 financial issues decisions document, we explained that we would set out, in this document, how we would handle an industry reform initiative.

12.74 Network Rail has now provided us with details of its proposal but we think that they are not adequate. For example, there are many different types of concession that could be entered into and they will have a variety of financial effects, which cannot be predicted in advance. Network Rail's proposal does not address this issue and we

think it will be difficult to develop a mechanism which accounts for every possible type of reform.

12.75 Therefore, we have decided to adopt the approach that we set out in December 2012. This means that we will consider any adjustments to the price control, which result from an industry reform initiative, on a case-by-case basis, i.e. material changes would lead us to consider re-opening the price control, whereas immaterial changes would be logged-up to CP6.

Calculation of the FIM fee

12.76 For PR13, we decided in December 2012 to calculate the FIM fee for CP5 by reference to the long-run value of the credit enhancement it provides because: this is consistent with the way that the full cost of capital is calculated; it is cost reflective; and sends the right price signals. The cost of capital study carried out by CEPA, which we discuss in more detail in the impact of financial framework on financial parameters chapter (chapter 13), has helped to inform our decision on the level of the FIM fee.

Use of the semi-annual rate for calculating allowed revenue

12.77 In calculating Network Rail's allowed revenue, we convert our full cost of capital, which is normally presented on an annual basis (i.e. 4.75% in PR08[214]), into a semi-annual rate (i.e. 4.64% in PR08) because we assume that Network Rail's cash flows are spread evenly through the year[215].

12.78 We have decided to use the semi-annual rate in the calculation of allowed revenues because a regulated utility should be able to re-invest any cash surplus that it has available during the year at its cost of capital, as that is the discount rate that is appropriate to use to assess investment opportunities and is similar to the approach used by other regulators.

Roll forward of Network Rail's debt into CP5

12.79 We have decided to maintain our PR08 policy of rolling forward the debt assumptions used in our PR08 determination for CP4 for efficient movements in debt, even though we are not assuming that Network Rail will issue unsupported debt in CP4, as we

[214] This is on a real vanilla basis. A 'vanilla' return is based on a pre-tax cost of debt and post-tax cost of equity.

[215] Therefore, as Network Rail's cash flows are spread evenly through the year using an annual cost of capital would over compensate the company as not all the balances that the cost of capital is applied to will have been in existence for the full year.

need to maintain appropriate incentives on Network Rail to manage expenditure efficiently. We will also use this approach to roll forward our debt assumptions from CP5 to CP6.

12.80 We have reviewed Network Rail's forecasts of CP4 closing debt and consider that it is appropriate to use its forecasts as our opening balance for CP5 for our draft determination as they are consistent with the income and expenditure assumptions used elsewhere in this document. We will review these assumptions for our final determination.

Calculation of financing costs in the adjusted WACC approach

12.81 In our advice to ministers and in our August 2012 consultation we presented the calculation of Network Rail's efficient financing costs for the allowed revenue requirement including the inflation element[216] of nominal financing costs as that is a cash cost, and the adjusted WACC approach funds cash efficient financing costs, and we did not include inflation accretion[217] on index-linked debt as that is not a cash cost.

12.82 We did this because we have decided to keep the introduction of the adjusted WACC approach as simple and transparent as possible. Therefore, we have decided to:

(a) calculate real efficient financing costs on a cash basis (i.e. using the conventional regulatory approach to the calculation of allowed revenue, except that it is based on financing costs instead of a cost of capital) and adjust for financial sustainability. This is consistent with the approach to amortisation where we first calculate the amortisation assumption using our conventional approach and then we adjust for financial sustainability taking account of the adjusted WACC approach; and

(b) index the whole of the RAB by RPI (i.e. using the conventional regulatory approach to the indexation of the RAB).

Approach to financial sustainability

12.83 In our December 2012 decisions document, we explained that we would use the same set of financial indicators for PR13 as we used in PR08. However, depending

[216] The interest rate on nominal debt includes compensation for the use of the money that has been borrowed for the life of the debt, e.g. if the real interest rate was 2% and the expected inflation rate was 3%, then the nominal rate would be approximately 5%.

[217] The amount of inflation added to the value of index-linked debt to compensate debt holders for inflation.

on the circumstances, the financial indicators can have different levels of importance. For example, in PR08, the adjusted interest cover ratio (AICR) and debt/RAB ratio were the key financial indicators that we used to assess Network Rail's financial sustainability.

12.84 However, the AICR does not provide us with useful information for CP5. This is because, by definition under the adjusted WACC approach, the AICR is close to one and amortisation does not directly affect the AICR. Also, the AICR is not as important for CP5 as Network Rail is not expecting to issue unsupported debt in CP5 and one of the main reasons for focusing on the AICR for CP4 was that AICR was a key financial indicator used by the credit rating agencies.

12.85 This means that our analysis has focused on the debt/RAB financial indicator. This is because it is an important financial indicator in its own right but also because the limit on Network Rail's financial indebtedness is set with reference to the debt/RAB limit.

12.86 Table 12.2 sets out the financial indicators and their definitions.

Table 12.2: Financial indicators

Indicator	Definition
Adjusted interest cover ratio (AICR)	FFO[1] less capital expenditure to maintain the network in steady state divided by net interest[2]
FFO / Interest	FFO divided by net interest
Debt[3] /RAB (Gearing)	Net debt divided by RAB
FFO / Debt	FFO divided by net debt
RCF[4] / Debt	FFO less net interest divided by net debt

Notes:

1. Funds from operations (FFO) is defined as gross revenue requirement less opex less maintenance, less Schedules 4 & 8 costs less cash taxes paid.
2. Net interest is the total interest cost including the FIM fee, but excluding the principal accretion on index linked debt.
3. Debt is as defined in the Regulatory Accounting Guidelines[218].
4. Retained cash flow (RCF) is defined as FFO minus net interest.

12.87 As we explain above in the adjusted WACC approach, we have recognised that we need to provide additional amortisation for financial sustainability reasons. For the

[218] This document is available at http://www.rail-reg.gov.uk/upload/pdf/regulatory-accounting-guidelines-2012.pdf.

purposes of this document, we have assumed total amortisation in CP5 is equal to our forecast of renewals in CP5.

12.88 We have tested the sensitivity of the financial indicators to changes in our regulatory assumptions and used Monte Carlo analysis[219] to help identify the robustness of Network Rail's financial position in the face of cost and revenue uncertainty and hence our approach to financial sustainability.

Amortisation and RAB

Amortisation

12.89 Amortisation is the remuneration of past investment that has been previously added to the RAB. It forms a major part of Network Rail's revenue requirement as Network Rail is a capex intensive business[220].

12.90 As we confirmed in our advice to ministers, our high-level approach to amortisation in CP5 is that it will be based on long-run efficient annual average capital expenditure required to maintain the network in steady state (i.e. average long-run steady state renewals) subject to financial sustainability considerations. This means that the total allowance for amortisation in any year should be broadly equivalent to the long-run efficient annual average investment expenditure that is required in order to maintain the overall capability, age, condition, and serviceability of the network in steady state (i.e. the network would be neither getting better or worse if that level of capital expenditure is sustained over the long-run).

12.91 Our calculation of long-run steady state renewals is described in the asset management: maintenance and renewals expenditure chapter (chapter 8). The two main issues that affect the calculation (in addition to the underlying level of renewals) are that we have decided to:

(a) use the 35 year period from 2014-15 as the period for our assessment of Network Rail's long-run efficient annual average capital expenditure; and

[219] Monte Carlo analysis is a technique used to analyse complex issues by simulating the various outcomes a large number of times.

[220] Amortisation is an accounting term that is equivalent to depreciation. In our context it relates to the RAB: whilst our RAB policy is now based on only adding actual capital expenditure to the RAB, the initial RAB was based on a value of the infrastructure assets and there were various non-physical asset based additions to the RAB prior to the current policy starting in CP4.

(b) take account of the scope for future efficiency improvement after CP5 (the control period we are assessing in PR13) in our calculation of long-run efficient annual average capital expenditure and we have included an estimate of frontier shift over our thirty-five year assessment period in our calculation of the efficiency adjustment. This is because both current and future, customers and funders, should be sharing the cost burden of Network Rail's inefficiency.

12.92 In addition, as we decided in PR08, we will be amortising the non-capex RAB (around £4bn in 2012-13 prices) on a straight-line basis over thirty years.

12.93 In our May 2012 document, we confirmed that we would use the adjusted WACC approach to calculate Network Rail's allowed return. In order to address the financial sustainability issues that the adjusted WACC approach may cause, we also said that we would increase amortisation. For the purposes of this document, after considering the effect of the adjusted WACC approach on all aspects of our determination, we have assumed that for our determination, total amortisation should be equal to our forecast of Network Rail's renewals spend in CP5 and the resulting financial indicators are at a level that is not financially unsustainable. This is the same approach as we used in our advice to ministers and we will update our views on financial sustainability when we make our final determination.

RAB roll forward

Introduction and context

12.94 The RAB is a key building block in our methodology for determining access charges as it forms the basis for calculating the level of allowed return and impacts on the allowance for amortisation within Network Rail's revenue requirement. This is because the RAB is reduced by the total amortisation charge[221] including a financial sustainability adjustment if necessary (although average long-run steady state renewals are calculated independently of the RAB). Also, the non-capex part of the RAB is amortised over a period of 30 years[222]. The RAB also acts as a store of value that is released to Network Rail over time through the amortisation charge.

[221] Total amortisation is equal to average long-run steady state renewals plus the amortisation of the non-capex part of the RAB plus any financial sustainability adjustment.

[222] The non-capex part of the RAB consists of RAB additions in relation to revenue re-profiling, which was a one-off adjustment reflecting an issue with government finances following ACR2003, and incentive payments relating to the company's performance in respect of the volume and asset

12.95 This section of the chapter outlines our approach to the roll forward of the RAB in CP4 and CP5 and covers the following issues:

(a) high-level principles;

(b) consultation issues

(c) overall approach to the RAB roll forward in CP5;

(d) process for rolling forward the RAB in CP5;

(e) main features of our RAB roll forward policy in CP5;

(f) civils adjustment mechanism;

(g) enhancements mechanism for early GRIP projects;

(h) projects with specific protocols; and

(i) investment framework/spend to save.

High-level principles

12.96 In our 2003 access charges review (ACR2003), we established a set of high-level principles for valuing the RAB which were also used in PR08. These principles are:

(a) transparency: we will publish our assumptions and calculations in full. Network Rail's current and future lenders will have a clear and transparent basis on which to value the company. Looking ahead to the future, this should assist Network Rail if it raises additional debt without a government guarantee;

(b) consistency: our methodology must be consistent with the policy statements made previously. This is because predictability and consistency over time in our approach serves to improve confidence in the regulatory regime and will enhance Network Rail's ability to finance its business in future; and

(c) simplicity: we will strive, where possible, to ensure that the calculation of the RAB remains as straightforward as possible.

12.97 In December 2012, we decided to retain these principles for CP5.

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stewardship incentives in CP3. The non-capex part of the RAB does not include all non-capex expenditure that has been added to the RAB, e.g. the expenditure in relation to the Hatfield derailment in 2000 is not included in the non-capex part of the RAB as we only started treating non-capex expenditure in this way in CP3.

Consultation issues

12.98 In our August 2012 consultation, we set out the key features of the RAB roll forward policy in CP4. We also explained that because we are keeping the current operating expenditure and capital expenditure incentive strengths for CP5 the same as in CP4, we intended to retain the same overall approach to the RAB roll forward in CP5 as it has appropriate incentive properties. We did, however, set out some areas where our RAB roll forward approach could be improved for CP5. These areas include:

(a) not indexing our renewals assumptions for changes in input prices[223];

(b) being consistent, where possible, between the treatment of renewals and enhancements to minimise any perverse incentives for Network Rail to favour one form of expenditure over the other;

(c) treating an overspend on enhancements in England & Wales in the same way as in Scotland (although we need to take account of the two price controls being separate);

(d) considering where our policies should distinguish between volume and unit cost based variances and how net underspend/overspends should be treated;

(e) whether to set out in our PR13 determination our criteria for determining when a failure to deliver outputs or maintain the serviceability and sustainability of the network, would require a RAB adjustment and possibly an adjustment to efficiency;

(f) considering whether it would be useful to set out in our PR13 determination, guidance on how we would adjust for a failure to deliver outputs or maintain the serviceability and sustainability of the network in the short, medium and long-term;

(g) whether we should treat all renewals underspends in the same way, given the difficulty we have in confirming that some types of renewals underspends are efficient, e.g. volume related underspends; and

(h) considering how the lack of clarity (due to a significant part of Network Rail's network being composed of long life assets) over the links between inputs,

[223] In PR08 we included a RAB adjustment to renewals expenditure for movements in input prices. The adjustment was based on movements in the infrastructure output price index (IOPI).

outputs and the serviceability and sustainability of the network in the short, medium or long-term could affect our RAB roll forward policy.

