OFFICE OF RAIL REGULATION

2014 High Speed 1 Periodic Review (PR14)

Draft ORR determination

Draft ORR PR14 determination
February 2014

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Foreword

This draft determination, on which we are consulting, marks a key stage in the first periodic review of HS1 Ltd undertaken by ORR, in partnership with HS1 Ltd and stakeholders. It sets out the work which HS1 Ltd has carried out over the previous two years on PR14, HS1 Ltd's conclusions and ORR's validation of that work. This draft determination sets out the elements of the access charges which ORR has reviewed and which will, if approved, apply in HS1 Ltd's Control Period 2 from 2015-2020. It also sets out the outputs HS1 Ltd will be expected to achieve against its obligations both to ORR as the regulator and under the Concession Agreement, in terms of performance, reliability, asset management and safety.

HS1 Ltd has made great strides forward in Control Period 1 and we look for this high standard to be continued in Control Period 2, with ever growing passenger numbers, services and the possibility of new entrants to the Great Britain high-speed rail market.

We recognise that, in this context, HS1 Ltd's Five Year Asset Management Statement (5YAMS) represents a stretching challenge, but an achievable one. The onus is squarely on HS1 Ltd and its partners to make the required efficiency savings over the forthcoming five years, whilst maintaining as a minimum current performance.

We have worked robustly but collaboratively with HS1 Ltd, as well as their customers and stakeholders, throughout the process. We are pleased with the way in which these organisations have reciprocated. HS1 Ltd's engagement programme in particular has been constructive, open and transparent and has helped to put them on a sure footing for the next five years of Control Period 2. This has allowed us to trace renewals costs right from asset policies, through a comprehensive whole life cost model and into the access charges that the operators will pay.

We have considered HS1 Ltd's 5YAMS against the criteria set out in our approach document published in June 2014, against the requirements of the Concession Agreement and relevant legislation, and against the outputs proposed by HS1 Ltd.

I would like to thank all those who have been involved in PR14 so far, both across the industry and within ORR, for their support, assistance and hard work through sharing their views and ideas and producing the deliverables which have contributed to HS1 Ltd's 5YAMS and this draft determination.

We welcome your views and comments before finalising our decision on the approval of HS1 Ltd's 5YAMS and implementation of our conclusions (including changes to the track access contracts).

Alan Price
Director, Railway Planning and Performance
February 2014

Acronyms, definitions and abbreviations

5YAMS – Five Year Asset Management Statement

The Act – The Railways Act 1993

AMAS – Asset Management Annual Statement

ASPs – Asset Specific Policies

BTP – British Transport Police

Concession Agreement – The Concession Agreement for the design, construction, financing, operation, repair and maintenance of High Speed 1, between The Secretary of State for Transport and HS1 Ltd

CP1 – HS1's Control Period 1 (October 2009 – 31 March 2015)

CP2 – HS1's Control Period 2 (1 April 2015 – 31 March 2020)

DAB – Delay Attribution Board

DAG – Delay Attribution Guide

DBS – DB Schenker Rail (UK) Limited

DfT – Department for Transport

EIL – Eurostar International Limited

FATs – the HS1 Freight Access Terms

FOC – Freight Operating Company

the HS1 network – the physical HS1 infrastructure

HS1 Ltd – HS1 Limited

IM – Infrastructure Manager

IRC – Investment Recovery Charge

LSER – London & South Eastern Railway Limited

NRIL – Network Rail Infrastructure Limited

NR(HS) – Network Rail (High Speed) Limited

OA – The Operator Agreement between HS1 Ltd and Network Rail (CTRL) Limited, as amended and restated.

OMR – the operation, maintenance, renewal and replacement of the HS1 network

OMRC – amounts applied by HS1 Ltd for the purpose of calculating track access charges in respect of OMR

ORR – Office of Rail Regulation

PATs – the HS1 Passenger Access Terms

PR13 – The 2013 Periodic Review of NRIL

PR14 – The 2014 Periodic Review of HS1 Ltd

PR19 – The 2019 Periodic Review of HS1 Ltd

The Regulations – The Railways Infrastructure (Access and Management) Regulations 2005

SoS – The Secretary of State for Transport (for England and Wales)

TOC – Train Operating Company

WLCC – Whole life cycle cost

1. Executive Summary

1.1 This document sets out our draft determination on the first periodic review of HS1 Ltd (PR14). It includes our views on:

(a) whether HS1 Ltd has had regard to, and fulfilled, the requirements and obligations set out in the Concession Agreement, with respect to a periodic review;

(b) the outputs HS1 Ltd has said it will deliver in CP2;

(c) HS1 Ltd's asset management plans for CP2 and beyond;

(d) the regulatory framework for HS1 Ltd in CP2;

(e) the structure of HS1 Ltd's charges; and

(f) the level of HS1 Ltd's access charges which we regulate.

1.2 This document sets out the background to PR14, including our role and obligations in a periodic review, the contractual and legal framework around a periodic review of HS1 Ltd and the situation in the current control period, CP1. It also sets out those areas excluded from the scope of an HS1 Ltd periodic review. As part of the periodic review process, we are required to approve HS1 Ltd's Five Year Asset Management Statement (5YAMS), or to give reasons to HS1 Ltd why we are unable to approve it. To give effect to the periodic review, we are required to consult on our proposed decision to approve the 5YAMS and we have called this our 'draft determination'.

1.3 HS1 Ltd's regulatory framework has been considered. We are content to accept HS1 Ltd's proposal that the existing performance thresholds and payments rates in the performance regime should be retained. We are content with the outperformance sharing mechanism as presented in the 5YAMS, as it provides better incentives, and with the process for administering the outperformance mechanism. We have reviewed HS1 Ltd's cost allocation methodology and consider this to be appropriate.

