



OFFICE *of*  
RAIL REGULATION

## Monitoring and Treatment of Network Rail's Underspend and Efficiency: Policy Statement

January 2006



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# ***Executive Summary***

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## **Context**

1. The Access Charges Review 2003 (ACR2003) established a set of outputs covering performance, network capability, and asset condition and serviceability for Network Rail for control period 3 (CP3) (2004-05 to 2008-09) and an associated revenue allowance. This allowance was built up, inter alia, from estimates of Network Rail's efficient unit costs and the related activity volumes required to deliver the outputs.
2. It is important for the viability and development of the railway in Great Britain that Network Rail delivers its outputs at the least possible cost in order to minimise the financial burden on both its customers and funders. The Office of Rail Regulation (ORR) seeks to ensure that Network Rail is incentivised to meet and outperform the expenditure assumptions underpinning the ACR2003 regulatory determination and therefore achieve the maximum level of efficiency whilst not compromising the delivery of outputs in either the short or long term.
3. In order to facilitate this, we have set out in this document our framework for the monitoring and treatment of Network Rail's underspend and efficiency. It encompasses a framework for:
  - monitoring and dealing with any underspend relative to the expenditure assumptions we made in setting its revenue allowance; and
  - monitoring unit costs. This is a key component of underspend monitoring as well as being important in determining the extent to which Network Rail is reducing its unit costs in line with its regulatory assumptions.
4. Our regulatory position on the treatment of any overspend by Network Rail was set out in the ACR2003 final conclusions (section 3.8)<sup>1</sup>.

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<sup>1</sup> Our *Access Charges Review 2003: Final Conclusions* can be downloaded from our website at <http://www.rail-reg.gov.uk/upload/pdf/184.pdf>.

## Underspend framework

5. This document sets out a three-step approach to monitoring the extent and causes of any underspend by Network Rail versus its regulatory determination:
  - an assessment will be made as to whether Network Rail has delivered its required outputs;
  - the causes of any underspend will be identified and quantified; and
  - an assessment will be made as to whether any of the reductions in scope are likely to impact on the long-term asset condition and serviceability of the network.
6. Underspend may be a result of:
  - unit cost outperformance: actual unit costs are below those assumed by us in setting Network Rail's revenue allowance;
  - scope reductions: volumes of activity undertaken are lower than those envisaged at the time of the periodic review. These may or may not have an adverse impact on short- or long-term outputs; and
  - deferral of activities: planned activity is re-scheduled to a subsequent year in the control period or a subsequent control period. If not undertaken in the future, outputs would be affected adversely.
7. The underspend will then be categorised as follows:
  - **outperformance**: comprising additional unit cost efficiencies and reductions in scope that do not compromise the long-term asset condition and serviceability of the network (as verified by the independent Rail Reporters); and
  - **underperformance**: comprising any underspend realised while failing to achieve the output targets specified in the access charges review and/or compromising the long-term asset condition and serviceability of the network.
8. Network Rail will be allowed to retain the benefit of any outperformance, at least for the duration of CP3. However, it should not be allowed to benefit

from underspend that is at the expense of baseline outputs or that is associated with scope reductions that could affect the long-term sustainability of the network (this will be deemed underperformance). We may adjust Network Rail's revenue at the next access charges review to reflect any underperformance.

9. Network Rail, in conjunction with us, the Department for Transport (DfT) and Transport Scotland, is developing criteria for the use of any outperformance of regulatory assumptions. In its criteria for the use of surpluses, which will be formalised in its Business Planning Criteria, the company has indicated that, for CP3, it intends to use any outperformance of its regulatory efficiency assumptions to reduce debt or to fund and finance investments that either reduce the future cost or improve the outputs of the railway.
10. Our intended treatment of any overspend by Network Rail was made clear in the ACR2003. We will monitor any overspend on an ongoing basis in the same way as we will monitor any underspend, and publish the outcome of this monitoring exercise in our Annual Assessment of Network Rail.

### **Unit cost monitoring framework**

11. We will monitor Network Rail's progress on improving its unit cost efficiency for two main reasons:
  - it is a necessary component of the overall efficiency framework, as described in Chapters 2 and 3; and
  - it will provide us with information for setting access charges at future periodic reviews.
12. In addition, having a comprehensive unit cost framework will provide Network Rail with robust information to inform its own business decisions and to support its periodic review submissions.
13. The framework for monitoring Network Rail's unit costs was comparatively limited for 2004-05 but will widen from 2005-06 onwards as Network Rail implements a more comprehensive unit cost monitoring framework to inform its own business decision-making. Chapter 4 provides further details.
14. We have requested that Network Rail reports its unit costs in its Annual Return. However, such quantitative unit costs will not be available for all

expenditure. Therefore, to assist us in making an overall assessment of Network Rail's unit cost performance (to be published in the Annual Assessment as part of the underspend analysis) we will assess both quantitative measures and any qualitative evidence provided by Network Rail.