12.99 In our December 2012 financial issues decisions document, we decided not to index our renewals assumptions for changes in input prices, in order to be consistent with our decision to allocate input price risk to Network Rail[224]. This will improve the incentives on Network Rail to manage inflation risk related to its costs by including an upfront estimate of input price inflation in our efficiency assumptions in CP5 (for CP5 this is zero for all expenditure).

12.100 Apart from our treatment of input prices, we did not decide on the other issues as we wanted to discuss them further with Network Rail. We have now had those discussions and set out our decisions below:

(a) in PR08 there are differences in the RAB roll forward treatment of volume and unit cost variances in renewals expenditure. We have decided that as it is the aggregate variance that is more important these variances should be treated equally to simplify the RAB roll forward policy, which should make the incentives on Network Rail more effective. The most appropriate way of implementing this change is use the approach for enhancements in England & Wales for renewals in England & Wales and Scotland, i.e. overspend relating to additional volumes of work or unit costs for renewals in England & Wales and Scotland will be added to the RAB, unless the overspend is manifestly inefficient. This provides sufficient incentives against inefficient spend and is more practical than the complicated efficiency test we used for renewals in England & Wales and Scotland in CP4. It would also maintain a consistent approach to renewals in England & Wales and Scotland;

(b) we have decided that where possible, the RAB roll forward policy should not distinguish between renewals and enhancements expenditure to minimise any perverse incentives for Network Rail to favour one form of expenditure over the other, and to simplify the policy. In PR08, our enhancements expenditure assumptions for CP4 included contingency. For CP5, our enhancement expenditure assumptions do not include contingency, therefore we no longer

[224] Therefore, to be clear we have decided that we will not adjust Network Rail's renewals additions to the RAB in CP5 for movements in IOPI (or another specific inflation index).

need the £50m per annum deadband for enhancement overspend in England & Wales that we used in CP4, as Network Rail has not already been funded for that amount[225].

(c) in PR08 there are differences between the RAB roll forward treatment of enhancements expenditure in England & Wales and for the treatment of enhancements expenditure in Scotland. There are advantages in having a consistent approach in England & Wales and in Scotland. However, as the two price controls are separate we have decided to retain the current differences in our approach between England & Wales and Scotland, i.e. in Scotland we will undertake a specific ex-post efficiency assessment;

(d) as in PR08 the burden of proof will be on Network Rail to show that it has met its required outputs. Where Network Rail has been funded to deliver an output that has not been delivered this will require a RAB adjustment. Due to the wide range of circumstances that can lead to Network Rail not delivering required outputs or maintaining the serviceability and sustainability of the network we do not think that is practicable for us to set out detailed prescriptive criteria for determining when and by how much a non-delivery of outputs would require a RAB adjustment. However, as our PR13 output specifications are more granular than those in PR08 we consider that it should be clearer whether Network Rail is meeting its requirements, e.g. using the new asset management indicators. We will decide in our RAGs in December 2013 whether we will provide more guidance on how an output adjustment should be calculated[226]. In particular, we will work with Network Rail to see if we can determine a methodology for calculating an adjustment for the non-delivery of performance outputs in CP5 (e.g. PPM) that can be included in the RAGs; and

[225] For the early stage GRIP schemes, our initial estimates in this document include contingency but when we assess these schemes through the early GRIP projects enhancement mechanism, we will not allow contingency.

[226] For example, on how Network Rail should adjust for circumstances similar to its failure to deliver PPM and CaSL targets in 2011-12 which resulted in a £172m (in 2011-12 prices) adjustment to our assessment of Network Rail's financial performance.

(e) before we allow Network Rail to retain the benefit of an efficient underspend, consistent with our approach for assessing financial performance, we are proposing to require Network Rail to[227]:

(i) have successfully implemented a package of improvements on asset management, e.g. capability, asset policies, asset register, data quality, condition reporting and unit cost information;

(ii) achieve a minimum confidence grade on its efficiency reporting, e.g. track volumes and unit costs;

(iii) justify its efficiencies by identifying the positive management actions that generated the efficiencies; and

(iv) explain how its expenditure is consistent with the delivery of its required outputs (including safety), is sustainable in the short, medium and long-term and is consistent with whole-life cost minimisation.

12.101 We would welcome comments on the above proposal.

12.102 This means that the main differences between our RAB roll forward policy in CP5 compared to CP4 will be:

(a) we will not adjust our renewals assumptions for movements in the IOPI index;

(b) overspend relating to additional volumes of work or unit costs for renewals in England & Wales and Scotland will be added to the RAB, unless the overspend is manifestly inefficient. This is instead of having a complicated efficiency test;

(c) there will be no enhancement deadband;

(d) before we allow Network Rail to retain the benefit of an efficient underspend, it will need to show that it has successfully implemented a package of improvements on asset management and improved its reporting systems and processes as described above; and

[227] We have started to discuss with Network Rail how this will work in practice, e.g. what the minimum confidence grade on its efficiency reporting should be and we will continue these discussions in the summer.

(e) as we are using the adjusted WACC approach to Network Rail's cost of capital there is no ring-fenced fund in CP5, there will be no adjustment for the element of renewals and enhancements that are funded by a ring-fenced fund.

RAB roll forward in CP5 – overall approach

12.103 We have decided to retain for CP5, the high level principles for valuing the RAB that we established in our ACR2003 and also used in PR08, as they provide a suitable basis for our RAB roll forward policy. We have decided to largely keep the overall approach to the RAB roll forward the same as in PR08 and our detailed approach will be set out in our updated RAGs for CP5, which will be published in December 2013. This is because we are keeping the current operating expenditure and capital expenditure incentive strengths for CP5.

12.104 As we do not think that general inflation risk is efficiently controllable by Network Rail, we have decided to adjust Network Rail's RAB by the actual movements in general inflation. Otherwise the real value of Network Rail's asset base (against which it raises finance) could be eroded, which could ultimately reduce the company's ability to access financial markets and finance the renewal and enhancement of the network. This approach means that Network Rail will neither gain nor lose from the effects of general inflation.

12.105 We will retain our PR08 approach and make yearly RAB adjustments for variances between our general inflation assumptions (i.e. RPI) and the actual outturns rather than unnecessarily waiting for the end of the control period. This approach has no effect on Network Rail's revenues.

Main features of our RAB roll forward policy in CP5

12.106 The main features of our RAB roll forward policy for CP5 are set out below. There are four exceptions to this policy for the civils adjustment mechanism, early GRIP projects enhancements mechanism, projects with specific protocols and spend to save schemes, which are set out below:

(a) as the determination in England & Wales is separate to the determination for Scotland, renewals and enhancements will be rolled forward separately for England & Wales and Scotland in accordance with our PR08 determination. We will also roll forward the indicative RABs for the operating routes in the same way;

(b) to provide an appropriate balance of incentives and protections for Network Rail by adding actual efficient capex to the RAB in CP5 (subject to the RAB roll forward policy). This means that Network Rail is incentivised to manage its spend on renewals and enhancements efficiently, so will bear some of the effects of underperformance and will retain some benefit from outperformance (see the discussion on operating expenditure and capital expenditure incentives in the May 2012 document for further details);

(c) to encourage Network Rail to improve efficiency throughout CP5, the incentives the company faces are equalised across the five years of the control period. For example, Network Rail faces the same incentive to outperform in the last year of CP4 as it does in the first year of CP5 and will bear the same cost of efficient overspend in year 5 of CP5 as in year 1 of CP5;

(d) in order to simplify the calculations of the financial effect of a five year retention in our PR13 determination we have set the incentive rate at 25%, which is approximately the same as five years allowed return at 4.31% (the PR13 cost of capital). This is also called the 25% pain/gain sharing mechanism, which provides an appropriate incentive on Network Rail to manage costs efficiently but does not expose it too much to risk. Also, in order to simplify the calculation we make the relevant RAB additions/deductions in the year when they occur;

(e) if an efficient overspend is added to the RAB, Network Rail will generally bear 25% of the overspend (including when an overspend is offset against an efficient underspend). However, if the overspend is not eligible for a RAB addition, Network Rail will bear the cost of 100% of the overspend;

(f) Network Rail will retain 25% of an efficient underspend (irrespective of whether the underspend is due to a variance in volumes or unit costs);

(g) Network Rail will not be penalised for, or benefit from, rescheduling its capex programme (deferring work or bringing work forward) within CP5 where outputs are met[228]. By not penalising or rewarding Network Rail we mean that we will not treat the expenditure variance as an efficiency or inefficiency (subject to Network

[228] This should help to smooth the investment cycle – providing greater certainly and predictability for the supply chain. Also, it avoids incentivising Network Rail to inappropriately defer work or bring work forward.

Rail showing that the required outputs in CP5 have been delivered and there is no adverse effect on the serviceability and sustainability of the network in the short, medium or long-term). This means that we will adjust the RAB for the financial effect of rescheduling activity, so that Network Rail does not retain/bear the financing benefit/cost of the rescheduling, i.e. if there is a deferral of work from year 1 to year 2, in our PR08 determination Network Rail will have received an allowed return on that work for year 1. In order to make the effect of rescheduling within CP5 neutral, we will deduct from the RAB the amount of financing that Network Rail received for that work for the period until the work is completed in year 2. For the avoidance of doubt, these adjustments are not subject to the 25% pain/gain sharing mechanism; and

(h) as part of our on-going regulation of Network Rail, we will ensure that if it fails to either deliver any required outputs in CP5 or maintain the serviceability and sustainability of the network in the short, medium or long-term, then it will not retain the associated financial benefit. We will do this by either making an appropriate deduction from the RAB or not funding the company for any deferred work that it will be doing in CP5 as appropriate. We will make this adjustment regardless of whether there is an underspend or overspend. We will also make an adjustment for capitalised financing on the logged down amount and Network Rail will not retain 25% of an underspend.

12.107 The other main features of our RAB roll forward policy in CP5 will be:

(a) to ensure that our RAB roll forward policy is complied with, the audit of the regulatory accounts will confirm that the boundary between renewals and enhancements, and between maintenance and renewals/enhancements is the same as we used in our PR13 determination and the capitalisation of overheads is on the same basis as in our PR13 determination;

(b) for CP5, we have largely used Network Rail's statutory accounting policies as the basis for defining what can be added to the RAB as renewals and enhancements. This was because it is a transparent approach and one that is easy to understand;

(c) all RAB adjustments for the non-delivery of outputs or failure to maintain the serviceability and sustainability of the network in the short, medium or long-term,

deferrals within CP5, underspend and efficient overspend, will be calculated with reference to our PR13 determination, as that is how we set Network Rail's allowed revenue, RAB and debt assumptions for CP5;

(d) as PR13 is an output based determination, Network Rail should not benefit from a failure to deliver its required outputs. Therefore, in PR08 the adjustments for the non-delivery of outputs were based on the amounts of money saved by not delivering the outputs or failing to maintain the serviceability and sustainability of the network in the short, medium or long-term. This would include any savings in support costs, operations costs, maintenance costs and income. For PR13, we are discussing with Network Rail whether a value based adjustment would be more appropriate and we would welcome comments on the issue;

(e) given the information asymmetry between Network Rail and us, it is for Network Rail to show that a reduction in work volumes is efficient and does not inappropriately affect the serviceability and sustainability of the network in the short, medium or long-term. Where Network Rail cannot show that a reduction in volumes is efficient, any cost savings related to the deviation from the current agreed asset policies will be deemed inefficient and the related cost savings will be deducted from the RAB without Network Rail retaining 25% of the benefit. As in PR08 the burden of proof will be on Network Rail to show that it has delivered its required outputs. We will conclude about whether we should provide guidance on how an adjustment should be calculated for a failure to deliver required outputs in our RAGs in December 2013;

(f) manifestly inefficient enhancement expenditure will not be added to the RAB. Therefore, Network Rail will have to provide an explanation to us as to why additional investment is justified. This will ensure overspend that is:

(i) outside of the scope of the HLOS requirements (if relevant);

(ii) not meeting a customer reasonable requirement;

(iii) not related to railway activity; or

(iv) not adding economic value to the railway,

would be disallowed and not added to the RAB. We would expect a key element of Network Rail's justification would be evidence that internal project management and investment authorisation controls had been properly applied;

(g) overspend relating to additional volumes of work for renewals in England & Wales & Scotland will be added to the RAB unless the overspend is manifestly inefficient;

(h) given that CP5 is a five year price control, the assessment of the RAB is a cumulative assessment for CP5, i.e. an overspend in year 1 would be offset by underspend in year 2. This means that it will only be possible to finalise the value of the RAB once CP5 is completed. All annual calculations of the RAB during CP5 in Network Rail's regulatory accounts will therefore be provisional;

(i) in order to ensure the price control is sufficiently flexible to cope with planning uncertainty, where the governments or other funders request Network Rail to deliver additional outputs during the control period, we will log-up the efficient cost (including capitalised financing costs) of delivering the outputs for inclusion in the RAB at the beginning of the next control period; and

(j) to avoid undue complexity, agreed deferrals of expenditure from CP4 to CP5 (e.g. for elements of the electrification programme) will be treated under the CP5 RAB roll forward policy, unless agreed otherwise.