1.4 We have reviewed the HS1 Ltd asset management approach and found it to be reasonable in terms of robustness and sustainability. We acknowledge the development of the Asset Specific Policies to provide justification for the approach applied in the 5YAMS and 40-year plans. We note the significant step forward in the development of whole life cycle cost models to provide a tool for evaluating different intervention options in terms of; safety, service and cost. We recognise the journey HS1 Ltd is on in improving asset knowledge and improving asset degradation models. We note that asset condition is broadly where we would expect it to be based on the age of the asset base and recognise the renewal interventions will begin to ramp up in CP4 as asset condition triggers renewal for 'medium' life assets.

1.5 We have reviewed the proposed operations, corporate costs and pass through costs. We have reviewed Network Rail (High Speed) Limited's (NR(HS)) operations and corporate functions expenditure assumptions for CP2 and consider them to be reasonable. We have reviewed the NR(HS) proposals for the management fee and risk premium and note NR(HS)'s positive response to our challenge regarding the level of management fee during the 5YAMS consultation. We have reviewed HS1 Ltd's assumptions for contract costs and internal costs and consider them to be reasonable. We have reviewed HS1 Ltd's assumptions for pass through costs and consider them to be reasonable.

1.6 We have reviewed HS1 Ltd's financial assumptions, and on balance, we propose to accept HS1 Ltd's final 5YAMS financial assumptions, including its approach to calculating the CP2 renewals charge. The annual renewals charge will increase from £5.9m in CP1 to £11.2m in CP2. However, on current expenditure and interest rate forecasts, the renewals charge will need to increase further to £16.4m in CP3 and £17.4m from CP4 onwards to recover the impact of underfunding in CP1.

1.7 As part of PR14, we are required to approve HS1 Ltd's operating, maintenance and renewal costs and the track access charges flowing from these costs. HS1 Ltd has reduced its proposed passenger charges relative to its draft 5YAMS, responding to comments we and others made on a number of cost items. We are minded to approve HS1 Ltd's proposed charges of £48.14 per train minute for international passenger services (12% lower than the equivalent CP1 charge) and £36.32 per train minute for domestic passenger services (13% lower than the equivalent CP1 charge). These charges are subject to re-opener provisions relating to the GSM-R upgrade and changes of +/-4% in traffic volumes.

1.8 HS1 Ltd has reduced its freight charges relative to its draft 5YAMS, responding to comments we and stakeholders have made, and in particular increasing its assumption regarding the number of freight trains, subject to a re-opener provision in the track access contracts. We are minded to approve HS1 Ltd's proposed charge of £5.36 per train-km, based on 800 trains per annum; this compares to £8.10 per train km for CP1.

1.9 This draft determination sets out the review and challenge we have undertaken to arrive at these draft conclusions, and seeks your views on those conclusions.

1.10 We are also seeking your views on those aspects of HS1 Ltd's contractual documentation which have been modified as a result of the implementation of PR14 (e.g. the track access agreements).

1.11 Following receipt of your comments, we will take these into account and use them to produce our final approval for PR14. Consultees with any questions should contact us using the contact details contained within this document.

2. Introduction

Background and contextual information

Overview of the HS1 network and HS1 Ltd

2.1 HS1 Ltd holds a concession (until 2040) to operate, maintain and renew the 109km high speed rail line between London St. Pancras and the Channel Tunnel. This is the UK's only high speed rail line serving four stations (St. Pancras, Stratford, Ebbsfleet and Ashford) along the route. The primary business of HS1 Ltd is to provide high speed rail access to domestic and international passenger rail and international rail freight services. HS1 Ltd's revenue comes from access charges which are paid by train operators to use HS1 Ltd's track and stations. HS1 Ltd also receives income, which is not regulated, through its retail facilities and car parking at stations. Unlike Network Rail, HS1 Ltd does not receive any government grant.

2.2 The Concession Agreement sets out the terms of the agreement between HS1 Ltd and the Secretary of State for Transport ("SoS"), who owns the HS1 railway infrastructure. This includes the charging framework, minimal operational standards including proper asset stewardship, protections against termination and protection from material adverse change.

2.3 Many of the functions which HS1 Ltd must perform as infrastructure manager (such as track operation and maintenance, signalling and timetabling) are contracted out to NR(HS), a wholly-owned subsidiary of Network Rail Infrastructure Limited ("NRIL"). The relationship between HS1 Ltd and NR(HS) is governed by an Operator Agreement ("the OA"). The OA is a commercial agreement which is not subject to any regulatory approval or scrutiny.

Our role in regulating HS1 Ltd

2.4 The Concession Agreement is the means through which we regulate HS1 Ltd and the HS1 network. Our role includes, but is not limited to, the monitoring of operational performance (and the ability to implement enforcement procedures in the case of failure to comply), the monitoring of asset stewardship obligations (which must be delivered as if HS1 Ltd were responsible for the stewardship of the infrastructure for a period of 40 years from the date such activities are planned or carried out), and the carrying out of a five yearly periodic review of access charges (as well as any interim reviews if required).

2.5 The Concession Agreement sets out the purpose, and in general terms, the process for conducting periodic reviews.

2.6 In addition to regulating HS1 Ltd under the Concession Agreement, we have responsibilities concerning the economic regulation of HS1 Ltd under The Railways Infrastructure (Access and Management)

Regulations 2005 ("the Regulations"). These include a pre-approval role for new and amended framework agreements, ensuring that charges for use of the infrastructure comply with the requirements in Part 4 and Schedule 3 of the Regulations and ensuring, through our rights and responsibilities under the Concession Agreement, that HS1 Ltd is provided with incentives to reduce the costs of provision of infrastructure and access charges in accordance with Regulation 13. We have entered into a Memorandum of Understanding with SoS in respect of the performance of our role. Our approach to our economic regulatory functions in respect of the HS1 network is outlined in our 2009 Regulatory Statement.

2.7 Further information on our role in a periodic review is set out in Section 2 of Schedule 10 of the Concession Agreement.