# 1. Introduction

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## Purpose of the document

- 1.1 This document confirms and clarifies our approach, as set out in our June 2005 consultation document, to the monitoring and treatment of Network Rail's underspend and efficiency. This approach encompasses a framework for:
- monitoring and dealing with any underspend relative to Network Rail's revenue allowance; and
  - monitoring unit costs, a key part of monitoring overall efficiency.

## Context

- 1.2 Network Rail is subject to incentive based regulation, similar to that for other price-regulated network industries in the UK. Under this form of regulation, the Office of Rail Regulation (ORR) determines the outputs that the company must deliver over a control period, as well as the revenues that a competent and well-managed company would require to deliver those outputs.
- 1.3 The fundamental concept behind this approach is that it provides strong incentives on regulated companies to reduce costs (in order to maintain margins as real prices fall). The setting of a medium-term maximum revenue/price trajectory is intended to promote incentives for companies to outperform regulatory assumptions, by allowing companies that outperform regulators' expectations to benefit from that 'outperformance'. Conversely, companies failing to achieve the regulator's assumptions must bear the financial consequences of their 'underperformance'.
- 1.4 At the Access Charges Review 2003 (ACR2003) we established a set of outputs for Network Rail to deliver in control period 3 (CP3) (2004-05 to 2008-09) and an associated revenue allowance. This allowance was built up, inter alia, from estimates of Network Rail's efficient unit costs and the related activity volumes required to deliver the required outputs.
- 1.5 Although we set out the regulatory position on the treatment of any overspend by Network Rail (i.e. underperformance of regulatory expenditure

assumptions) in the ACR2003 final conclusions, we did not set out in detail our proposals for the monitoring and treatment of underspend.

- 1.6 The purpose of this policy framework is to provide clarity to Network Rail, its customers, funders and other stakeholders on how we propose both to monitor and to treat any underspend versus the expenditure assumptions incorporated into the regulatory determination for Network Rail. This is important for two main reasons:
- to ensure that Network Rail is incentivised to seek and deliver cost savings beyond those incorporated in the determination; and
  - to make it clear that Network Rail will not be remunerated for outputs that have been funded but not delivered, or remunerated twice where outputs are funded in one control period but delivered in another.

## Efficiency

- 1.7 Under the form of incentive-based regulation used by us and other UK regulators, setting allowed revenues for a regulated company requires an assessment to be made of the level of costs incurred by a competent and well-managed company, as well as the scope for future cost reductions through increased efficiency.
- 1.8 Indeed, the promotion of efficiency in the provision of rail services is one of our statutory duties, set out in section 4 of the Railways Act 1993 (as amended). It is important for the viability and development of the railway in Great Britain that Network Rail delivers its outputs (including maintaining the long-term sustainability of the railway) at the least possible cost in order to minimise the financial burden on both its customers and funders, thus ensuring value for money.
- 1.9 Efficiency has two main dimensions:
- scope efficiency, which relates to changes in the mix of activities, or to the overall volume of activity undertaken, that have no impact on network serviceability or sustainability in the short, medium or long term; and
  - unit cost efficiency, which relates to the cost of undertaking a defined unit of activity.

- 1.10 We aim to ensure that Network Rail has the right incentives to strive for improvements in both scope and unit cost efficiency and, in particular, to outperform its regulatory assumptions by delivering efficiencies in excess of those assumed in determining its revenue allowance.

### **Monitoring inputs/outputs**

- 1.11 A general principle of incentive-based regulation is that once the revenue allowance has been determined, regulators should monitor whether the regulated company is delivering its outputs (e.g. capability, performance, asset serviceability) and ordinarily should not focus on the level of inputs (e.g. volume of work).
- 1.12 Importantly, this principle is based on there being a reasonable understanding of the relationship between inputs and outputs. Where this is the case, the revenue allowance can be built up with sufficient confidence in respect of the outputs required to be delivered. Conversely, any underspend achieved can be assumed, as far as possible, to be the result of management effort and not an artefact of poor understanding between inputs and outputs; in other words, any underspend can be considered outperformance of regulatory efficiency assumptions.
- 1.13 Although Network Rail's understanding of the linkages between inputs and outputs is improving, there is likely always to be a degree of uncertainty in the understanding of input/output relationships in the rail infrastructure industry because of their complexity. This incomplete understanding means that it is important for us to monitor not only whether Network Rail has delivered its outputs within the allowed revenues, but also to acquire an understanding of the volumes of activity required to deliver those outputs and the cost of undertaking that activity.
- 1.14 Understanding the extent and cause of any variations in Network Rail's actual expenditure versus that projected at its regulatory determination is therefore important. The reason for this is twofold:
- inappropriate reductions in the scope of work (i.e. activity levels) may compromise Network Rail's ability to deliver its outputs in the future (or increase the net present value of costs in delivering those outputs) and/or compromise long-term asset condition and serviceability of the network without impacting the delivery of outputs in the short term; and

- monitoring changes in efficiency will provide information to inform the extent to which further efficiencies might be generated in future control periods.