12.108 The actual outturn figures for renewals and enhancements expenditure in 2013-14 will not be available until the publication of the 2013-14 regulatory accounts in July 2014. We therefore intend, where appropriate (e.g. in relation to emerging cost enhancements), to make an adjustment as part of the next access charges review, to the CP6 opening RAB at 1 April 2019. The adjustment (including where relevant the associated capitalised financing) will take account, where appropriate, of the difference between the final outturn figures for CP4 shown in the 2013-14 regulatory accounts and the forecast 2013-14 RAB movements included in our PR13 final determination.

Process for the RAB roll forward in CP5

12.109 In summary, the process for rolling forward the RAB in each year of CP5 will be to:

(a) adjust the CP5 opening RAB per our PR13 determination into the price base of the relevant year;

(b) add the renewals and enhancements RAB additions (after adjusting for the effect of the RAB roll forward policy as described below);

(c) adjust for non-delivery of outputs or a failure to maintain the serviceability and sustainability of the network in the short, medium or long-term; and

(d) deduct our PR13 amortisation assumption.

12.110 The process set out above is the same as in CP4, except where we have changed our approach as discussed above, e.g. we are not adjusting for input price movements in CP5.

Civils adjustment mechanism

12.111 As explained in the asset management: maintenance and renewals expenditure chapter (chapter 8), Network Rail believes a significant backlog of work has developed in civils, but Network Rail's SBP did not fully demonstrate this, which prevented us from concluding on civils expenditure in our determination. Because of this we are having to take the unusual step of implementing a civils adjustment mechanism to the RAB in CP5 as follows:

(a) in years 1 and 2 of the control period, Network Rail will be expected to deliver the volumes of civils work that it proposed in its PR13 SBP. Any under or over spend on unit costs will be subject to the normal RAB roll forward policy described above. If Network Rail under-delivers on volumes it will have to catch up, so Network Rail will not benefit from an under-delivery including the capitalised financing effect. Over-delivery of volumes will be subject to the normal RAB roll forward policy; and

(b) the actual volumes and unit costs to be applied in years 3, 4 and 5 of the control period are not yet known. Our view on the level of efficient civils expenditure in these years will therefore depend on the outcome of our assessment of the plan of work that we have requested Network Rail to submit to us as soon as possible and which we will publish. These volumes and unit costs could be under or over those assumed in our determination. Any under or over spend compared to our revised determination values for unit costs reasons will be subject to the normal RAB roll forward policy as described above. If Network Rail under-delivers on volumes it will have to catch up, so Network Rail will not benefit from an under-

delivery including the capitalised financing effect. Over-delivery of volumes will be subject to the normal RAB roll forward policy.

12.112 Any adjustments to Network Rail's RAB and revenue requirement that are needed following our adjustments to the civils assumptions, will be logged up to Network Rail's RAB/the opex memorandum account for CP6 as appropriate.

Enhancements mechanism for early GRIP projects

12.113 The RAB roll forward policy for early GRIP projects will operate normally and for the avoidance of doubt an incentive payment that Network Rail makes to a TOC to help in delivering an efficient project can be included in the efficient cost of the project. However, as discussed in the enhancements expenditure chapter (chapter 9), the PR13 determination for enhancement costs will be adjusted at the end of 2014-15 following our review of the costs of the early GRIP projects. Any adjustments to Network Rail's RAB and revenue requirement that are needed following this review will be logged up to Network Rail's RAB/the opex memorandum account for CP6 as appropriate.

Projects with specific protocols

12.114 The following projects have either an established separate protocol or are subject to a target price arrangement that identifies a target price and a pain/gain share mechanism which will apply if outturn costs vary from the target price. The RAB would then be adjusted at the start of CP6 to reflect these arrangements. This approach should ensure that Network Rail is strongly incentivised to manage the financial risk of the project but is not exposed to open ended financial risk. We are discussing with the Welsh Government and DfT the specific arrangements for the Welsh Valleys project.

Thameslink

12.115 In CP5 Network Rail will complete the final stage of the Thameslink programme giving a further improved train service of up to 24 trains per hour between St Pancras and Blackfriars stations, at a total cost of about £1.6bn. This phase also provides the required infrastructure to allow operation through London Bridge, including a radical improvement of passenger facilities at this station. There is a protocol in place between Network Rail and DfT under which a target price has been agreed and Network Rail's obligations are defined.

Crossrail

12.116 The Crossrail project involves work outside of the central tunnel section with a total cost of about £1.5bn. These works will facilitate new train services from Maidenhead and Heathrow in the west to Shenfield and Abbey Wood in the east, which will increase London's rail based transport capacity and upgrade some 28 existing stations with longer platforms. A protocol is in place between Network Rail, Crossrail Limited and the Department for Transport that details Network Rail's obligations. Under the terms of this protocol a target price and incentive mechanism has been agreed.

Edinburgh to Glasgow Improvement Programme (EGIP)

12.117 The Edinburgh to Glasgow Improvement Programme (EGIP) programme will deliver more frequent and faster rail services between Scotland's two principal cities at a total cost in CP5 of around £500m. Network Rail and Transport Scotland are finalising commercial arrangements which will incorporate a pain/gain mechanism. Network Rail's obligations will be established in the enhancements delivery plan, which we will hold them to account for.

Borders

12.118 The Borders project comprises a new railway line linking the Midlothian and Scottish Borders areas to central Edinburgh and the existing national network at a total cost in CP5 of about £130m. Like EGIP, Network Rail and Transport Scotland are finalising commercial arrangements which will incorporate a pain/gain mechanism.

Spend to save

12.119 As explained in the spend to save section below, we are proposing to apply our normal RAB roll forward process to deal with spend to save schemes[229] in CP5 but amend it as described below, e.g. use different incentive strengths. We have therefore included in our determination an estimate of the total expenditure on information management schemes and income generating schemes in CP5 (including an estimate of income generating schemes that have not been approved yet) and the associated benefits.

[229] For the avoidance of doubt, when we say spend to save schemes we are including income generating schemes.

12.120 We are proposing to change the incentives on spend to save schemes so that the incentive is 25% in year 1 of the control period, 20% in year 2 of the control period, 15% in year 3 of the control period, 10% in year 4 of the control period and 5% in year 5 of the control period. This means that, for example, if Network Rail overspends/underspends in year 1 by £100, they will bear/retain £25 of the cost of that overspend/underspend but if it overspends/underspends in year 5, it will bear/retain 5% of the overspend/underspend. This compares to our normal RAB roll forward approach where, in simple terms, Network Rail retain 25% of an underspend and bear 25% of an overspend in each year of the control period.

12.121 The schemes that we are proposing this policy should apply to are:

(a) information management schemes that improve the business, i.e. this does not include schemes that just replace/update an existing capability; and

(b) income generating schemes.

Non-capex additions to the RAB and the opex memorandum account

12.122 We decided in PR08 that only capital expenditure will be added to the RAB. Incentive payments, which we have historically added to the RAB at the start of the next control period, are now remunerated via an operating expenditure (opex) style memorandum account. This works by 'logging up' the payment to the account during the control period and then releasing any monies from this account over an appropriate period of time, which is generally across the next control period.

12.123 In our December 2012 decisions document, we explained that we had decided to retain the use of the opex memorandum account for CP5. This is because it:

(a) avoids distorting the RAB;

(b) is more transparent;

(c) formalises the way these issues are resolved, which reduces regulatory risk; and

(d) allows us to smooth the effect, of the release of monies in this account to Network Rail, on Network Rail's income and charges.

Reactive maintenance

12.124 In our August 2012 consultation, we explained that we were considering whether Network Rail's reactive maintenance costs should be remunerated in the year the cost is incurred, (i.e. for the purpose of calculating the revenue requirement, treat

them in the same way as operating and other maintenance costs). This would improve transparency, as Network Rail currently accounts for reactive maintenance costs, as operating costs in its statutory accounts, and as capital expenditure (renewals) in its regulatory accounts (to be consistent with our PR08 determination), which means that at the moment Network Rail needs to provide a reconciliation of maintenance and renewals costs between its statutory accounts and its regulatory accounts.

12.125 Everything else being equal, the increase in maintenance costs (and hence the revenue requirement) would largely be offset by a reduction in amortisation (and hence the revenue requirement), as we would expect the average long-run steady state renewals to be lower by an equivalent amount[230]. This means that a change in this policy should not have a material impact on the revenue requirement.

12.126 Most respondents to our August 2012 consultation on financial issues thought that we should remunerate reactive maintenance costs in the year the cost is incurred largely because they thought that treatment was more transparent. Although, Network Rail did not want to remunerate reactive maintenance costs in the year the cost is incurred because:

(a) there could be an increase in preventative maintenance in CP5;

(b) there will still be differences between the regulatory and financial accounts; and

(c) the current regulatory treatment reflects how it manages civils expenditure.

12.127 However, in its SBP Network Rail assumed that its operational property inspections (CEFA) contract costs would all be remunerated in the year incurred (c£250m over five years). These costs are part of reactive maintenance costs. Since receiving the SBP, we have further discussed this issue with Network Rail and it thinks that it can identify reactive maintenance costs.

12.128 Given these factors, in order to improve transparency, we are proposing that Network Rail's reactive maintenance costs should be remunerated in the year the cost is incurred, i.e. they should be treated as maintenance costs.

[230] Although there could be an effect, as our calculation of efficiency for maintenance in CP5 is based on the five years of that control period, whereas the calculation of efficiency for average long-run steady state renewals in CP5, is over thirty-five years.

Funding of enhancements

12.129 In our August 2012 consultation, we consulted further on our approach to amortisation, and in particular whether enhancements should be amortised immediately after they come into use. We raised this issue because amortisation based on average long-run steady state renewals does not fund the original construction cost of an enhancement, just the renewals needed to maintain the asset in a suitable condition[231].

12.130 This is appropriate for an enhancement that adds long-term economic value to the network, e.g. some rail bridges are over 100 years old and are still in regular use. If there are enhancements proposed in the HLOSs, where the economic contribution that an enhancement provides to the network in the long-term is lower than its cost, we need to consider how they should be funded.

12.131 In our August 2012 consultation, we set out two options for funding HLOS enhancement expenditure where the economic contribution that an enhancement provides to the network in the long-term is lower than its cost[232].

12.132 The two options were:

(a) through amortisation. As our amortisation policy takes into consideration long-term financial sustainability issues, i.e. if we thought that the increase in debt as a result of these enhancements would not be sustainable, we could increase amortisation to reduce Network Rail's debt; or

(b) pay-as-you-go. Another option would be to fund these enhancements on a pay-as-you-go basis, i.e. they are remunerated like maintenance, or to amortise them over a fixed period of time reflecting their useful economic life.

12.133 Both of these options can resolve the funding issue and it is more transparent to fund these enhancements, on a pay-as-you-go basis, or amortise them over a fixed period of time, reflecting their useful economic life instead of increasing amortisation for financial sustainability reasons.

[231] The operating, maintenance and financing costs of the asset would be funded in future periodic reviews.