HS1 Periodic Reviews

2.8 The 2014 Periodic Review of HS1 Ltd ("PR14") is the first full periodic review of HS1 Ltd. PR14 will set some of the elements of HS1 Ltd's access charges, the outputs which HS1 Ltd will deliver, and the efficient cost for delivering these outputs, during HS1's Control Period 2 ("CP2"). PR14 will also establish the 'regulatory framework' for CP2. This includes the financial framework within which HS1 Ltd will operate and the incentives that will act on both it and train operators to deliver and outperform against this determination. CP2 runs from 1 April 2015 to 31 March 2020.

2.9 In advance of each Control Period, HS1 Ltd must produce a Five Year Asset Management Statement ("5YAMS"). This document is the principal input into a periodic review of HS1 Ltd. The timescales for preparation of the 5YAMS, and its contents, are set out in Section 2 of Schedule 10 of the Concession Agreement. This document sets out the views we have reached based on the 5YAMS which HS1 Ltd has submitted to us.

Purpose of this document

2.10 As part of the periodic review process, we are required to approve the 5YAMS, or to give reasons to HS1 Ltd why we are unable to approve it. We have termed this our 'draft determination'. This document sets out our draft determination on PR14 and includes our views on:

(a) whether HS1 Ltd has had regard to, and fulfilled, the requirements and obligations upon it by virtue of the Concession Agreement, with respect to a periodic review;

(b) the outputs HS1 Ltd has said it will deliver in CP2;

(c) HS1 Ltd's asset management plans for CP2 and beyond;

(d) the regulatory framework HS1 Ltd will use in CP2;

(e) the structure of HS1 Ltd's charging framework; and

(f) the level of the elements of HS1 Ltd's access charges which we regulate.

2.11 In this document, we are consulting on our draft decision to approve the 5YAMS and the consequential amendments to the contractual documentation and invite stakeholders to comment on any aspect of this document. However, we would like to draw attention to specific issues in this document where we would particularly welcome views. These are as follows:

(a) the route escrow account, particularly:

(i) the funding profile and annuity; and

(ii) risk and liability for funding the account;

(b) HS1 Ltd's structure of charges for CP2;

(c) the overall level of charges for CP2, in the context of:

(i) HS1 Ltd's asset management proposals; and

(ii) HS1 Ltd's efficiency plan for CP2;

(d) the extent to which the needs of end users of the HS1 network have been taken into account; and

(e) the revisions to the associated contractual documentation required for the implementation of PR14 (as set out in Annexes C - F).

Responses to this document

2.12 This consultation is open for a period of five weeks and the closing date for responses is 4 April 2014. Please send your response in electronic format by close of business on 4 April 2014 to:

david.reed@orr.gsi.gov.uk

2.13 Alternatively, if this is not possible, please send your response in hard copy to:

David Reed
Access Executive
Office of Rail Regulation
One Kemble Street
London
WC2B 4AN
Tel: 0207 282 0112

2.14 Please note, due to inherent timing constraints in the PR14 process as set out in the Concession Agreement, we would appreciate your cooperation in submitting responses within this timeframe, as it may not be possible to take into account responses received after this time.

2.15 When sending documents to us in electronic format, we would prefer that you email us your correspondence in Microsoft Word format. This is so that we are able to apply web standards to content on our website. If you do email us a PDF document, where possible please:

(a) create it from the electronic Microsoft Word file (preferably using Adobe Acrobat), as opposed to an image scan; and

(b) ensure that the PDF's security method is set to no security in the document properties.

2.16 If you send a written response, you should indicate clearly if you wish all or part of your response to remain confidential to ORR. Otherwise, we would expect to make it available in full on our website, and potentially to quote from it. Where your response is made in confidence, please provide a statement summarising it, excluding the confidential information, which can be treated as a non-confidential response. We may also publish the names of respondents in future documents or on our website, unless you indicate that you wish your name to be withheld.

ORR's role in a periodic review

2.17 There are three key reference points which are relevant to establishing our role in a periodic review. The first of these is the Concession Agreement. The second is the Regulations (and, given the timing of PR14, we also need to undertake the periodic review in the context of Directive 2012/34 EU[1] – which is expected to come into force in June 2015). Finally, the third reference point is our 2009 Regulatory Statement which describes our proposed overall approach to executing our regulatory role in relation to the HS1 network, including during a periodic review.

Concession Agreement

2.18 The periodic review process set out in the Concession Agreement is designed to be as consistent as possible with the broad approach taken by ORR for periodic reviews on the national network, with charges being determined for each control period lasting five years. The Concession Agreement requires a rolling 40-year view of renewal and replacement costs to be taken, and as part of the PR14 process we have looked to ensure that annuity payments into the escrow account are adequate in light of this.

[1] The recast of the First Railway Package.

2.19 Paragraph 7.1 of Section 2 of Schedule 10 to the Concession Agreement sets out the basis on which we conduct periodic reviews for HS1 Ltd. Our role is to approve or determine certain matters, set out in the Concession Agreement, such as the level of OMRC and access charges for the next Control Period. The OMRC comprises charges in respect of fixed and common costs and charges in respect of cost directly incurred as a result of operating train services. Our regulatory statement agrees that the periodic review will focus on the OMRC (see paragraph 2.24-2.26 on the regulatory statement). It is important to note that our draft determination does not take into account the actual or expected income that HS1 Ltd receives from property (including station and depot lease charges and station access charges), retail, car parking or other activities, or from the Investment Recovery Charge ("IRC"). This is because the Concession Agreement specifies the specific sources of funding that we can take into account when we approve or determine the level of OMRC and these sources of funding are not included. Accordingly, the level of OMRC is not established using the 'single till' model adopted for Network Rail Infrastructure Limited (NRIL). Other exclusions from the scope of PR14 are set out at paragraph 2.26 for information.