## **Consultation process and amendments to the proposed policy framework**

- 1.15 Our proposed policy framework was published in a consultation document in June 2005<sup>2</sup>. This set out an approach for monitoring any underspend, in particular setting out a methodology for categorising the underspend as either ‘outperformance’ or ‘underperformance’ of regulatory targets. It then stated that Network Rail would be allowed to benefit from any outperformance, but would not be allowed to benefit from any underspend deemed to be underperformance. In addition, the consultation document set out a framework for monitoring unit costs.
- 1.16 We received eight responses to the consultation document. All respondents were generally supportive of the proposed policy framework, particularly the recognition of the need for clarity with respect to the treatment of any underspend and the focus on and publication of unit cost data, although a number of specific issues were raised. There are no substantive changes to the policy framework as a result of the consultation. A list of respondents is attached at Annex A, and all of the non-confidential responses are available in our library and on our website<sup>3</sup>.
- 1.17 The underspend policy framework was applied for the first time as part of the work conducted for our Annual Assessment of Network Rail 2004-05 (formerly called the Annual Stewardship Statement), which was published in September 2005<sup>4</sup>. The implementation process suggested that the approach is robust, and no substantive changes have been made to the policy framework as a result. However, the process highlighted a number of areas in the consultation document where clarification is required. These are addressed accordingly in the body of this document.

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<sup>2</sup> *Monitoring and Treatment of Underspend and Efficiency: Consultation of a Proposed Policy Statement*, ORR, June 2005, available at: <http://www.rail-reg.gov.uk/upload/pdf/237.pdf>.

<sup>3</sup> Our website can be found at: [www.rail-reg.gov.uk](http://www.rail-reg.gov.uk).

<sup>4</sup> *Annual Assessment of Network Rail 2004-05*, ORR, September 2005, available at: <http://www.rail-reg.gov.uk/upload/pdf/252.pdf>.

## Scope and application

- 1.18 The underspend framework outlined in this document applies to all elements of Network Rail's expenditure funded by the ACR2003 and subsequent access charges reviews. This comprises operating, maintenance and renewals expenditure across the whole network and any enhancements funded through access charges reviews, such as the West Coast Route Modernisation project in the ACR2003.
- 1.19 The framework will be implemented on an annual basis as part of our Annual Assessment of Network Rail's stewardship of the national rail network, published in September of each year.

## Structure of document

- 1.20 This document is structured as follows.
- Chapter 2 outlines the proposed framework for monitoring underspend.
  - Chapter 3 outlines the proposed treatment of underspend.
  - Chapter 4 outlines the proposed framework for monitoring Network Rail's unit costs.
- 1.21 Copies of this document are available from our website ([www.rail-reg.gov.uk](http://www.rail-reg.gov.uk)) and our library.



## 2. Monitoring underspend

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### Introduction

- 2.1 This chapter sets out how we intend to monitor any underspend by Network Rail versus its regulatory assumptions and how this will be categorised as either outperformance or underperformance. The proposed treatment of underspend is covered in Chapter 3.
- 2.2 Although a significant amount of analysis is required to underpin the monitoring of underspend, some of this analysis will require careful interpretation and will need to be combined with a degree of judgement to enable a comprehensive assessment of Network Rail's expenditure.

### Our approach

- 2.3 We will categorise any underspend on the basis of whether Network Rail has delivered its outputs (detailed below) as follows:
- **outperformance:** Any underspend achieved while delivering the output targets specified in the access charges review and not compromising the long-term asset condition and serviceability of the network will be classified as 'outperformance'; and
  - **underperformance:** Any underspend realised while failing to achieve the output targets specified in the access charges review and/or compromising the long-term asset condition and serviceability of the network will be considered to be 'underperformance'.
- 2.4 We will take a three-step approach to monitoring underspend:
- an assessment will be made as to whether Network Rail has delivered its required outputs;
  - the causes of any underspend will be identified and quantified; and
  - an assessment will be made as to whether any of the reductions in scope are likely to impact on the long-term asset condition and serviceability of the network.

- 2.5 Once we have carried out these three steps, we will have sufficient information to determine the extent to which any underspend by Network Rail represents outperformance or underperformance, and the in-year financial impact of that underspend. As noted above, a degree of judgement will need to be applied in this assessment.

### Delivery of required outputs

- 2.6 An important first step in monitoring Network Rail's underspend is to determine whether the company is delivering the outputs it was funded to deliver in its regulatory determination.
- 2.7 For CP3, Network Rail's output targets<sup>5</sup> broadly relate to operational performance, network capability, asset condition and asset serviceability. These are summarised in Tables 1 and 2 below.