[232] When the wider social benefit that the enhancement provides is included, the total contribution provided by the enhancement should be greater than its cost.

12.134 At a high-level we think that enhancements that can be added to Network Rail's RAB should be projects that are broadly consistent with our investment framework criteria for a RAB addition[233]. However, we recognise that the investment framework is not designed for HLOS funded schemes therefore some of the criteria are not relevant, e.g. the reference to other funders.

12.135 For our final determination, as part of our review of financial sustainability, we will consider whether, if there is an overall surplus above the level of funding contained in the SoFAs, we could treat some enhancements that do not provide a commercial return as pay-as-you-go projects, i.e. not add them to the RAB. This would improve financial sustainability and could be a more appropriate way of funding enhancements. We will take this decision in consultation with Network Rail and the governments, having regard to our statutory duties.

Investment framework/spend to save

12.136 In CP4, the investment framework allows Network Rail in certain situations to spend money on capital schemes that were not funded as part of PR08. This is the 'internal/Network Rail' part of the investment framework not the 'external' part that deals with third party investments[234]. This policy aimed to help to address the issue of the relatively poor incentive on Network Rail to make savings towards the end of a control period.

12.137 However, in practice this is a confusing policy as it means that when we assess Network Rail's proposed expenditure, we would exclude some elements of Network Rail's potential revenue generating schemes (e.g. refurbishment of arches) and cost saving schemes. It would also duplicate some elements of our RAB roll forward policy and would be inconsistent with other parts of our approach, i.e. some types of information management spend are very uncertain and its nature is similar to the spend that goes through the investment framework but we make an assumption for information management spend as part of our determination.

12.138 The two main options for improving our policy are:

[233] The criteria are included in our investment framework consolidated policy and guidelines document, which is available at: http://www.rail-reg.gov.uk/server/show/ConWebDoc.10081.

[234] The internal part of the investment framework deals with schemes promoted by Network Rail that either generate additional income or reduce costs. The external part of the investment framework deals with schemes promoted by third parties, franchised operators and the governments (non-HLOS).

(a) refine the 'internal/Network Rail' part of the investment framework to improve incentives; or

(b) remove the 'internal/Network Rail' investment framework and apply our normal RAB roll forward process to deal with this issue but amend the RAB roll forward process as described below, e.g. use different incentive strengths.

12.139 The current approach to internal investment framework schemes has the effect of not incentivising Network Rail to invest in schemes that could reduce the cost of the network. This is because when we calculate the amount to be added to the RAB in the control period that the investment is made in, all the savings in that control period, are netted off the capital expenditure. We also include the savings that the investment has generated in future control periods, in our efficiency assumptions for those control periods.

12.140 The current approach also does not provide an incentive to make investments later in the control period, e.g. if Network Rail invest £100 more on income generating schemes in year 5 of the control period compared to our determination then using our normal RAB roll forward rules it would bear, i.e. not receive funding for, £25 of the cost. Therefore, in order for Network Rail to be financially incentivised to go ahead with the scheme, the scheme would need to generate savings of more than £25 in one year, which may not be likely.

12.141 In order to improve transparency and provide clearer incentives on Network Rail without overly complicating the financial framework, we are proposing to remove the 'internal/Network Rail' investment framework and apply our normal RAB roll forward process to deal with spend to save schemes but amend the RAB roll forward process as described below, e.g. use different incentive strengths. The amendment we are proposing to make is to change the amount of financial benefit Network Rail will retain/bear if it underspends or overspends. We would welcome comments on this issue.

12.142 We are proposing to change the incentives on spend to save[235] schemes so that the incentive is 25% in year 1 of the control period, 20% in year 2 of the control period, 15% in year 3 of the control period, 10% in year 4 of the control period and 5% in

[235] For the avoidance of doubt, when we say spend to save schemes we are including income generating schemes.

year 5 of the control period. This means that, for example, if Network Rail overspends/underspends in year 1 by £100, they will bear/retain £25 of the cost of that overspend/underspend but if it overspends/underspends in year 5, it will bear/retain 5% of the overspend/underspend. This compares to our normal RAB roll forward approach where, in simple terms, Network Rail retain 25% of an underspend and bear 25% of an overspend in each year of the control period.

12.143 Adopting this approach should improve the incentives on Network Rail to invest in spend to save schemes and should also have the effect of encouraging Network Rail to invest in spend to save schemes early in CP5 as they will have longer to benefit from that investment. It will also reduce the disincentive to make investments later in the control period as the amount of money added to the RAB will be higher than using the current approach or the normal RAB roll forward rules.

12.144 For the avoidance of doubt, we will add the efficient capital expenditure to the RAB in CP5, we will not deduct incremental efficiency savings achieved during CP5 from the value of the expenditure that will be added to the RAB and we would still add capitalised financing. Also, at the moment we carry out an ex-post review of 'internal/Network Rail' investment framework schemes and we will carry out a similar review of spend to save schemes to ensure that they should be added to the RAB.

12.145 The schemes that we are proposing this policy on spend to save should apply to are:

(a) information management schemes that improve the business, i.e. this does not include schemes that just replace/update an existing capability; and

(b) income generating schemes.

12.146 As we are proposing to adopt this approach, we have included in our determination an estimate of the total expenditure on information management schemes and income generating schemes in CP5 (including an estimate of income generating schemes that were not identified at time of the SBP) and the associated benefits.

12.147 We will discuss the issues with this proposed policy on spend to save projects further with Network Rail in the summer, in particular we will consider the effect of the proposed approach on Network Rail's incentives, the calibration of the incentives and what types of expenditure should be included in the mechanism and how we keep the mechanism as simple as possible.

Other financial issues

Incentive strengths

12.148 By incentive strengths, we mean how much Network Rail money gains/loses if it outperforms/underperforms our determination. For example, if at any time Network Rail efficiently underspends on maintenance by a pound it keeps a pound and if it overspends by a pound it pays out one pound more than it received (i.e. a 100% incentive strength). In other words, if we assumed in our determination that Network Rail would spend £300 on maintenance and it efficiently spends £200 then it keeps £100. The incentive strengths for capital expenditure are largely 25%, i.e. if Network Rail efficiently underspends by £100, it keeps £25.

12.149 In our May 2012 document, we decided to retain the PR08 incentive strengths for PR13. This will avoid unnecessary changes to our regulatory approach and should help make the incentives easier to understand.

Network grant

12.150 While we recognise the case for public subsidy of the railway, we would like to see much more of Network Rail's funding coming from train operators paying access charges and from other customers, with greater clarity over what public money is buying. This is in line with our preference for transparency and cost-reflective charges, which will in turn send signals for the efficient usage and provision of the network. It would also help avoid blurring the roles and responsibilities of Network Rail and the governments. The provision of network grants by the governments, and the lack of clarity over exactly what the governments are buying, can undermine Network Rail's accountability to its customers, which is not consistent with the more commercial relationships we would like to see drive behaviour in the industry. However, we see these changes happening over time.

12.151 We recognise that, at the moment, if we did not allow network grants to be paid 'in lieu of' fixed track access charges, the funds available to the Secretary of State and Scottish Ministers could be affected due to the governments' reporting rules and the processes the governments use to record expenditure.

12.152 In determining our PR13 policies, we are required to take into account all of our statutory duties. In relation to this issue we consider that two of our duties are particularly relevant: our duty to have regard to the funds available to the Secretary of

State and our duty that requires us, in summary, when having regard to guidance from the Scottish Ministers, to have regard to the expenditure that is to be incurred by them.

12.153 Taking these duties into account, we have decided to allow part of Network Rail's income to be provided directly from the governments through network grants, which will be set ex-ante for each year of CP5.

12.154 In the network grant chapter (chapter 17) we set out the options for calculating the level of network grant payments in CP5.

Use of financial outperformance

12.155 Financial outperformance can happen when Network Rail spends less in CP5 than we assumed in our determination as the efficient cost of delivering its required outputs and maintaining the sustainably and serviceability of the network in the short, medium and long-term.

12.156 Our determination will be challenging but achievable. This means that Network Rail is incentivised to financially outperform our determination. Therefore, there needs to be a policy in place to decide how any financial outperformance is used.

12.157 Our current policy for deciding how financial outperformance is used is set out in a policy statement that we issued in 2006[236].

12.158 In line with this policy, if Network Rail has financially outperformed in CP4, it can choose, after first consulting with stakeholders, how to use that financial outperformance. The main options are that the financial outperformance can be used to:

(a) pay down debt;

(b) fund investments that reduce the future cost or improve the outputs of the railway; or

(c) pay a rebate to DfT and Transport Scotland.

12.159 We closely monitor Network Rail's performance and report on it in our annual assessment of its efficiency and financial performance but the process for deciding

[236] *Monitoring and treatment of Network Rail's underspend and efficiency: policy statement*, ORR, January 2006, available at http://www.rail-reg.gov.uk/upload/pdf/273.pdf.

whether Network Rail is financially outperforming for the purpose of deciding how to use financial outperformance is not as clear as it could be. One particular issue is how the uncertainty of an assessment of financial performance in the early years of a five year control period is reflected in a decision about using financial outperformance.

12.160 We think this process can be improved and in particular Network Rail should base its decisions on using outperformance on our assessment of its financial outperformance as that is more consistent with the view we will take on Network Rail's financial position in the next access charges review.

12.161 In relation to the decision on how financial outperformance is used, we think the two main options are that we could:

(a) require that outperformance can only be used to pay down debt or fund R&D projects[237]; or

(b) allow Network Rail to decide how to use any financial outperformance, after having consulted with the governments and us about the best use of any financial outperformance. This would be a continuation of the approach used in CP4.

12.162 Given the importance that we place on Network Rail's financial sustainability, we think that any financial outperformance should be used to pay down debt or fund R&D projects up to a maximum value that will be decided in our final determination (option (a) above). In particular, given our views on network grant and that the grant payments should be fixed ex-ante as part of our determination, we do not think that financial outperformance should be used to make rebate payments to the governments in CP5 unless we are satisfied that there are exceptional circumstances. Network Rail has said that it will publish an update of its policy on the use of outperformance by the end of March 2014.

12.163 We intend to amend condition 4 of Network Rail's licence condition so that it more clearly reflects this policy and we will consult on these proposed changes to Network Rails' network licence in our consultation on changes to access contracts and the network licence to implement PR13, which we will publish on 12 July 2013.

[237] The maximum value of R&D projects that can be funded in this way will be decided in our final determination as discussed in the financial incentives chapter (chapter 19).

Grant dilution

12.164 Current track access contracts include a grant dilution provision that provides for increases in track access charges if the governments do not pay network grants according to the agreed schedule of payments.

12.165 In order to ensure that Network Rail recovers its required revenue and can finance its activities in the unlikely situation that the governments did not meet their funding obligations, we decided in December 2012 to retain the grant dilution provision in track access contracts for CP5.

Tax

12.166 Corporation tax is a normal business cost and as such is one of the building blocks of the revenue requirement. Our decision on the treatment of Network Rail's corporation tax costs is unlikely to have significant financial implications for Network Rail in CP5, as a result of its brought forward corporation tax losses and the effect of the adjusted WACC approach.

12.167 As Network Rail is unlikely to make significant corporation tax payments in CP5, the incentive effect on Network Rail of our corporation tax policy in CP5 could be significantly diluted as the effects of our incentives on corporation tax are largely realised in later control periods. However, it is still important that we clearly set out our approach to corporation tax in CP5, as income and expenditure decisions in CP5, will affect corporation tax payments in future control periods and could affect efficiency reporting in CP5.

The 'corporation tax double count'

12.168 In PR08, we determined that Network Rail had been overfunded for corporation tax in CP3 and decided that we would adjust for this overfunding[238]. This adjustment is called the corporation tax double-count. The adjustment is made by holding the amount of the double-count (£1.3bn) on account[239] and in CP4, we reduced it every year by the amount of corporation tax that we estimated would be payable by Network Rail. Under this approach, we would do this until the balance on the account reaches

[238] Network Rail's debt is lower as a result of this overfunding.

[239] This is a regulatory balance that we use to adjust Network Rail's revenue requirement for this overfunding.

zero. Once the balance reaches zero, we will fund Network Rail's efficient corporation tax payments through the regulatory corporation tax allowance.

12.169 As part of PR13 we have reviewed our approach to the corporation tax double-count. As a result of this review, we have decided to change our approach so that the value of the double count is deducted from Network Rail's opening RAB at the start of CP5. We think that this is more appropriate because it is more transparent than the PR08 approach.