2.20 Nevertheless, as set out below, we do have a general duty to ensure that charges are compliant with legal requirements. This document also identifies separately the costs for NR(HS) and the remaining costs of HS1 Ltd.

2.21 Paragraph 3 of Section 1 of Schedule 10 to the Concession Agreement sets out HS1 Ltd's General Duty concerning stewardship of the HS1 network. HS1 Ltd's General Duty is, in simplified terms; to secure the operation, maintenance, renewals, replacement, and upgrades of the HS1 infrastructure in a timely, efficient and economical manner, in accordance with best practice[2], and as if they are responsible for the stewardship of the infrastructure for 40 years following the date at which any activities are planned or carried out. We have been mindful of HS1 Ltd's General Duty during the consideration of its 5YAMS, and in the construction of this draft determination.

The Regulations

2.22 Regulation 28(2) of the Regulations requires us to ensure that charges for the use of railway infrastructure imposed by the infrastructure manager (HS1 Ltd) comply with the requirements in Part 4 and Schedule 3 of the Regulations. Regulation 13(2) states that an infrastructure manager must be provided with incentives to reduce the costs of provision of infrastructure and the level of access charges. We have a responsibility under Regulation 13(3) to exercise our rights and responsibilities under the Concession Agreement in order to ensure compliance with Regulation 13(2). Regulation 14 requires the infrastructure manager to establish a performance scheme, ensuring that the basic principles apply in a non-

[2] This is defined in the Concession Agreement as, in respect of HS1 Ltd, the exercise of that degree of skill, diligence, prudence, foresight and practice which would reasonably be expected from a skilled and experienced infrastructure manager engaged in the provision of high speed railway infrastructure.

discriminatory manner throughout the network to which that scheme relates. We consider that this allows us to review the performance regime at periodic review to ensure consistency with these principles.

Regulatory Statement

2.23 In October 2009, we published a statement setting out our approach to the regulation of the HS1 network. That regulatory statement set out the elements of the regulatory arrangements for the HS1 network, and our approach to carrying out these functions.

2.24 As indicated in the regulatory statement, in the course of a periodic review, we will approve or determine the level of OMRC that would be incurred by an efficient operator, and set a level of OMRC consistent with that. In accordance with the regulatory statement, we have considered the OMRC proposed in HS1 Ltd's 5YAMS by reference to the efficient level of OMRC.

2.25 Throughout this document, we refer back to the obligations placed on ourselves and HS1 Ltd by virtue of the Concession Agreement, Regulations and Regulatory Statement, to place our determination into the appropriate context.

Exclusions from the scope of PR14

2.26 The functions, responsibilities, rights and obligations of ORR under the Concession Agreement are set out at Clause 4.2. Certain elements which make up HS1 Ltd's charges are not included in the scope of PR14 by virtue of the terms of the Concession Agreement. Elements which we, under the Concession Agreement, have no role in reviewing as part of a periodic review include:

(a) the Investment Recovery Charge ("IRC"). This charge is levied on each passenger train service (freight services do not currently pay the IRC) on the network on a 'per minute' basis. This charge will be levied for the duration of the current concession (until 2040) with the purpose of recovering the long-term construction costs of the HS1 network;

(b) the Performance Cap (as defined in Schedule 8 of the Passenger and Freight Access Terms), relating to a cap on performance payments made under Schedule 8;

(c) other unregulated income. HS1 Ltd operates a 'dual till' model whereby the Concession Agreement does not permit us to take the actual or expected unregulated income into account (such as the IRC, or income from property, retail, media and car parking at stations); and

(d) areas covered by the separate DfT-led stations review.

2.27 Notwithstanding that these elements are not included within the scope of PR14, we note that they are all matters on which we potentially have a role under the Regulations.

The application of our statutory duties

2.28 We have a number of statutory duties which we must balance when exercising our economic functions. Our statutory duties are mostly set out in section 4 of the Railways Act 1993 (the Act) (see Annex B). Our duties are not in any order of priority and it is for us to decide how to weigh these when reaching our decisions. In reaching our decisions, we have considered all of our statutory duties and reached a judgement about the appropriate weight to give to each of them.

2.29 Our determination is also based on the principles set out in our regulatory statement concerning the regulation of HS1 Ltd and the HS1 network. The approach set out in this statement, including the general approach to our regulation, the approach to periodic reviews, and our responsibility for monitoring HS1 Ltd's compliance with its stewardship duty, have been considered alongside our statutory duties.

2.30 We consider that our duties point us to delivering a determination that:

(a) is challenging but achievable in terms of efficiency, value for money and deliverability;

(b) works for the long-term as well as the short-term – i.e. is sustainable;

(c) improves health and safety;

(d) provides appropriate protections in respect of risk; and

(e) balances the short and longer term needs of passengers, freight customers and train operators.

The HS1 network and HS1 Ltd in Control Period 1

2.31 In CP1, we worked with DfT to establish a regulatory framework which, as far as possible, aimed to allow the operation of the line subject to normal regulatory supervision, whilst recognising the differences between HS1 Ltd and NRIL, and between the HS1 network and NRIL network. The regulatory framework was established through the Regulations, which also engaged our statutory duties under section 4 of the Act. Through our regulation of HS1 Ltd in CP1, we have applied our general published policies and principles of regulation.

HS1 Ltd's charging framework in CP1

2.32 The UK Government (rather than HS1 Ltd as infrastructure manager) established the HS1 Ltd charging framework through the Concession Agreement, pursuant to Regulation 12(4) of the Regulations. The framework was established by the SoS following consultation and is intended to operate in a manner consistent with the Regulations.

2.33 The charging framework provided that charges may include:

(a) an IRC to recover the capital costs of the HS1 project (as indicated, this charge is exempt from consideration during a periodic review);

(b) charges relating to the operation, maintenance and renewal of HS1, including long-term costs of providing for railway services on the HS1 network, including meeting the performance standards, asset stewardship requirements and handback condition required by the Concession Agreement; and

(c) discounts in accordance with paragraph 6 of schedule 3 of the Regulations.