**Table 1: Targets for improvements in delay**

Year	Delay minutes (million) affecting all operators
2004-05	12.3
2005-06	11.3
2006-07	10.6
2007-08	9.8
2008-09	9.1

<sup>5</sup> *Access Charges Review 2003: final conclusions*, Office of the Rail Regulator, December 2003. This is available at: <http://www.rail-reg.gov.uk/upload/pdf/184.pdf>

**Table 2: Output targets for the five-year period 2004-05 to 2008-09**

Measure	Target
Network Capability	No reduction in capability of any route for broadly existing use from April 2001 levels (other than through the Network Change process).
Broken rails	Reduction in number of broken rails to no more than 300 per annum by 2005-06. No increase thereafter.
Track geometry	Reduction in the number of L2 exceedences per track mile to no greater than 0.9 by 2005-06. No increase thereafter.
TSRs	Annual reduction in number of temporary speed restrictions (TSRs).
Structures & electrification	Condition and serviceability to return to 2001-02 levels.
Other measures	Other asset condition and serviceability measures to show no deterioration from 2003-04 levels.

- 2.8 In addition, in CP3 Network Rail is funded to deliver specific outputs on the West Coast Main Line in order to satisfy its customers' and funders' reasonable requirements. The Strategic Rail Authority's (SRA) June 2003 West Coast document<sup>6</sup> is the basis for these outputs.
- 2.9 We monitor Network Rail's performance against its output targets on a regular basis and formally on an annual basis in our Annual Assessment; a detailed report on Network Rail's progress on achieving the output targets and activity measures set out in the regulatory determination. The conclusions of the Annual Assessment will be used for step one of the framework for monitoring underspend, i.e. to determine whether Network Rail has delivered its output targets.

### Causes of underspend

- 2.10 The second step of the monitoring framework involves identifying and quantifying the causes of underspend. Any underspend will be categorised into three causes:
- **unit cost outperformance:** actual unit costs are below those assumed by us in setting Network Rail's revenue allowance;

<sup>6</sup> *West Coast Main Line Strategy*, Strategic Rail Authority, London, June 2003.

- **scope reductions:** volumes of activity undertaken are lower than those envisaged at the time of the price review. Scope reductions will be further divided into:
  - **scope efficiency:** where the required outputs are delivered and the long-term asset condition and serviceability of the network is not compromised by the scope reduction; and
  - **de-scoping:** where the required outputs are not delivered and /or the long-term asset condition and serviceability of the network is compromised; and
- **deferral:** planned activity is re-scheduled to a subsequent year in the control period or a subsequent control period.

2.11 In assessing the scale and causes of under- or overspend, account may need to be taken of any changes in the level or mix of traffic on the railway. For example, a move to different types of vehicle that cause more track wear would result in additional usage charges, which are intended to offset the additional maintenance and renewal costs over a period of years. If costs remain in line with regulatory assumptions, this may imply either an element of outperformance or increased future expenditure requirements on that part of the network.

#### *Unit cost efficiency*

2.12 In order to establish the extent to which underspend reflects Network Rail surpassing the unit cost efficiency assumptions made by us in setting the revenue allowance, we will monitor and report on the extent to which Network Rail has reduced its unit costs on an annual basis. The framework for monitoring unit costs is detailed in Chapter 4.

#### *Scope reductions*

2.13 Since 2004-05, Network Rail publishes a variance analysis in its annual return, which will allocate any expenditure variance relative to its budget<sup>7</sup> in that year to a number of different categories. One of these categories relates to scope changes. We will use this information from the variance analysis to

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<sup>7</sup> Network Rail's budget is based on, but is not identical to, its regulatory determination.

establish the extent to which Network Rail's underspend reflects scope reductions.

- 2.14 An assessment will then need to be made as to whether these scope changes reflect scope efficiency or de-scoping.
- 2.15 As part of its variance analysis, Network Rail classifies any changes in scope versus its business plan as either scope efficiency or de-scoping. The independent Rail Reporters<sup>8</sup> verify this information by reviewing a sample of individual projects for which scope reductions have been identified and determining whether Network Rail's decision to reduce scope had due regard to the impact on its ability to deliver its required outputs and the long-term condition and serviceability of the network.
- 2.16 If the first step of the monitoring framework establishes that Network Rail has not achieved one or more of its annual output targets, then Network Rail will be asked to provide information on the extent to which this failure is the result of the scope reductions identified in the variance analysis (and the associated underspend). We will instruct the Rail Reporters to verify the information provided by Network Rail. Any scope changes (and the associated expenditure) identified by Network Rail and verified by the Reporters as being associated with the non-delivery of outputs will be categorised as de-scoping.
- 2.17 Relating scope changes on individual projects to the long-term impact on output measures is clearly a significant challenge and, in practice, the reporters will need to combine a review of the basis of specific decisions on a sample of schemes with a broader assessment of the potential impact of cumulative changes across each asset category.
- 2.18 In carrying out the assessment of individual projects, the rail reporters may consider:
- the extent to which reductions in activity volumes reflect reductions in the level and mix of traffic (over that part of the network) or more effective maintenance, both of which could justify scope reductions;

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<sup>8</sup> Regulatory Reporters, appointed under Condition 23 of Network Rail's Network Licence, independently audit (and report on to ORR) information produced by Network Rail, including the company's Annual Return, asset register and progress reports on delivery of key investments, including the West Coast Route Modernisation project.