Corporation tax incentive strengths

12.170 In PR08, when we determined our overall approach to the financial incentives on Network Rail, we determined the overall incentive strengths on income and expenditure on a net of tax basis, i.e. if the company outperforms by, say, £100 then the company will retain an overall net benefit of £78 (this assumes a corporation tax rate of 22%)[240]. In our May 2012 document, we decided to retain the incentive strengths on income and expenditure.

12.171 The way the incentive strengths are given effect is through our decisions on the roll forward of corporation tax balances from CP4 into CP5 and from CP5 into CP6. In PR08, we said that our approach to rolling forward corporation tax balances was that:

(a) we will not adjust the roll forward of corporation tax balances from CP4 into CP5 for variances in income, support costs, operations costs, BTP costs, RSSB costs, maintenance costs, financing costs and corporation tax[241];

(b) we will take account of the changes in future income, costs and hence potentially capital allowances as a result of our policies on rolling forward the RAB, when

[240] A more detailed example of this issue is, if the company outperforms by, say, £100 and an ex-ante approach has been adopted to the opening corporation tax CP5 balances, then the corporation tax the company will pay on the outperformance will not be reimbursed by us so the net benefit is £78 (this assumes a corporation tax rate of 22%). If the company underperforms by £100 and an ex-ante approach has been adopted then the reduction in corporation tax, as a result of the underperformance, will not be captured by us so the net cost is say £78. Using an ex-ante approach therefore reduces the net incentive to outperform as the financial consequences of outperforming (e.g. costs being lower than expected) are reduced. If we adjusted the corporation tax opening balances at the next control period for actual income and expenditure, then in the above example the taxation effects of the outperformance or underperformance would be adjusted for, so the company would retain £100 of the outperformance and bear £100 of the underperformance. Therefore, the incentive is increased but the financial consequences of underperforming (e.g. costs being higher than expected) are also increased.

[241] This means changes in corporation tax excluding the underlying differences in income, expenditure and financing costs, e.g. if a capital allowance rate changed.

rolling forward the corporation tax balances for variances in these elements of renewals and enhancements expenditure;

(c) we will take account of the changes in future revenue as a result of our policies on traction electricity and the licence fee and safety levy, when rolling forward the corporation tax balances for variances in those costs, to ensure that Network Rail is appropriately compensated for changes in these costs on a net of tax basis;

(d) where appropriate, we will adjust the roll forward of corporation tax balances in CP5 for any additional allowances that Network Rail has gained during CP4[242]; and

(e) we will consider whether changes in the treatment of some of its costs during CP4 should affect the CP5 opening corporation tax balances.

12.172 In our December 2012 financial framework decisions document, we said that we were discussing with Network Rail whether we should retain the above approach or whether we should amend the PR08 approach to take more account of Network Rail's actual corporation tax position in CP4, as that may be a simpler and more transparent way of rolling forward Network Rail's corporation tax position from CP4 into CP5, without unduly affecting customers and funders and without having an effect on Network Rail's incentives.

12.173 This is because the corporation tax issues in CP4 relate to events that have largely already happened and as explained above the incentive effect of our decisions is diluted anyway, as Network Rail is unlikely to make significant corporation tax payments in CP4 or CP5. This would also be consistent with the views of respondents to our August 2012 financial framework issues consultation who generally wanted us to take as simple an approach to the treatment of corporation tax as possible.

12.174 For our PR13 determination, we have decided to take our view of Network Rail's latest forecast of CP5 opening tax balances based on our view of Network Rail's forecast efficient position at 31 March 2014 (i.e. the end of CP4), rather than use the

[242] In PR08, some aspects of the calculation of Network Rail's corporation tax payments where Network Rail could possibly claim enhanced allowances (e.g. for research and development expenditure or expenditure on energy saving or environmentally beneficial equipment) were uncertain and in PR08 Network Rail did not provide an estimate of the impact of these issues. Given this uncertainty, we assumed that Network Rail would not receive any benefit from these schemes.

PR08 approach. Network Rail agrees with this approach. Although this is a change in policy that effects Network Rail's position in CP4, we think that this is the most simple and pragmatic approach, given the relatively low levels of corporation tax paid by Network Rail and given Network Rail's current low levels of corporation tax, we think that the impact on its incentives will be minimal.

Value added tax

12.175 We have reviewed how value added tax issues could affect Network Rail in CP5. This was informed by a study by our consultants, Alvarez & Marsal. The potential claims in relation to outstanding historic issues are uncertain and Network Rail has not forecast in its SBP that they will receive any benefit from these potential claims. Network Rail's assumption is conservative. Given the uncertainty of these claims, we will assume that Network Rail does not receive any benefit from these potential VAT issues in CP5. We are also proposing to adjust CP6 for any benefit that Network Rail receives in CP5 from these VAT issues and we are proposing not to include any of these VAT gains in financial performance in CP6.

Financial ring-fence

12.176 The financial ring-fence protects customers and funders from the company being exposed to financial risks, e.g. it limits Network Rail from taking part in activities that are not part of its core business as the operator of the majority of Great Britain's rail infrastructure.

Network Rail's activities

12.177 As part of PR08, we reviewed some aspects of the financial ring-fence but deferred a review of other financial ring-fence issues. The work we deferred included a review of the activities that Network Rail is permitted to carry out under the provisions of its network licence. We did consult on this issue in March 2010[243] but deferred taking a decision as the structure of the industry was being reviewed, which could have impacted on our decisions.

12.178 Although there is still some uncertainty about the future structure of the industry there is more clarity in some areas and we have started to discuss with Network Rail, DfT and Transport Scotland and other stakeholders their views of the activities that

[243] Our consultation is available at: http://www.rail-reg.gov.uk/upload/pdf/ring-fence-consultation-310310.pdf.

Network Rail should be permitted to carry out under the provisions of its network licence. Network Rail has said that there should be more flexibility to expand the scope of its operations where that improves value for money.

12.179 However, these discussions with stakeholders have not reached a stage where it is appropriate to further review the activities that Network Rail is permitted to carry out under the provisions of its network licence as part of PR13, especially as the current de-minimis provisions in Network Rail's network licence already provide a reasonable approach to these issues. If following the conclusion of these discussions, we think it is appropriate to propose a review of the activities that Network Rail is permitted to carry out under the provisions of its network licence, we will do so after PR13.

Other issues

12.180 In our consultation on the changes to contractual and licensing provisions to implement PR13 that we will publish on 12 July 2013, we will identify any areas where the financial ring-fence needs to be updated. In particular, we will consider whether changes to other regulators' financial ring-fences are relevant, as we want to keep the financial ring-fence up to date with regulatory best practice.

12.181 Also, in that consultation we will identify any areas of the financial ring-fence where the drafting of the financial ring-fence can be improved or simplified. One area that could be made clearer is the restriction on Network Rail making a rebate, so we will propose including a specific section in Network Rail's network licence that restricts it from making a rebate to DfT or Transport Scotland without our consent.

Outperformance

12.182 In our August 2012 consultation we explained that we had considered whether our approach to incentive strengths for Network Rail's operating expenditure and capital expenditure needed refining to encourage Network Rail to materially outperform our determination and to avoid materially failing to deliver our determination. We also considered whether efficiency initiatives that are genuine 'game changers' should be more heavily incentivised than normal efficiency savings as they are important in identifying ways to meet Network Rail's long-term efficiency challenge.

12.183 Given it is difficult to distinguish between 'game-changers' and normal efficiency initiatives and it is also difficult to identify which efficiency initiative takes Network Rail beyond the target level and into the outperformance area, and that we are trying to

keep the calculation of efficiency as simple as possible, we have decided that it is not appropriate to more heavily incentivise ‘game-changers’ than normal efficiency savings in CP5. However, we do consider that this is an important issue for CP6, so we will start work developing our ideas in this area in 2014-15 and consult on the issues as part of PR18.

13. Impact of financial framework on financial parameters

Key messages in this chapter

- This chapter sets out the impact of our financial framework on the financial parameters in our determination.
- Our consultants have assessed Network Rail's cost of capital and financing costs by considering market data and regulatory precedent.
- Although we are using the adjusted WACC approach to set Network Rail's revenue requirement it is still important to identify Network Rail's WACC, which we have determined as 4.31% for Great Britain, England & Wales and Scotland.
- Our assumption for Network Rail's embedded debt costs is 3.74% nominal and 1.40% index-linked for Great Britain, England & Wales and Scotland.
- Our assumption for Network Rail's new debt costs is 2.93% nominal and 1.24% index-linked for Great Britain, England & Wales and Scotland.
- Our FIM fee assumption is 1.10% for Great Britain, England & Wales and Scotland.
- Our amortisation assumption is £12.2bn for Great Britain, £10.8bn for England & Wales and £1.3bn for Scotland.

Introduction

13.1 The financial framework chapter (chapter 12) sets out our determination of the financial framework for Network Rail in CP5. This chapter sets out the impact of those financial framework decisions on the financial assumptions within our determination.

13.2 In this chapter we provide our assumptions on Network Rail's cost of capital, financing costs, corporation tax, opening CP5 debt, opening CP5 RAB, amortisation, and other key financial information. These assumptions are used to calculate Network Rail's CP5 revenue requirement. Also, our PR13 financial model has been audited and we summarise in this chapter the auditor's views.

Cost of capital

13.3 As we mention above, Network Rail is a CLG and raises debt like a normal company but the debt is government guaranteed. However, it is still important to identify

Network Rail's notional cost of capital to encourage Network Rail to invest efficiently, achieve the appropriate balance between maintenance and renewals, and ensure a level playing field (between Network Rail and potential competitors) for the delivery of enhancements.

13.4 Therefore, our cost of capital[244] assumption is based on a hypothetical scenario in which Network Rail does not have access to the FIM and is also financed by equity as well as debt. This cost of capital is distinct from our forecast of efficient financing costs in CP5, which drives the allowed return in the adjusted WACC approach used to calculate Network Rail's revenue requirement in CP5.

13.5 In particular, Network Rail will use this cost of capital as the basis for its decisions on investment framework schemes. Therefore, our assumptions on the cost of capital affect our income assumptions for investment framework projects as explained in the chapter on other single till income (chapter 18). Given the importance of Network Rail's cost of capital and in order to be transparent, in annex F we have provided details of the revenue requirement on the basis that the allowed return is based on Network Rail's cost of capital and the adjusted WACC approach is not used.

13.6 Our consultants, a consortium led by CEPA in association with Lion's Head Global Partners and Indepen (hereafter referred to as "CEPA"), have been advising us on the appropriate cost of capital for Network Rail[245]. Table 13.1 provides a comparison of CEPA's cost of capital estimates with those provided by Network Rail and Oxera (Network Rail's consultant).

Table 13.1 Comparison of cost of capital assumptions against Network Rail's SBP and our PR08 assumption

	ORR	Oxera (NR SBP)	CEPA Estimate – narrow range[1,2]	
	PR08	January 2013	Low	High
Gearing	60.0%	61.25%	62.5%	62.5%
Risk-free rate	1.80%	1.75%	1.50%	1.75%

[244]The cost of capital is the return required by debt and equity investors on their investment in a company. It therefore reflects the costs of financing the risks that the company faces.

[245] CEPA's report is called "Advice on estimating Network Rail's cost of capital" and is available at: http://www.rail-reg.gov.uk/pr13/publications/consultants-reports.php.

	ORR	Oxera (NR SBP)	CEPA Estimate – narrow range[1,2]	
	PR08	January 2013	Low	High
Equity risk premium	5.00%	5.13%	5.00%	5.00%
Equity beta	1.00	0.98	0.90	1.00
Post-tax cost of equity	6.80%	6.75%	6.00%	6.75%
Pre-tax cost of debt	3.38%	3.30%	2.50%	3.00%
Vanilla WACC	**4.75%**	**4.65%**	**3.80%**	**4.40%**
Pre-tax WACC (t=20.2%)[3]	5.43%	5.40%	4.40%	5.05%

Source: CEPA analysis, Oxera, First Economics and ORR

Notes:

1. For calculating the WACC, CEPA used the mid-point gearing of 62.5%.
2. Figures rounded to the nearest 0.05%.The corporation tax rate of 20.2% is an average across CP5 of 21% for 2014-15 then 20% thereafter.
3. ORR's PR08 assumption has been restated using the 20.2% corporation rate to be more comparable.