OMRC in CP1

2.34 In the regulatory statement, we said that, for passenger operators, we expect that the OMRC will comprise:

(a) charges for cost directly incurred as a result of operating train services; and

(b) charges for fixed and common costs, recovered as long-term costs of providing for railway services on the HS1 network. Charges relating to renewal of the network will be calculated as an annuity based on the long-term cost with a fund, held in escrow, being built up to cover the cost of future renewals.

Freight charges in CP1

2.35 Freight charges in CP1 are levied based on the efficient cost directly incurred as a result of the operation of services. Freight charges levied for the cost directly incurred comprise a 'variable' element to recover wear and tear costs and an element to cover the additional 'avoidable' costs of operating freight services.

2.36 Freight services on the HS1 network currently receive a discount to the avoidable cost element of the OMR charges, in accordance with the provisions of the Regulations. The shortfall which HS1 Ltd incurs as a result is recovered from DfT, through the framework agreement between HS1 Ltd and London & South Eastern Railway Ltd ("LSER"), in accordance with the provisions of HS1 Ltd's Passenger Access Terms.

The structure and level of charges in CP1

2.37 At the start of CP1, we reviewed the initial structure and level of access charges (excluding the IRC). We also reviewed benchmarking analysis against international comparators undertaken by HS1 Ltd.

2.38 We said that the proposed OMRC reflected an anticipated efficiency improvement over CP1 through specific cost savings and that, based on the work undertaken, there was no evidence to suggest that the costs and charges were unreasonable for CP1.

2.39 We also said that the international benchmarking analysis was not at a level of robustness which allowed unambiguous conclusions to be drawn on the relative efficiency of HS1 Ltd to relevant comparator

railways. However, we did say that there appeared to be opportunities for further efficiency improvement beyond CP1.

The PR14 process

2.40 Please note that the full programme of ORR-led stakeholder engagement work is available at Annex A. HS1 Ltd has also carried its own extensive programme of stakeholder engagement throughout the review to work towards a 'no surprises' outcome and its approach in this regard is to be commended.

2.41 Initial work began on PR14 in early 2012. HS1 Ltd, in partnership with DfT, ourselves and other stakeholders set out what it considered to be the key areas for review, and the reasons for this. Five areas were identified. These five issues were discussed and agreed at regular stakeholder workshops, and comprised:

(a) benchmarking (incorporating top-down and bottom-up analysis);

(b) incentives regimes (regulatory framework);

(c) structure of charges (for both FOCs and TOCs, incorporating work on traffic demand forecasting and a volume re-opener provision);

(d) outperformance sharing; and

(e) asset management strategy (incorporating asset specific policies and whole-life cost modelling).

2.42 Further information on the composition of each of these areas, and the work undertaken, is set out in the relevant sections of this document.

2.43 Over the course of 2012, the proposals around each of these areas of work were further developed and explored. These were the proposals which formed the basis of ORR's PR14 initial consultation document.

ORR's initial consultation and approach document

2.44 As required by the Concession Agreement, we launched our initial consultation document on the proposed approach for PR14 on 19 February 2013. The eight week consultation closed on 16 April 2013. We received seven responses on the consultation.

2.45 Our initial consultation sets out the respective roles and objectives of the relevant parties, as well as the legal and contractual basis for PR14. It also set out the key inputs to, and expected outcomes and outputs from, PR14. The document also set out:

(a) the timescales for the preparation of the 5YAMS;

(b) the constituent elements of the 5YAMS;

(c) the required inputs and outputs for PR14; and

(d) the proposed timetable for PR14.

2.46 Following the responses we received to the consultation, both in written form and at a stakeholder workshop on 13 March 2013, we published our conclusions, set out in an 'approach to PR14' document, on 27 June 2013.

2.47 For brevity, the content of the consultation document, responses received, and our approach document are not repeated here. However, all of these documents are available in full on ORR's website.

2.48 Our approach document set out in detail our expectations of HS1 Ltd and of PR14. This allowed HS1 Ltd's ongoing work to be further tailored and focussed to meet the requirements of the Concession Agreement and of HS1 Ltd's stakeholders. As part of this further work, we also discussed with HS1 Ltd and agreed the requirements which the Concession Agreement places on HS1 Ltd in terms of the overall 5YAMS content.

HS1 Ltd's consultation on constituent elements

2.49 Through August, September and October 2013, HS1 Ltd consulted on the constituent elements of the 5YAMS. We provided comments, along with a number of other stakeholders, to assist HS1 Ltd in further refining the elements of the 5YAMS prior to formal consultation.

HS1 Ltd's 5YAMS consultation

2.50 HS1 Ltd launched its 5YAMS consultation on 18 October 2013. The six week consultation period closed on 29 November 2013. Ten responses were received, and all of these are available in full on the HS1 website. In our response, we reiterated our support for the collaborative approach adopted by HS1 Ltd, and welcomed the fact that the 5YAMS had not contained any wholly unexpected surprises.

2.51 Our more detailed comments on the constituent elements of the 5YAMS consultation document, as well as the final 5YAMS, are set out elsewhere in this document.

2.52 We welcome HS1 Ltd sharing with us the responses it has received in response to the 5YAMS consultation. This has greatly assisted in our consideration of the 5YAMS, both at a draft and final stage. We also recognise that, due to reasons of commercial confidentiality, some constituent elements (such as the ASPs) of the 5YAMS were not able to be shared with all interested parties. To give reassurance to those interested parties, we have challenged robustly in these areas as well as the rest of the 5YAMS, in lieu of the opportunity for other stakeholders to comment in full.