- the impact on asset life; and
  - the consistency with Network Rail's asset policies and business planning criteria.
- 2.19 The long-term sustainability assessment will place on Network Rail the 'burden of proof' that any scope reductions will not have implications for the long-term asset condition and serviceability of the network and Network Rail's ability to deliver its outputs in the future.
- 2.20 Only those scope reductions that are identified by Network Rail and verified by the Reporters as not resulting in failure to achieve output requirements, and not impacting on long-term asset condition and serviceability, will be categorised as scope efficiency. The remainder will be classified as de-scoping.

#### *Deferral*

- 2.21 Network Rail's variance analysis also identifies any expenditure variances that are a consequence of deferral of expenditure as follows:
- **planned slippage to maximise efficiency**, i.e. the deferral of the commencement of works to secure targeted efficiency;
  - **slippage due to third parties**, where external party circumstances constrain ability to deliver as planned; and
  - **unplanned slippage**, when poor performance is against plan. This may include partial delivery of planned volumes.
- 2.22 We will use this information from the variance analysis to establish the extent to which underspend reflects the deferral of work that is required to be carried out in the future to deliver the output requirements or to sustain the long-term asset condition and serviceability of the network.

#### **Identifying outperformance/underperformance**

- 2.23 After carrying out the two steps described above, we will have sufficient information to be able to determine the proportions of the underspend that should be categorised as outperformance and underperformance as follows.

- Outperformance is defined as being outperformance of regulatory assumptions on:
  - unit cost efficiency; and
  - scope efficiency.
- Underperformance is defined as being:
  - de-scoping; and
  - deferral<sup>9</sup>.

2.24 The in-year financial impact of any underspend will have three components:

- the difference between actual expenditure and the regulatory allowance for operating and maintenance expenditure in the year concerned;
- the benefit of receiving amortisation allowances for renewals and enhancement spend that was not actually undertaken in that year; and
- the interest saved as a result of Network Rail having spent less cash and thus having lower debt.

2.25 Of this, a proportion will need to be retained to fund deferred expenditure. However, the remainder can be considered as relating to outperformance. The precise methodology for calculating the in-year financial impact of any underspend and the amount relating to outperformance will be set out in our Regulatory Accounting Guidelines to be published in spring 2006.

2.26 Our intended treatment of outperformance and underperformance is set out in Chapter 3.

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<sup>9</sup> By definition, deferred expenditure is required to be incurred some time in the future in order to deliver the required outputs (including maintaining the long-term sustainability of the network), honour contractual obligations and satisfy customers' and funders' reasonable requirements. Any underspend due to deferral would therefore not be treated as outperformance. Although for the purposes of this framework, deferral is categorised as underperformance, it may be the right thing to do if it does not materially affect outputs in the short-term but will lead to cost savings in the longer-term.



## 3. Treatment of underspend

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### Introduction

- 3.1 Chapter 2 set out our three-step approach to monitoring Network Rail's underspend. This chapter describes how we propose to use the information stemming from that approach to determine the appropriate treatment of any underspend.
- 3.2 While we will monitor Network Rail's underspend on an annual basis and publish the outcome of this monitoring exercise in the Annual Assessment, in recognition of the five-year nature of the review settlement, we will not take any action in relation to underspend until the time of the next access charge review, unless Network Rail has failed to deliver any of its outputs. Failure to deliver outputs is a potential breach of Network Rail's Network Licence and may result in us taking enforcement action.
- 3.3 For CP3, the treatment of underspend outlined in this chapter relates only to cumulative underspend up to 15% of the cumulative expenditure assumed in setting access charges in 2003. Underspend in excess of 15% may be dealt with through a more wide-ranging review of Network Rail's overall revenue requirement, as provided for in the ACR2003 by a clause in track access contracts.

### Treatment of outperformance

- 3.4 The fundamental principle regarding the treatment of outperformance, in keeping with other regulated utilities, is that Network Rail should be allowed to benefit from any underspend identified as outperformance.
- 3.5 Network Rail is best placed to determine the use of the surplus resulting from any outperformance. However, as Network Rail receives a significant amount of direct public funding, we asked Network Rail to develop criteria for the use of any outperformance in conjunction with us, the Department for Transport (DfT) and Transport Scotland.
- 3.6 In its criteria for the use of surpluses, which will be formalised in its 2005 Business Planning Criteria, the company has indicated that, for CP3, it intends to use any outperformance of its regulatory efficiency assumptions to

reduce debt or to fund and finance investments that either reduce the future cost or improve the outputs of the railway. Any such investments would be appraised from a whole-industry perspective and discussed in advance with us, the DfT and Transport Scotland.

## **Treatment of underperformance**

- 3.7 A key principle of incentive regulation is that the regulated company is not allowed to benefit financially from falling short of delivering the outputs for which it has been funded. To this end, in the ACR2003 final conclusions<sup>10</sup>, we stated that “where Network Rail has not delivered the outputs set by the Regulator and the company has deliberately not sought to carry out the work necessary to deliver those outputs... the Regulator may take money away at the next review to compensate customers and funders”. Therefore, Network Rail will not be allowed to benefit from any underperformance.