13.7 In summary, CEPA's range for Network Rail's cost of capital is 3.80% to 4.40% (real vanilla[246]). This compares to a range of 4.3% to 4.9% that Network Rail's consultants Oxera used to inform Network Rail's SBP (Network Rail assumed its cost of capital was 4.75% in its SBP).

13.8 We have considered the views of CEPA and Oxera, and we have taken into account the decisions of other regulators, e.g. Ofgem and CAA[247]. Given the changes in the financial markets and in particular the cost of debt, we think it is appropriate to propose a cost of capital of 4.31% (real vanilla) for Network Rail in CP5. On a pre-tax basis this is 4.91%.

13.9 We would welcome comments on Network Rail's cost of capital for CP5 and in particular the pre-tax cost of capital that will be used for investment framework schemes.

[246] A 'vanilla' return is based on a pre-tax cost of debt and a post-tax cost of equity.

[247] These are the regulators who have published recent analysis on cost of capital.

Financing costs

13.10 In determining our financing cost assumptions, we take into consideration the type of financing strategy that an efficiently financed regulated utility could be expected to have in place based on historic, present and expected market conditions.

13.11 We commissioned CEPA to conduct an independent review of Network Rail's financing cost assumptions, which we have taken into account in deciding on our financing cost assumptions. Table 13.2 below summarises Network Rail and CEPA's views of Network Rail's financing costs.

Table 13.2 Summary of financing costs assumptions (Network Rail's SBP and CEPA)[248]

Type of debt	NR SBP	CEPA	Comment
Nominal debt (embedded)	3.75%	3.74%	The difference is due to rounding.
Index linked debt (embedded)	1.40%	1.40%	No difference.
Nominal debt (new)	4.63%	2.43%[249]	The difference is due to different assumptions on interest rate and credit spreads and in particular CEPA has not assumed that Network Rail needs as much of a risk buffer as Network Rail assumed.
Index-linked debt (new)	1.40%	1.15%	CEPA has taken account of current market pricing.

Embedded debt

13.12 CEPA has worked with Network Rail to model the interest payments on Network Rail's existing debt at the time of our draft determination, in order to verify how much those payments will be and whether they were efficiently incurred. In addition to modelling the interest costs, we along with CEPA have considered Network Rail's treasury policy, for example, the timing of Network Rail's pre-CP4 hedging programme and the mix of debt such as nominal against index linked and the tenor of the bonds.

13.13 CEPA's view is that Network Rail's existing debt[250] was efficiently raised at an efficient rate. Therefore, the subsequent financing costs on that debt have also been efficiently

[248] The rates in this table are annual rates. In our financial modelling we use semi-annual rates as discussed in the financial framework chapter (chapter 12).

[249] This is the average of the annual interest rates for each year of CP5.

incurred. After discussing this issue with Network Rail and CEPA, we have concluded that there is no evidence that the debt was inefficiently incurred. Therefore, we have included CEPA's estimate of Network Rail's embedded debt costs in our determination. We will update this assumption for our final determination to take account of any additional efficient debt issued before then.

New debt

13.14 CEPA's analysis is based on current interest rates, market information and their view of an appropriate treasury strategy. For our final determination, we will review whether our assumptions need to be updated, e.g. for movements in market rates. Any adjustments we make will be consistent with an efficient treasury strategy.

13.15 CEPA has also assumed that Network Rail will issue some index-linked debt in CP5. Until the debt is redeemed, everything else being equal, Network Rail's index-linked debt pays out a lower amount of money than nominal debt as the debt increases with inflation annually instead of an assumption on inflation being included in the cash interest cost.

13.16 The amount of indexed-linked debt that we assume Network Rail takes out in CP5 effects the revenue requirement because the adjusted WACC approach funds cash financing costs and the inflation element of the index-linked debt is funded through the indexation of Network Rail's RAB.

13.17 CEPA think that an efficient financing strategy in CP5 would result in some index-linked debt being taken out. We agree with this, so we have assumed in our financial modelling that Network Rail will take out some index-linked debt in CP5.

FIM fee

13.18 Network Rail's SBP proposed a FIM fee of 1.25% based on the difference in CP4 between the cost of bonds issued by utility companies and the cost of Network Rail's government backed bonds.

13.19 CEPA's analysis considered the difference in the cost between bonds issued by domestic utilities (A- and BBB+ rated)[251] and gilts (debt issued by the UK government)

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[250] Note: This is not a comment about the reasons for the debt being incurred, e.g. for capital expenditure but about the efficiency of Network Rail in raising the debt.

[251] A credit rating A- and BBB+ is consistent with an investment grade credit rating and the credit rating Network Rail might want to have if it did not have access to the FIM.

for a period from 1999 to present. This showed a difference of 1.40% - 1.60%. As a cross check, CEPA identified a similar difference (1.30% -1.40%) on the iBoxx[252] trailing average index (incorporating the discount for long dated debt) for utility bonds.

13.20 Since it has had access to the FIM, Network Rail has issued bonds at around 0.40% above the cost of gilts. Therefore, by deducting the difference between the cost of borrowing for Network Rail and the cost of gilts, from the difference between the cost of borrowing for comparable companies to Network Rail and the cost of gilts, CEPA have derived an estimate of the credit enhancement provided by the FIM relative to an A-/BBB+ rated company of 0.90% – 1.20% and they think the FIM fee should be towards the top end of that range, e.g. they mention that the FIM fee could be 1.10% based on a recent issuance by High Speed 1 (which is not government backed).

13.21 Given these factors, we have decided that the fee payable to DfT for the provision of the FIM will be set at 1.10% on the outstanding FIM-backed debt during CP5. We think that this fee broadly reflects the long-run value of the credit enhancement that Network Rail benefits from as a result of the FIM.

Tax

13.22 Our consultants, Alvarez & Marsal, have reviewed Network Rail's forecast corporation tax position and we have made some relatively small adjustments to Network Rail's corporation tax forecasts. As discussed in the financial framework chapter (chapter 12), we have assumed that Network Rail does not receive any benefit from potential VAT issues in CP5.

Opening debt

13.23 The opening debt assumptions at the start of CP5 used in this determination are based on Network Rail's SBP forecast debt balances at the end of CP4. As part of its review of Network Rail's financing costs, CEPA assessed Network Rail's debt issuance programme through CP4 to date and found no evidence that Network Rail's debt strategy was inefficient. As part of our final determination, we will review whether Network Rail's assumptions are still appropriate, e.g. there might be changes to renewals and enhancement schemes, which affect debt.

[252] iBoxx provide an index of the cost of bonds. The iBoxx index is also used by Ofgem for its indexation of energy companies' debt costs.

13.24 Table 13.3 is an analysis of Network Rail's forecast debt at 1 April 2014 and we identify how much of Network Rail's debt is nominal and index-linked.

Table 13.3 Summary of Network Rail's opening debt at 1 April 2014

Opening debt (£m (nominal prices))	Great Britain	England & Wales	Scotland
Nominal debt	15,563	14,060	1,503
Index-linked debt	15,586	14,081	1,505
Total debt	**31,149**	**28,141**	**3,008**

Opening RAB

13.25 The opening RAB assumptions at the start of CP5 used in this determination are based on Network Rail's SBP forecast RAB balances at the end of CP4, except we have adjusted its forecast to reflect our decision to reduce the RAB by the value of the corporation tax double-count adjustment (£1.3bn for Great Britain). As part of our final determination, we will review whether Network Rail's assumptions are still appropriate, e.g. there might be changes to renewals and enhancement schemes, which could affect the value of the RAB.

13.26 Table 13.4 is a summary of our adjustment to Network Rail's forecast RAB at 1 April 2014.

Table 13.4: Summary of our adjustment to Network Rail's forecast RAB at 1 April 2014

£m (2012-13 prices)	Great Britain	England & Wales	Scotland
Opening CP5 RAB per Network Rail's SBP	47,902	43,074	4,828
Corporation tax double-count adjustment	(1,286)	(1,152)	(134)
Opening CP5 RAB for the draft determination	**46,616**	**41,922**	**4,694**

Amortisation

13.27 As we set out in the financial framework chapter (chapter 12) amortisation includes three elements: average long-run steady state renewals, amortisation of the non-capex RAB and a financial sustainability adjustment.

13.28 Average long-run steady state renewals are based on the average of our renewals forecasts for the period from CP5 to CP11 as set out in the asset management: maintenance and renewals expenditure chapter (chapter 8). The non-capex RAB is amortised on a straight line basis over 30 years and the financial sustainability adjustment for CP5 is the difference between our forecast of renewals in CP5 and the total of average long-run steady state renewals and non-capex amortisation.

13.29 Table 13.5 is a summary of our amortisation assumptions for CP5.

Table 13.5 Summary of our amortisation assumptions for CP5

£m (2012-13 prices)	Annual average CP5 amortisation		
	Great Britain	**England & Wales**	**Scotland**
Average long-run steady state renewals	1,789	1,595	194
Non-capex amortisation	170	153	17
Total long-run steady state amortisation (inc non-capex amortisation)	**1,959**	**1,748**	**211**
Financial sustainability adjustment	476	420	56
Total amortisation	**2,435**	**2,168**	**267**

Opex memorandum account

13.30 As we set out in the financial framework chapter (chapter 12), in PR08, we said that only capital expenditure will be added to the RAB from the start of CP4. Incentive payments, which in previous control periods we have added to the RAB at the start of the control period following the control period in which the payment is earned, will instead be remunerated via the opex memorandum account, e.g. the volume incentive. This works by 'logging up' the payment to the account during the control period and then reimbursing Network Rail in the following control period.

13.31 Also, the opex memorandum account includes issues that needed adjustment, clarification or correction in CP4, e.g. adjustments for the costs of the seven day railway and capacity charges. Some of these adjustments relate to monies that Network Rail should have received in CP4. Therefore where appropriate, our determination needs to include these amounts.

13.32 We have used Network Rail's SBP forecasts of the CP4 opex memorandum account closing balance as the basis of our closing balance at 31 March 2014, except that we

have adjusted Network Rail's forecast to reflect our own forecast of volume incentive payments (see the financial incentives chapter (chapter 19)).

13.33 Table 13.6 provides an analysis of our forecast of the closing balance at 31 March 2014 on Network Rail's opex memorandum account.

Table 13.6 Summary of our forecast of Network Rail's opex memorandum account balance at 31 March 2014

(£m 2012-13 prices)	CP4 forecast closing balance at 31 March 2014
Great Britain	
Volume incentive	70
Euston and Victoria property sales income shortfall	72
Capacity charge error	49
NSIP[253] underspend on maintenance allowance	-76
Cumulo rates underspend	-8
ORR costs (licence fee, safety levy and independent reporter costs)	8
Total for Great Britain	**115**
England & Wales	**111**
Scotland	**4**

13.34 We have assumed that the balance on the opex memorandum account at 31 March 2014 is released to Network Rail on a straight line basis over CP5.This produces an average payment of £23m per annum (2012-13 prices) in CP5 for Great Britain, which is included in the revenue requirement.

13.35 We will update our view of the forecast balance on this account at 31 March 2014 in our final determination, which will effect Network Rail's revenue requirement in CP5. We will adjust in CP6 for any difference between our assumptions in our final determination and the final outturns for the five year period ended 31 March 2014.

[253] National Stations Improvement Programme.

Financial modelling

13.36 In PR13, we have used an excel-based financial model to support our determination of Network Rail's CP5 revenue requirement. As part of our quality assurance processes, the PR13 financial model has been audited by an independent consultancy firm, PKF (UK) LLP (now BDO LLP). In January 2012, we commissioned PKF (UK) LLP to carry out an audit of the financial model that we used for our advice to ministers analysis and in January 2013, we again commissioned PKF (UK) LLP to audit the financial model that supports our draft determination analysis.

13.37 Both audits provided assurance that the PR13 financial model was logically constructed, internally consistent and that the formulae, algorithms and calculations were materially accurate. The reporting responsibility of BDO LLP is to the Office of Rail Regulation. Prior to publishing our final determination we will commission a final review of the financial model that we will use to support our final determination analysis.

Other key financial information

13.38 We set out in Tables 13.7, 13.8 and 13.9 some key financial information such as our assumptions on debt, RAB, financing costs, the FIM fee, the adjusted interest coverage ratio and the debt/RAB ratio.