HS1 Ltd's 5YAMS submission

2.53 Throughout November and December 2013, further work was done by HS1 Ltd to refine the content of the 5YAMS, reflecting consultee comments and questions which had arisen from the content of the 5YAMS. HS1 Ltd submitted the 5YAMS to us on 31 December 2013. HS1 Ltd also submitted a comparison version of the 5YAMS, against the October 2013 consultation version, allowing us to consider the changes made to the 5YAMS as a result of the comments which HS1 Ltd received from ORR and other industry respondents. This comparison version was accompanied by an annexed table of respondents' comments, which demonstrated how these comments had been taken into account by HS1 Ltd prior to submission to ORR. Our consideration of the 5YAMS and further information provided by HS1 Ltd as part of the periodic review process, as well as the proposed judgements and decisions we have formed, are set out in full in this current document.

ORR consultation on the PR14 draft determination

2.54 In a letter to stakeholders of 16 December 2013, we set out our approach to PR14 beyond the submission of the final 5YAMS. This letter set out the various scenarios which may arise as a result of our consideration of the 5YAMS, and our decision (or not) to approve it. This draft determination constitutes the next stage in the process of approval[3], as explained in paragraphs 13-17 and Annex A of the 16 December 2013 letter.

2.55 Prior to the implementation of an access review, we are required to consult TOCs and any other interested persons on:

(a) any decision to approve the 5YAMS (pursuant to paragraph 8.2 of Schedule 10 of the Concession Agreement) [4]; and

(b) our draft conclusions, including the details of any proposed changes to the Review Provisions[5].

2.56 We have taken the decision to consult on both our draft decision to approve the 5YAMS and the draft conclusions (including changes to the contracts) at the same time, in order to ensure that consultation with stakeholders is fair and meaningful and that representations and objections to any proposed approval can be taken into consideration in our final decision. The proposed draft amendments to the Passenger Access Terms, Freight Access Terms and extant passenger and freight framework agreements are set out at Annexes C - F of this document and we invite stakeholders to comment on proposed revisions to these documents.

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[3] 1.1 The Concession Agreement requires that "*Within 90 business days (or such longer period as the ORR may reasonably specify) of receipt of the 5YAMS…if, in the reasonable opinion of the ORR, the 5YAMS is consistent with HS1 Co's General Duty, the ORR shall approve the 5YAMS and HS1 Co shall thereafter comply with its terms*."

[4] Section 7, Part 3, paragraph 5.1(a)(ii) of the HS1 PATs and HS1 FATs.

[5] Section 7, Part 3, paragraph 5.1(a)(iv) of the HS1 PATs and HS1 FATs.

Next steps / process for the remainder of PR14

2.57 We will consider any responses made by consultees to inform our final determination. If, following the close of this consultation, we believe we are in a position to approve the 5YAMS, we would expect to publish the final PR14 determination on or before 6 May 2014, within the 90 Business Days window open to us under the Concession Agreement. We will, of course, notify stakeholders when the determination is published.

2.58 Alternatively, if, following the close of this consultation, we are unable to approve the 5YAMS in its submitted form, we will advise HS1 Ltd, as required by the Concession Agreement, and ask them to rectify the aspects we have been unable to approve in the 5YAMS. We will also contact stakeholders at this point, explaining the situation and setting out revised timescales and milestones.

Post-project review

2.59 Following the conclusion of PR14, we will undertake a post-project review of the end-to-end process. This review will cover what went well with the review, and what could be improved for future periodic reviews of HS1 Ltd. We anticipate that all areas of PR14 will be open to consideration as part of the post project review, and do not intend to limit the review to focussing on ORR's role.

2.60 As part of this review, your feedback as stakeholders will be invaluable in reaching a rounded overall picture of the PR14 process. We will therefore write to stakeholders seeking contributions to the review at a later date.

Outputs

2.61 HS1 Ltd has set out its proposed outputs for CP2 in its 5YAMS. Whilst we have no regulatory or legislative power to define HS1 Ltd's outputs (save monitoring those targets around performance floors set out in the Concession Agreement), we have obligations to ensure that HS1 Ltd is acting in compliance with relevant health and safety legislation, the Regulations and in accordance with the terms set out in the Concession Agreement (including HS1 Ltd's General Duty on stewardship of the HS1 network and the Performance Floor targets).

2.62 We have therefore considered HS1 Ltd's proposed outputs against its legislative and contractual obligations, particularly with regard to ensuring that HS1 Ltd has met its General Duty. We have also considered the contents of the 5YAMS against the requirements set out in Schedule 10, Section 1, paragraph 8 of the Concession Agreement.

2.63 Following review, we are of the view that the contents and information required by the Concession Agreement are all present in the 5YAMS (as we noted in our 5YAMS consultation response). The

constituent elements, and our conclusions on those elements, are discussed in more detail in the remainder of this document.

ORR's monitoring and reporting

2.64 Our monitoring and reporting functions and obligations are set out in the Concession Agreement. Against these functions, and the obligations placed upon us by the Regulations and other relevant legislation, we will continue to monitor and report on the performance of HS1 Ltd and of the HS1 network throughout CP2 (and, indeed, beyond).

2.65 As is currently the case, we will continue to receive and review reports from HS1 Ltd every two periods (a period is four weeks long), quarterly performance floor reports, as well as an annual report. We will continue to produce an annual report for the Secretary of State. This focuses on HS1 Ltd's performance in the preceding year, work done on the regulation of HS1 Ltd, and a forward look to the coming year.

2.66 We will look in particular at progress against the outputs set out in the 5YAMS, and at HS1 Ltd's efficiency savings against its cost plan, throughout CP2. We will also monitor progress against HS1 Ltd's published Asset Management Annual Statement (AMAS), and compare the AMAS against the approved 5YAMS on an annual basis to ensure that commitments are being met efficiently and on time.

2.67 We note that TOCs have proposed regular updates on the proposed initiatives included in table 29 of the 5YAMS. ORR agrees that HS1 Ltd should provide regular updates on the initiatives it has listed. We welcome HS1 Ltd's undertaking to provide updates to its stakeholders on a six-monthly basis, and would be grateful if we could also be provided with this update. We would welcome representations from TOCs (provided that these have been discussed with HS1 Ltd in the first instance) on how these initiatives are progressing.