### *De-scoping*

- 3.8 At the Periodic Review 2008 (PR2008), we will adjust Network Rail’s revenue requirement for any underperformance caused by de-scoping. The adjustment will be equal to the revenue associated with de-scoping plus any financing benefit.
- 3.9 If de-scoping is undertaken without the agreement of customers and funders, this could also potentially constitute a breach of Network Rail’s Network Licence and may involve us taking enforcement action.

### *Deferral*

- 3.10 At the end of the control period, if Network Rail proposes to defer delivery of work until a subsequent control period, no additional revenue will be allowed as it has already been funded to carry out this work.

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<sup>10</sup> *Access Charges Review 2003: final conclusions*, Executive Summary, point 36, ORR, December 2003.

## Level of disaggregation

- 3.11 The underspend framework outlined in this document relates to expenditure across Network Rail as a whole. *The Future of Rail* White Paper<sup>11</sup> gives additional powers and responsibilities for specifying and funding high-level outputs to Scottish Ministers; and, from 1 April 2006, the Scottish Executive will have responsibility for funding infrastructure in Scotland.
- 3.12 We have recently published our approach to regulation in Scotland<sup>12</sup>, including conclusions on the disaggregation of required outputs and allowed revenues for the remainder of CP3 and modifications to Network Rail's price control framework for CP4 onwards, to accommodate the requirements of devolution.
- 3.13 From 2006-07, we will monitor the extent and causes of any underspend and quantify the proportion that can be attributed to outperformance separately for Scotland and for England and Wales using the methodology set out in this document.
- 3.14 Network Rail will, in future, include in its Annual Return<sup>13</sup> disaggregated information for Scotland and England and Wales.
- 3.15 At present we do not expect formally to monitor underspend at a more disaggregated (e.g. route-based) level. However, the development of route-based monitoring will be considered as Network Rail continues to implement its unit cost framework.

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<sup>11</sup> *The Future of Rail*, Cm 6233, Department of Transport, July 2004.

<sup>12</sup> *ORR's Approach to Regulation in Scotland: Conclusions*, ORR, December 2005, available at: <http://www.rail-reg.gov.uk/upload/pdf/267.pdf>.

<sup>13</sup> Network Rail's 2005 Annual Return is available on the company's website at [www.networkrail.co.uk/companyinformation/RegulatoryDocuments/Content/Documents/F-%20Regulatory%20Reports/2005%20annual%20return.pdf](http://www.networkrail.co.uk/companyinformation/RegulatoryDocuments/Content/Documents/F-%20Regulatory%20Reports/2005%20annual%20return.pdf).



## 4. Unit cost monitoring

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### Introduction

4.1 This chapter sets out the framework that we will use to monitor Network Rail's progress in reducing its unit costs. This framework will form the basis of our overall annual assessment of Network Rail's unit cost performance to be published in the Annual Assessment, as part of our overall efficiency analysis. We recognise that the accuracy and reliability of unit cost measures will improve over time as Network Rail implements its unit cost measurement frameworks. The emerging unit cost information will therefore need to be interpreted with care.

4.2 This chapter includes:

- the background to the ACR2003 unit cost efficiency assumptions;
- the rationale for monitoring unit costs;
- the monitoring framework;
- our approach to auditing and publication of unit cost data; and
- our approach to annual overall assessment of unit cost efficiency.

### Background

4.3 At ACR2003, we determined Network Rail's revenue allowance on the assumption that unit costs would be reduced by 31% by the end of the control period. In order to determine the annual profile of the revenue allowance, we established the extent to which Network Rail should be able to reduce its unit costs in each year of the control period for each of controllable operating, maintenance and renewals expenditure<sup>14</sup>. This is summarised in Table 3.

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<sup>14</sup> See *Access Charges Review 2003: final conclusions*, December 2003, chapter 6.

**Table 3: ORR's annual unit cost efficiency assumptions**

	2004-05	2005-06	2006-07	2007-08	2008-09	Total
Maintenance	8%	8%	8%	8%	8%	35%
Operations <sup>a</sup>	8%	8%	8%	5%	5%	30%
Renewals	8%	8%	8%	5%	5%	30%
<b>Total</b>	<b>8%</b>	<b>8%</b>	<b>8%</b>	<b>6%</b>	<b>6%</b>	<b>31%</b>

<sup>a</sup> Controllable operating expenditure.

Source: *Access Charges Review 2003: final conclusions*, December 2003, page 92

## Reasons for monitoring unit costs

4.4 We will monitor Network Rail's progress on improving its unit cost efficiency for two main reasons:

- it is a necessary component of the overall efficiency framework, as described in Chapters 2 and 3; and
- it will provide us with information for setting access charges at subsequent periodic reviews.