Table 13.7: Our assumptions on key financial information for Great Britain in CP5

£millions	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
£million (2012-13 prices)						
Closing debt	33,037	35,522	37,692	39,481	40,118	40,118
Closing RAB	49,355	52,346	55,093	57,523	58,855	58,855
£million (nominal prices)						
Financing costs (exc FIM fee)	714	758	879	1,019	1,166	4,535
FIM fee	362	403	442	478	507	2,191
Total financing costs	1,076	1,161	1,321	1,497	1,673	6,726
Adjusted interest coverage ratio	1.02 x	1.02 x	1.02 x	1.02 x	1.02 x	1.02 x
Debt / RAB ratio	66.9%	67.9%	68.4%	68.6%	68.2%	68.2%

Table 13:8: Our assumptions on key financial information for England & Wales

£millions	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
£million (2012-13 prices)						
Closing debt	29,712	31,778	33,698	35,420	36,086	36,086
Closing RAB	44,216	46,738	49,172	51,466	52,755	52,755
£million (nominal prices)						
Financing costs (exc FIM fee)	643	679	785	912	1,046	4,065
FIM fee	326	361	395	428	455	1,966
Total financing costs	969	1,040	1,180	1,340	1,501	6,031
Adjusted interest coverage ratio	1.02 x	1.02 x	1.02 x	1.02 x	1.02 x	1.02 x
Debt / RAB ratio	67.2%	68.0%	68.5%	68.8%	68.4%	68.4%

Table 13:9: Our assumptions on key financial information for Scotland in CP5

£millions	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
£million (2012-13 prices)						
Closing debt	3,326	3,744	3,994	4,061	4,032	4,032
Closing RAB	5,139	5,608	5,921	6,058	6,101	6,101
£million (nominal prices)						
Financing costs (exc FIM fee)	70	79	94	107	119	470
FIM fee	36	42	47	50	52	225
Total financing costs	106	121	141	157	171	695
Adjusted interest coverage ratio	1.01 x	1.01 x	1.01 x	1.01 x	1.01 x	1.01 x
Debt / RAB ratio	64.7%	66.8%	67.5%	67.0%	66.1%	66.1%

14. Network Rail's revenue requirement

Key messages in this chapter

- This chapter provides our determination of Network Rail's CP5 gross and net revenue requirements, based on our assessment of income and expenditure and our regulatory framework.
- Network Rail's net revenue requirement in CP5 is on average £5.5bn per annum in Great Britain, £4.9bn per annum in England & Wales and £0.6bn per annum in Scotland. This compares to Network Rail's SBP, which assumed that Network Rail's net revenue requirement in CP5 would be on average £5.8bn per annum in Great Britain, £5.2bn per annum in England & Wales and £0.6bn per annum in Scotland.

Introduction

14.1 This chapter provides our determination of Network Rail's CP5 gross and net revenue requirements, based on our assessment of income and expenditure and our regulatory framework. The revenue requirements represent the income and charges that are consistent with Network Rail delivering its regulatory outputs in CP5. The gross revenue requirement in CP5 is the total income Network Rail needs to operate its business. The net revenue requirement is calculated by deducting Network Rail's other single till income, (e.g. property income), from the gross revenue requirement and is received through access charges and network grant paid by governments ('in lieu of' some fixed track access charges).

Revenue requirements

14.2 Figures 14.1, 14.2 and 14.3 set out the net revenue requirements for Great Britain, England & Wales and Scotland in CP5. These revenue requirements have been calculated after our reclassification of reactive maintenance costs to maintenance from renewals. We have not restated our PR08 or SBP comparisons for the reclassification of reactive maintenance.

14.3 Tables 14.1 to 14.12 summarise our CP5 expenditure assumptions and the determination of the net revenue requirements and provide a comparison between our

assumptions and Network Rail's SBP for Great Britain, England & Wales and Scotland. Indicative revenue requirements for Network Rail's operating routes are presented in annex D.

Great Britain

14.4 The net revenue requirement is £1.8bn lower than Network Rail's forecast in its SBP, largely because our assumption on Network Rail's adjusted allowed return is £2.4bn lower than Network Rail's as we are assuming lower financing costs in CP5 and our other single till income assumption is £0.2bn higher as we are assuming more property income, which has the impact of lowering the revenue requirement compared to the SBP. This is offset by our total amortisation assumption being £0.7bn higher than Network Rail's as we have made a larger adjustment for financial sustainability than Network Rail did. The differences in financing costs, amortisation and other single till income between our determination and the SBP are further explained in the impact of financial framework on financial parameters chapter (chapter 13) and other single till income chapter (chapter 18).

Figure 14.1: Our assessment of Network Rail's CP5 revenue requirement for Great Britain

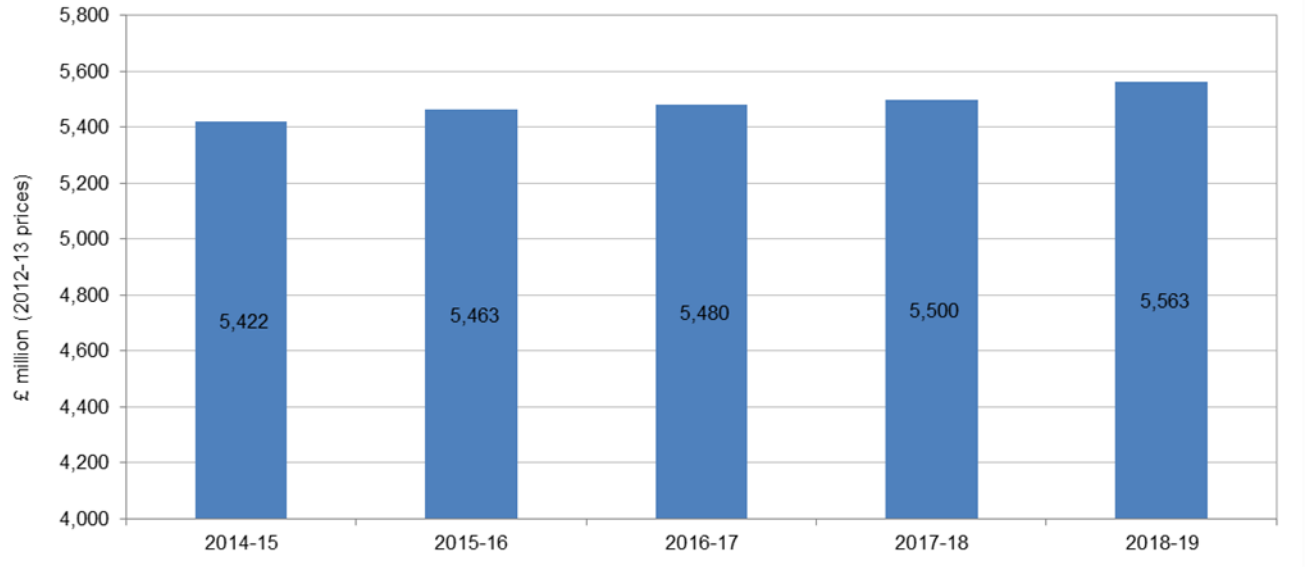

Table 14.1: Our assessment of Network Rail's CP5 expenditure for Great Britain

£millions (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Support costs	462	440	412	398	381	2,093
Network operations	425	412	395	378	358	1,968
Traction electricity, industry costs and rates	497	592	622	664	739	3,114
Network maintenance	1,086	1,070	1,035	998	963	5,152
Schedule 4 & 8 costs	221	234	240	218	217	1,131
Total operating expenditure	**2,692**	**2,748**	**2,703**	**2,656**	**2,658**	**13,456**
Renewals	2,475	2,586	2,476	2,365	2,272	12,173
Enhancements	2,699	2,840	2,706	2,500	1,495	12,239
Total capital expenditure	**5,174**	**5,425**	**5,182**	**4,865**	**3,767**	**24,413**
Total expenditure	**7,865**	**8,174**	**7,885**	**7,520**	**6,424**	**37,869**

Table 14.2: Our assessment of Network Rail's CP5 revenue requirement for Great Britain

£millions (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Total operating expenditure	2,692	2,748	2,703	2,656	2,658	13,456
Add: Long-run steady state amortisation (including non-capex amortisation)	1,959	1,959	1,959	1,959	1,959	9,794
Add: Regulatory tax allowance	4	4	4	4	3	18
Add: Opex memorandum account	23	23	23	23	23	115
Gross rev. req. before cost of capital	**4,677**	**4,734**	**4,689**	**4,641**	**4,643**	**23,384**
Add: Allowed return (real cost of capital)	2,025	2,145	2,266	2,376	2,455	11,267
Less: Real equity surplus	(1,008)	(1,079)	(1,085)	(1,071)	(1,037)	(5,280)
Adjusted allowed return	1,016	1,067	1,182	1,304	1,418	5,987
Gross rev. req. pre-sustainability adjustments	**5,693**	**5,800**	**5,871**	**5,946**	**6,061**	**29,371**
Add: Additional amortisation (sustainability adjustment)	476	476	476	476	476	2,379
Gross revenue requirement	**6,169**	**6,276**	**6,347**	**6,421**	**6,536**	**31,749**
Less: Other single till income	(747)	(813)	(867)	(921)	(973)	(4,321)
Net revenue requirement	**5,422**	**5,463**	**5,480**	**5,500**	**5,563**	**27,428**

Table 14.3: Our comparison of CP5 expenditure for Great Britain

£millions (2012-13 prices)	PR08	SBP	Determination
Support costs	4,113	2,232	2,093
Network operations		2,027	1,968
Traction electricity, industry costs and rates	2,175	3,701	3,114
Network maintenance	6,126	4,669	5,152
Schedule 4 & 8 costs	870	712	1,131
Total operating expenditure	**13,284**	**13,341**	**13,456**
Renewals	13,141	14,365	12,173
Enhancements	9,296	12,388	12,239
Total capital expenditure	**22,437**	**26,754**	**24,413**
Total expenditure	**35,721**	**40,095**	**37,869**

Table 14.4: Our comparison of CP5 revenue requirement for Great Britain

£millions (2012-13 prices)	PR08	SBP	Determination
Total operating expenditure	13,284	13,341	13,456
Add: Long-run steady state amortisation (including non-capex amortisation)	8,903	10,540	9,794
Add: Regulatory tax allowance	-	-	18
Add: Opex memorandum account	-	138	115
Gross rev. req. before cost of capital	**22,187**	**24,019**	**23,384**
Add: Allowed return (real cost of capital)	10,455	13,092	11,267
Less: Real equity surplus	-	(4,716)	(5,280)
Adjusted allowed return	10,455	8,376	5,987
Gross rev. req. pre-sustainability adjustments	**32,642**	**32,395**	**29,371**
Add: Additional amortisation (sustainability adjustment)	-	970	2,379
Gross revenue requirement	**32,642**	**33,365**	**31,749**
Less: Other single till income	(3,523)	(4,138)	(4,321)
Net revenue requirement	**29,119**	**29,227**	**27,428**

Note: total amortisation for each scenario is as follows: PR08 (£8.9bn); SBP (£11.5bn); Determination (£12.2bn)

England & Wales

14.5 The net revenue requirement is £1.6bn lower than Network Rail's forecast in its SBP, largely because our assumption on Network Rail's adjusted allowed return is £2.2bn lower than Network Rail's as we are assuming lower financing costs in CP5 and our other single till income assumption is £0.2bn higher as we are assuming more property income, reducing the revenue requirement. This is offset by our total amortisation assumption being £0.6bn higher than Network Rail's as we have made a larger adjustment for financial sustainability than Network Rail did. The differences in financing costs, amortisation and other single till income between our determination and the SBP are further explained in the impact of financial framework on financial parameters chapter (chapter 13) and other single till income chapter (chapter 18).