2.68 We will also monitor the level of available funds in the escrow account, whether this level is commensurate with the level agreed in the 5YAMS against renewal requirements and the level and type of any authorised investments using escrow funds. Any withdrawals or authorised investments will follow the existing processes agreed between the parties.

2.69 We remain open at any time to receiving representations from stakeholders about HS1 Ltd, its performance, or the regulation of HS1 Ltd; with the expectation that they have, where appropriate, discussed any concerns it has with HS1 Ltd in the first instance.

HS1 Ltd's safety plans

2.70 Section 9 of the HS1 Ltd 5YAMS contains HS1 Ltd's proposed safety plans for CP2. We endorse HS1 Ltd's safety vision, and fully recognise and support the importance of putting safety first and achieving a zero-harm environment.

2.71 As part of its consideration of the 5YAMS, we have reviewed HS1 Ltd's safety plans. We are content with the safety vision, objectives and strategy, delivery plan, audit and assurance process, measurement of safety performance and approach to risk management.

2.72 As part of our regular monitoring and reporting duties, as well as our safety inspection obligations, we will, of course, continue to monitor HS1 Ltd's progress against its objectives.

HS1 Ltd's customers

2.73 In order to demonstrate line-of-sight to end customers, HS1 Ltd gave Eurostar International Limited ("EIL") and LSER an opportunity to set out their aspirations in greater detail through a customer survey based on nine output measures. The purpose of HS1 Ltd's line-of-site workstream has been to develop initiatives to improve passenger experience, through consulting its customers.

2.74 The results of this survey provided HS1 Ltd with a number of challenges, and they have responded by identifying a number of initiatives which are underway or will take place during CP2. These initiatives include:

(a) delivering reduced electricity losses and carbon reduction opportunities along the HS1 route;

(b) improving the response to significant incidents, including both service recovery and information flow to passengers (both on train and at stations, noting that the station element is covered by the stations review). Specific examples of this include:

(i) workshops are being arranged to continue review of recovery plans;

(ii) NR(HS) is looking to implement the Performance Planning Reform Programme; and

(iii) cross-business programme to map end to end passenger communications and improvements that can be made.

(c) better understanding of customer wants based on sharing of train operator research, and improved alignment of service delivery e.g. joint delivery of Wi-Fi at stations and along the route by 2015;

(d) continuous improvement in asset management strategy, including strengthening collaborative working with train operators e.g. continued dialogue through Engineering Together meetings and asset

management updates with six monthly reviews. Improved forward planning sharing on network changes; and

(e) enhancing safety culture to achieve a no major RIDDOR[6] incident railway, and providing greater transparency of safety plans with train operators e.g. at stations more dialogue and visibility with operators on ongoing work (such as water ingress on the platforms).

2.75 We note that further detail on each of these initiatives is contained within the 5YAMS document itself. In conjunction with this further detail, we expect HS1 Ltd to produce more detailed plans for each of these initiatives (and any further initiatives which are proposed for CP2), setting out timescales, metrics and milestones against which progress can be measured both by ORR as part of our monitoring duties, and by HS1 Ltd's customers.

2.76 HS1 Ltd has committed to six-monthly line-of-sight reviews with train operators and ORR to develop and refine the initiatives, agree metrics and review progress against them. Train operators will share emerging data on what their customers want to ensure their initiatives continue to target the areas of importance to customers. HS1 Ltd has proposed to hold the first of these reviews in June 2014.

2.77 HS1 Ltd has also engaged with FOCs on their key aspirations. FOCs have made clear that their main concerns centre on the cost of using the HS1 network, and the ability to gain access to the network. HS1 Ltd's work on reducing freight costs and the impact of this on freight charges is set out in chapter 7. HS1 Ltd has been responsive in the timetabling of freight services, and has undertaken work to establish a system of freight catalogue paths for FOCs with long-term aspirations to operate services at night.

2.78 We approve of the work completed so far by HS1 Ltd to develop line-of-sight initiatives, and will be monitoring this work, including as part of the six monthly line-of-sight reviews, as it progresses through CP2.

Price base

2.79 All values in this document are in February 2013 prices unless otherwise stated.

[6] Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013.

3. Regulatory framework

Key messages in this chapter

This chapter describes the review and assessment of HS1 Ltd's regulatory framework.

- In our PR14 approach document, we agreed with HS1 Ltd and stakeholder views that no wholesale review of the performance and possessions regimes was necessary ahead of CP2.
- TOCs are now in agreement with HS1 Ltd's proposal that the existing performance thresholds and payment rates should be retained; we are content to accept HS1 Ltd's proposal in relation to the performance regime.
- We are content with the outperformance mechanism as presented in the 5YAMS, as it will better align incentives, and with the process for administering the outperformance mechanism.
- We have reviewed HS1 Ltd's cost allocation methodology and consider this to be appropriate.

Introduction

3.1 HS1 Ltd's regulatory framework has been considered as part of PR14. This includes the contractual incentives regime (including the possessions and performance regimes) and the outperformance sharing mechanism.

3.2 HS1 Ltd propose, for the most part, to roll over the existing framework, as it was reviewed in the lead up to letting the HS1 concession, and there is limited appetite for change among stakeholders. Respondents to our PR14 approach document of June 2013 agreed that a wholesale review of the contractual incentive mechanisms was not necessary and we endorsed this view.

3.3 This chapter sets out the process for reviewing the regulatory framework workstream, and the outcome of our review of the corresponding sections of the 5YAMS.

3.4 The 5YAMS consultation proposed no changes to the following CP1 elements:

(a) structure of charges;

(b) OMRC apportionment re-opener;

(c) pass through cost categories;

(d) carbon costs;

(e) capacity reservation charge;

(f) performance regime; and

(g) possessions regime.