4.5 In addition, having a comprehensive unit cost framework will provide Network Rail with robust information to inform its own business decisions and to support its PR2008 strategic business plan submissions to us. In the ACR2003 final conclusions, we stated that we expect Network Rail to measure its unit costs and monitor its progress in achieving our assumptions in setting the ACR2003 revenue allowance, i.e. that Network Rail should be able to reduce its unit costs by 31% by the end of the control period.

## Unit cost monitoring framework

4.6 This sections sets out the proposed framework for monitoring unit costs for each of controllable operating, maintenance and renewals expenditure.

4.7 In the case of enhancement expenditure, it is difficult and often not practicable to develop robust unit cost metrics due to the heterogeneous nature of projects. Consequently, in most cases, greater reliance will necessarily be placed on the independent rail Reporters' audit or our own analysis of

Network Rail's expenditure and variance analysis in assessing Network Rail's efficiency in undertaking enhancements.

- 4.8 Network Rail is in the process of implementing its cost analysis frameworks (CAFs) for monitoring renewals unit costs and its maintenance unit costs (MUCs) framework, which should increase both the coverage and quality of unit cost data reported. The Reporters have recently undertaken a review of the rollout process in order to provide us with a good understanding of Network Rail's progress against its proposed programme as well as the coverage and quality of data likely to be generated for 2005-06<sup>15</sup>.
- 4.9 A summary of the proposed frameworks and the Reporters' conclusions on Network Rail's progress to date are also set out below.

*Controllable operating expenditure*

- 4.10 In setting Network Rail's revenue allowance for CP3, we assumed a 30% efficiency improvement in operating expenditure over the control period. This relates to the reduction in the total amount of controllable operating expenditure that Network Rail will incur in operating its business and overseeing its maintenance, renewals and enhancement activity.
- 4.11 As operational activity has a broadly fixed annual purpose, there is limited scope for either deferral of expenditure or descopeing of activities. We will report on the annual change in Network Rail's total controllable operating expenditure to measure the extent to which Network Rail has achieved efficiency gains. We recognise that this measure does not normalise for the size of the network or for the level of traffic and that it is possible for operating expenditure to decrease as a result of the size of the network decreasing or traffic falling rather than Network Rail reducing its unit costs. However, we believe that this is an appropriate measure at present given the considerable economies of scale and scope in Network Rail's operations.

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<sup>15</sup> The Reporters' report, Halcrow January 2006, *Audit of Network Rail's Roll Out of Cost Analysis Frameworks and Maintenance Unit Cost Measures*, is posted on our website ([www.rail-reg.gov.uk](http://www.rail-reg.gov.uk)).

### *Maintenance expenditure*

- 4.12 The framework for the measurement of maintenance unit costs for expenditure contains two distinct parts:
- the framework used for 2004-05 based on relatively limited unit cost data collection processes; and
  - a framework for future years reflecting Network Rail's more extensive data collection processes, including its MUCs.
- 4.13 For 2004-05, Network Rail used aggregate maintenance expenditure divided by equated track miles (ETM)<sup>16</sup> to monitor its efficiency in maintenance activity; and we used this measure to report on Network Rail's progress in reducing maintenance unit costs in 2004-05 in our Annual Assessment. However, we consider that this single measure has a significant weakness as a standalone measure of maintenance unit cost efficiency. This is because the ETM measure assumes that Network Rail will undertake an expected level of maintenance activity and if it does not carry out this volume of activity but its expenditure is nevertheless unchanged, maintenance spend per ETM will remain unchanged, while a unit cost measure would have increased. Therefore, supporting unit cost measures are required for maintenance.
- 4.14 Under its MUC framework, Network Rail is developing maintenance unit cost measures for a range of assets, including track, signalling and telecoms. The Reporters' recent review of the implementation of the MUC framework stated that data are now being collected for 18 work items, 15 track (60% coverage of track spend) and three signalling (37% coverage), but that data are not sufficiently robust as yet. Nevertheless, it is expected that some MUCs will be available to support Network Rail's 2006 Annual Return.
- 4.15 The maintenance cost per ETM measure will continue to be reported throughout this control period but is expected to be augmented by specific unit costs from 2005-06 onwards, as indicated in Table 4.

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<sup>16</sup> The concept of ETMs was developed by British Rail Research and reflects the expected level of maintenance activity associated with track type, traffic tonnage band, tonnage type and speed.

**Table 4: Maintenance unit cost measures**

	<b>Actual</b>	<b>Coverage<sup>17</sup></b>	<b>Benchmark</b>
<b>2004-05</b>	2004-05 aggregate maintenance expenditure divided by equated track miles.	100%	2003-04 aggregate maintenance expenditure divided by equated track miles.
<b>2005-06 onwards</b>	As above plus:		
	Annual composite maintenance unit cost. Track unit cost measure based on the 15 most repeatable track maintenance activities.	Limited number of robust unit cost measures expected for 2005-06, with full suite of indicators anticipated from 2006-07	2005-06: no benchmarks as first year of reporting measures.  2006-07 onwards: 2005-06 composite maintenance unit cost. Track unit cost based on the 15 most repeatable track maintenance activities.
Annual composite signalling and telecoms/ electrification and plant/off track/operational property unit costs.	2005-06: no benchmark available as first year of reporting measures.  2006-07 onwards: 2005-06 corresponding composite unit costs.		