Figure 14.2: Our assessment of Network Rail's CP5 revenue requirement for England & Wales

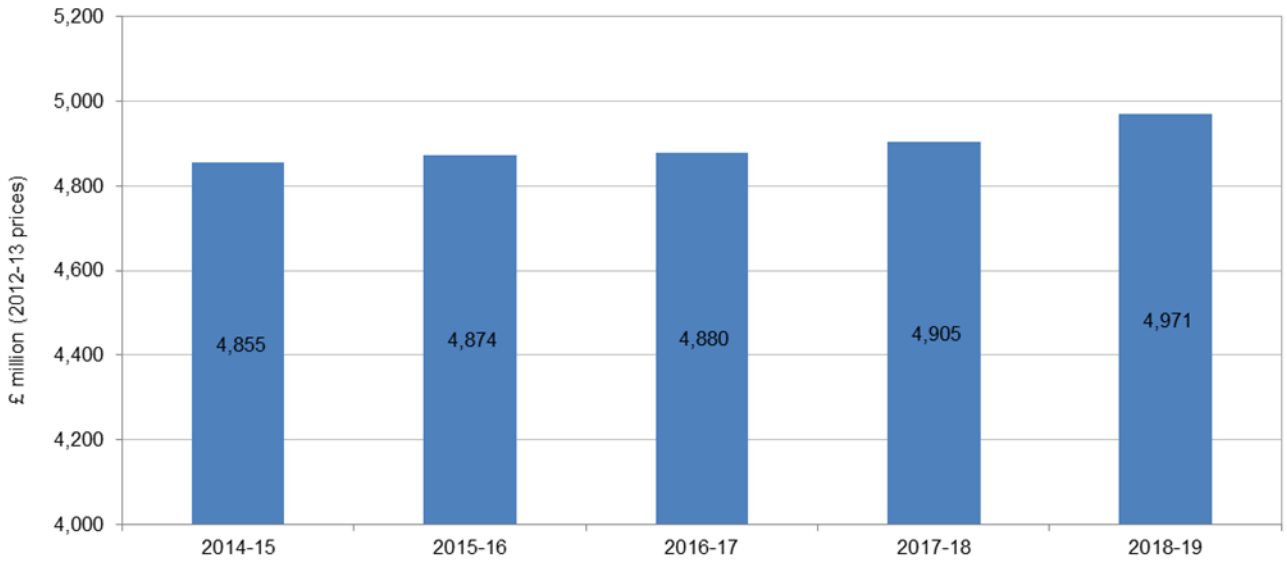

Table 14.5: Our assessment of Network Rail's CP5 expenditure for England & Wales

£millions (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Support costs	416	396	371	358	343	1,884
Network operations	385	374	358	344	325	1,787
Traction electricity, industry costs and rates	457	543	572	611	682	2,864
Network maintenance	983	961	931	898	871	4,644
Schedule 4 & 8 costs	199	208	208	194	194	1,003
Total operating expenditure	**2,440**	**2,482**	**2,439**	**2,405**	**2,415**	**12,182**
Renewals	2,211	2,264	2,202	2,122	2,042	10,840
Enhancements	2,251	2,426	2,401	2,340	1,415	10,833
Total capital expenditure	**4,462**	**4,690**	**4,603**	**4,461**	**3,457**	**21,673**
Total expenditure	**6,902**	**7,173**	**7,042**	**6,867**	**5,872**	**33,855**

Table 14.6: Our assessment of Network Rail's CP5 revenue requirement for England & Wales

£millions (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Total operating expenditure	2,440	2,482	2,439	2,405	2,415	12,182
Add: Long-run steady state amortisation (including non-capex amortisation)	1,748	1,748	1,748	1,748	1,748	8,739
Add: Regulatory tax allowance	3	3	3	3	3	17
Add: Opex memorandum account	22	22	22	22	22	111
Gross rev. req. before cost of capital	**4,214**	**4,256**	**4,213**	**4,179**	**4,188**	**21,048**
Add: Allowed return (real cost of capital)	1,817	1,919	2,023	2,123	2,199	10,081
Less: Real equity surplus	(901)	(962)	(967)	(956)	(926)	(4,712)
Adjusted allowed return	916	956	1,056	1,167	1,273	5,369
Gross rev. req. pre-sustainability adjustments	**5,129**	**5,212**	**5,269**	**5,346**	**5,461**	**26,417**
Add: Additional amortisation (sustainability adjustment)	420	420	420	420	420	2,101
Gross revenue requirement	**5,550**	**5,632**	**5,689**	**5,766**	**5,881**	**28,518**
Less: Other single till income	(694)	(759)	(810)	(861)	(910)	(4,034)
Net revenue requirement	**4,855**	**4,874**	**4,880**	**4,905**	**4,971**	**24,485**

Table 14.7: Our comparison of CP5 expenditure for England & Wales

£millions (2012-13 prices)	PR08	SBP	Determination
Support costs	3,736	2,023	1,884
Network operations		1,842	1,787
Traction electricity, industry costs and rates	1,996	3,414	2,864
Network maintenance	5,543	4,214	4,644
Schedule 4 & 8 costs	818	632	1,003
Total operating expenditure	**12,094**	**12,124**	**12,182**
Renewals	11,569	12,809	10,840
Enhancements	8,820	10,959	10,833
Total capital expenditure	**20,389**	**23,768**	**21,673**
Total expenditure	**32,483**	**35,893**	**33,855**

Table 14.8: Our comparison of CP5 revenue requirement in England & Wales

£millions (2012-13 prices)	PR08	SBP	Determination
Total operating expenditure	12,094	12,124	12,182
Add: Long-run steady state amortisation (including non-capex amortisation)	7,841	9,385	8,739
Add: Regulatory tax allowance	-	-	17
Add: Opex memorandum account	-	133	111
Gross rev. req. before cost of capital	**19,934**	**21,642**	**21,048**
Add: Allowed return (real cost of capital)	9,411	11,730	10,081
Less: Real equity surplus	-	(4,210)	(4,712)
Adjusted allowed return	9,411	7,520	5,369
Gross rev. req. pre-sustainability adjustments	**29,345**	**29,162**	**26,417**
Add: Additional amortisation (sustainability adjustment)	-	815	2,101
Gross revenue requirement	**29,345**	**29,977**	**28,518**
Less: Other single till income	(3,241)	(3,858)	(4,034)
Net revenue requirement	**26,104**	**26,120**	**24,485**

Note: total amortisation for each scenario is as follows: PR08 (£7.8bn); SBP (£10.2bn); Determination (£10.8bn).

Scotland

14.6 The net revenue requirement is £164m lower than Network Rail's forecast in its SBP, largely because our assumption on Network Rail's adjusted allowed return is £238m lower than Network Rail's as we are assuming lower financing costs in CP5 and our other single till income assumption is £8m higher as we are assuming more property income, reducing the revenue requirement. This is offset by our total amortisation assumption being £23m higher than Network Rail's as we have made a larger adjustment for financial sustainability than Network Rail did. In addition the operating expenditure per the determination is £58m higher. The differences in operating expenditure, financing costs, amortisation and other single till income between our determination and the SBP are further explained in the impact of financial framework on financial parameters chapter (chapter 13) and other single till income chapter (chapter 18).

Figure 14.3: Our assessment of Network Rail's CP5 revenue requirement for Scotland

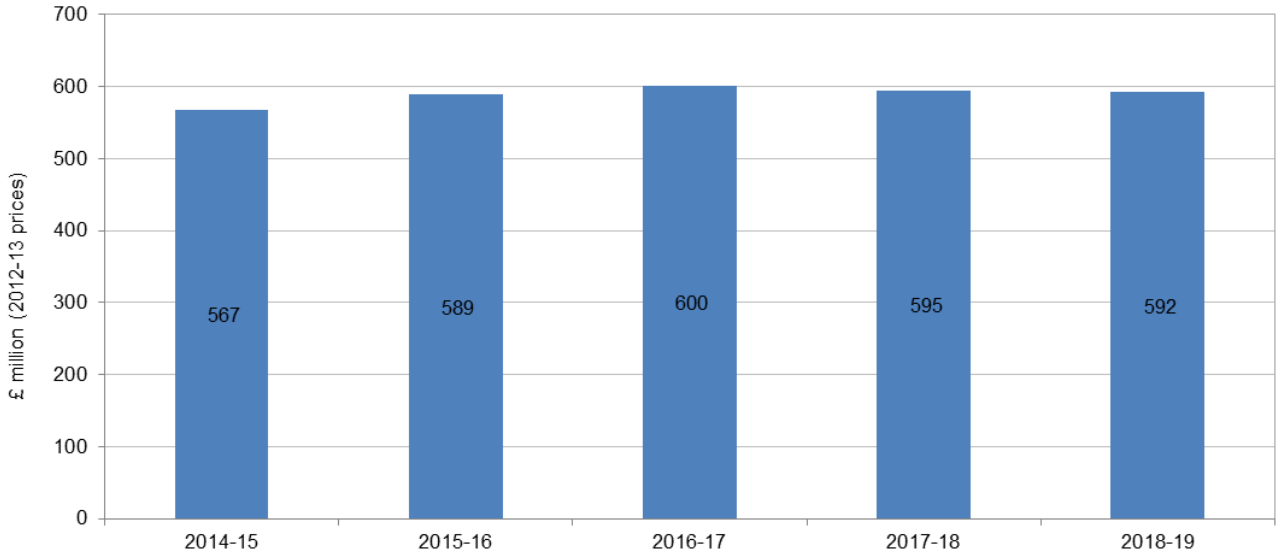

Table 14.9: Our assessment of Network Rail's CP5 expenditure for Scotland

£millions (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Support costs	46	44	41	40	38	209
Network operations	39	38	37	34	33	181
Traction electricity, industry costs and rates	41	49	51	53	57	250
Network maintenance	103	109	104	100	92	508
Schedule 4 & 8 costs	22	26	32	24	23	128
Total operating expenditure	**251**	**266**	**264**	**250**	**243**	**1,275**
Renewals	264	322	274	244	230	1,333
Enhancements	448	413	306	160	79	1,406
Total capital expenditure	**712**	**735**	**579**	**404**	**310**	**2,739**
Total expenditure	**963**	**1,001**	**843**	**654**	**553**	**4,014**

Table 14.10: Our assessment of Network Rail's CP5 revenue requirement in Scotland

£millions (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Total operating expenditure	251	266	264	250	243	1,275
Add: Long-run steady state amortisation (including non-capex amortisation)	211	211	211	211	211	1,055
Add: Regulatory tax allowance	0	0	0	0	0	1
Add: Opex memorandum account	1	1	1	1	1	4
Gross rev. req. before cost of capital	**464**	**478**	**476**	**462**	**455**	**2,335**
Add: Allowed return (real cost of capital)	207	227	243	253	256	1,187
Less: Real equity surplus	(107)	(116)	(117)	(116)	(112)	(568)
Adjusted allowed return	100	110	126	137	145	618
Gross rev. req. pre-sustainability adjustments	**564**	**588**	**602**	**600**	**600**	**2,954**
Add: Additional amortisation (sustainability adjustment)	56	56	56	56	56	278
Gross revenue requirement	**619**	**644**	**658**	**655**	**656**	**3,231**
Less: Other single till income	(52)	(55)	(57)	(60)	(63)	(288)
Net revenue requirement	**567**	**589**	**600**	**595**	**592**	**2,944**

Table 14.11: Our comparison of CP5 expenditure in Scotland

£millions (2012-13 prices)	PR08	SBP	Determination
Support costs	377	211	209
Network operations		185	181
Traction electricity, industry costs and rates	178	287	250
Network maintenance	583	455	508
Schedule 4 & 8 costs	52	80	128
Total operating expenditure	**1,190**	**1,217**	**1,275**
Renewals	1,572	1,555	1,333
Enhancements	477	1,430	1,406
Total capital expenditure	**2,048**	**2,985**	**2,739**
Total expenditure	**3,238**	**4,202**	**4,014**

Table 14.12: Our comparison of CP5 revenue requirement in Scotland

£millions (2012-13 prices)	PR08	SBP	Determination
Total operating expenditure	1,190	1,217	1,275
Add: Long-run steady state amortisation (including non-capex amortisation)	1,063	1,156	1,055
Add: Regulatory tax allowance	-	0	1
Add: Opex memorandum account	-	5	4
Gross rev. req. before cost of capital	**2,252**	**2,378**	**2,335**
Add: Allowed return (real cost of capital)	1,044	1,362	1,187
Less: Real equity surplus	-	(507)	(568)
Adjusted allowed return	1,044	856	618
Gross rev. req. pre-sustainability adjustments	**3,296**	**3,233**	**2,954**
Add: Additional amortisation (sustainability adjustment)	-	154	278
Gross revenue requirement	**3,296**	**3,388**	**3,231**
Less: Other single till income	(283)	(280)	(288)
Net revenue requirement	**3,014**	**3,108**	**2,944**

Note: total amortisation for each scenario is as follows: PR08 (£1.0bn); SBP (£1.3bn); Determination (£1.3bn).