*Renewals expenditure*

4.16 As for maintenance, the framework for the measurement of renewals unit costs contains two distinct parts:

- the framework used for 2004-05 based on relatively limited unit cost data; and
- a framework for future years reflecting Network Rail's more extensive data collection processes being implemented under its CAFs.

4.17 For 2004-05, Network Rail's pre-existing renewals unit cost measures for individual activities covering track, structures and signalling activities were used to monitor the extent to which Network Rail has reduced its unit costs.

<sup>17</sup> Coverage is as a percentage of total maintenance expenditure.

- 4.18 Under its CAFs, Network Rail is progressively extending its renewals unit costs to cover all the key asset classes and provide at least 80% coverage of total renewals expenditure. The framework will also standardise the measurement of the costs of planned and actual work in a consistent and repeatable way and is described in more detail in its Business Plan 2005 (BP2005)<sup>18</sup>.
- 4.19 The Reporters' recent review of the rollout of the CAFs suggests that Network Rail is slightly behind its planned timetable for producing robust unit cost data under the framework. However, it is expected that some robust unit cost measures will be available to support the 2006 Annual Return.
- 4.20 The pre-existing renewals unit cost measures, as reported in the 2005 Annual Return, will continue to be reported at least until the CAFs are fully functional.
- 4.21 Table 5 sets out the unit cost measures and comparable benchmarks that will form part of the framework for monitoring Network Rail's progress in reducing its renewals unit costs for 2004-05 and 2005-06 onwards.

**Table 5: Renewals unit cost measures**

	<b>Actual</b>	<b>Coverage</b> <sup>19</sup>	<b>Benchmark</b>	<b>Coverage</b>
<b>2004-05</b>	2004-05 composite track renewals unit cost	90%	2003-04 composite track renewals unit cost	80%
	2004-05 composite structures renewals unit cost	50%	2003-04 composite structures renewals unit cost	40%
	2004-05 composite signalling renewals unit cost	20%	2003-04 composite signalling renewals unit cost	20%
<b>2005-06 onwards</b>	As for 2004-05 plus,  To extent robust data are available: annual CAF-based composite renewals unit cost by asset	Up to 80%	2005-06: 2003-04 composite renewals unit cost by asset  2006-07 onwards: 2005-06 CAF-based composite renewals unit cost by asset	Track: 80% Structures: 40% Signalling: 20%  Up to 80%

<sup>18</sup> This is described in more detail in Network Rail's 2005 Business Plan, *Management Plan, 2005 Business Plan* (April 2005), page 79, which is available on Network Rail's website.

<sup>19</sup> Coverage is as a percentage of total renewals expenditure (by asset where appropriate).

## **Overall assessment of unit cost efficiency**

4.22 Unit cost measures will never cover 100% of Network Rail's expenditure. We will therefore need to make a judgement based on the quantitative information available in order to form an overall assessment of unit cost efficiency. This could be informed by any qualitative information that Network Rail may wish to provide in support of the unit cost data.

## **Level of disaggregation**

4.23 In order to support the devolution of specification and funding of outputs to Scottish Ministers, we require Network Rail to report unit costs separately for Scotland and for England & Wales from 2006-07 onwards.

## **Auditing and publication of unit cost data**

4.24 Network Rail's unit cost data collection and reporting procedures and processes will need to be audited. We have asked the reporters, as part of the Annual Return process, to:

- reconcile aggregate opex, maintenance and renewals expenditure with the regulatory accounts;
- ensure Network Rail is complying with the maintenance and renewals unit cost activity measurement and cost allocation procedures;
- audit the systems used to collate maintenance unit costs; and
- audit the systems used to collate renewals and maintenance unit costs.

4.25 We will require Network Rail to report on the unit cost measures set out in Tables 4 and 5 above in its Annual Return.

4.26 In addition, Network Rail must provide in its Annual Return:

- commentary (with supporting evidence) on the extent to which it considers itself to have reduced the unit costs of activities for which unit cost measures (or appropriate benchmarks) are unavailable; and
- an expenditure variance analysis setting out the extent to which it has achieved efficiency savings overall (section 2 provides further details).

- 4.27 Further to the Annual Return process, we have requested that the rail Reporters undertake a further assessment of Network Rail's progress in implementing its unit cost monitoring framework in spring 2006, with subsequent assessment to follow as necessary.

## ***Annex A: Respondents to consultation document***

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- Responses to the June consultation document were received from the following parties:
  - Network Rail;
  - the Scottish Executive;
  - Transport for London (TfL);
  - the Association of Train Operating Companies (ATOC);
  - Strathclyde Passenger Transport Executive (SPTE);
  - English Welsh and Scottish Railway Ltd (EWS);
  - Chiltern; and
  - First Group.
- All of these non-confidential responses are available in our library and on our website ([www.rail-reg.gov.uk](http://www.rail-reg.gov.uk)).