3.5 In the rest of this chapter we focus on the following elements of the regulatory framework;

(a) performance and possessions regimes;

(b) outperformance sharing mechanism; and

(c) cost allocation.

3.6 We have focused on these elements due to either changes being proposed (outperformance sharing mechanism and cost allocation) or because they were areas in which we felt detailed comment following our review was warranted (performance and possessions regime).

Performance and possessions regimes

Introduction

3.7 Whilst the performance and possession regimes were relatively new in early 2012, HS1 Ltd and stakeholders considered that there were some issues which should be explored as part of PR14; comprising the allocation of delay, the interface with other networks and whether the performance regime incentivised recovery from one-off large events.

3.8 HS1 Ltd established a series of workshops specifically to address these questions, and to determine whether any further work was required to the incentives regimes in place on the HS1 network. In principle, it was agreed between HS1 Ltd and its stakeholders that there was little appetite to undertake a wholesale review of the structure and format of the incentives mechanisms contained within the standard access terms. Following publication of ORR's approach document, and further workshops on HS1 Ltd's proposals, HS1 Ltd consulted on the constituent elements of the regulatory framework in August and September 2013, prior to formal consultation, providing it with a further opportunity to refine the work undertaken prior to the 5YAMS consultation.

3.9 Following HS1 Ltd's consultation on the 5YAMS in October 2013, we began our formal review of this element of the 5YAMS. With regards to the performance and possessions regimes, the basis of our review was, as we set out in our PR14 initial consultation and approach document, to determine whether the approach adopted was reasonable, and consistent with the legal requirements.

Performance regime

Background

3.10 HS1 Ltd commissioned AECOM to perform a recalibration of its performance regime, looking at the performance thresholds (the point at which performance is sufficiently good or bad to trigger bonus payments from TOCs to HS1 Ltd, or compensation payments from HS1 Ltd to TOCs) and payment rates (the amount, per minute delay, that one organisation pays another as a result of below or above threshold performance) of the performance regime. HS1 Ltd also intended to 'future-proof' the performance regime to take account of the entry of new operators in CP2.

3.11 In our response to the draft 5YAMS we raised concerns regarding some of HS1 Ltd's proposals and stated that:

(a) we did not agree with HS1 Ltd that keeping the existing performance thresholds prevents the payment rates from being updated. The payment rates are not directly linked to the location of the performance thresholds;

(b) we did not agree with HS1 Ltd that the 'neutral zone'[7] being too wide is a good enough reason not to use the evidence from the AECOM work. Possible alternatives would be to reduce the number of standard deviations that inform the performance thresholds, or to remove the two major incidents that HS1 Ltd argue have resulted in the widening of the 'neutral zone'; and

(c) we were not clear on the rationale behind not updating the performance regime payment rates because they are 'not significantly different from the existing payment rates'. The draft 5YAMS does not make it clear the circumstances in which HS1 Ltd would have used the evidence from the AECOM work to update the payment rates and thresholds.

3.12 We noted that in September 2013, LSER had said that it did not consider that HS1 Ltd had made a case for retaining existing payment rates prior to the draft 5YAMS consultation. In our response to the draft 5YAMS we said that in light of the fact that not all parties agreed that HS1 Ltd had provided sufficient justification of its proposed approach, HS1 Ltd should either:

(a) base the payment rates on the evidence from the work produced by AECOM but in a way which addresses the concerns HS1 Ltd raised regarding using the AECOM thresholds; or

(b) provide a stronger case for not using the evidence from the AECOM calibration to inform the payment rates.

[7] The 'neutral zone' represents HS1 Ltd performance that is better than the poor performance threshold but not as good as the good performance threshold, meaning that no payment is made in respect of HS1 Ltd's performance.

3.13 HS1 Ltd has not directly addressed the above concerns in its final 5YAMS submission. However, in its response to the draft 5YAMS, LSER stated that it agreed 'with the proposal that the current rates remain until the reopener provisions result in another recalibration.' It is therefore now the case that all parties are in agreement with HS1 Ltd's proposal that the existing performance thresholds and payment rates should be retained.

3.14 Responses to the 5YAMS from EIL and LSER have both raised concerns regarding how the future proofing mechanism would work in the event a new operator starts to run services on the network.

Our Assessment

3.15 We are content to accept HS1 Ltd's proposal in relation to the regime, on the grounds that:

(a) the TOCs using the HS1 network are now in agreement with HS1 Ltd's proposal to continue with the existing performance thresholds and payment rates;

(b) the current payment rates are not sufficiently different to the updated rates to have a material impact on incentives; and

(c) continuing with the current performance thresholds will not weaken HS1 Ltd's incentives to avoid poor performance or deliver very good performance.

3.16 We therefore conclude that the CP2 payment rates and thresholds will be as shown in Table 4.1. It should be noted that this table is equivalent to Table 82 in HS1 Ltd's 5YAMS, but corrects for an error[8]. HS1 Ltd has advised EIL and LSER of this error and EIL and LSER have both responded to confirm that they are content with the correct rates shown in table 4.1.

Table 4.1 – HS1 Ltd CP2 performance regime thresholds and payment rates

	EIL	LSER
HS1 Ltd Poor Performance Threshold	0.31	0.22
HS1 Ltd Good Performance Threshold	0.13	0.03
Cancellation minutes	60	30
TOC Performance Benchmark	0.08	0.33
HS1 Ltd Performance Benchmark	0.16	0.11

[8] Table 82 of the 5YAMS incorrectly stated that the CP2 EIL payment rate and bonus payment rate would be £719 and £180 respectively, and that the CP2 LSER payment rate and bonus payment rate would be £48 and £12 respectively. HS1 Ltd's proposed CP2 payment rates were explained correctly in the text preceding table 82.

TOC on TOC Receipt Benchmark	0.63	0.29
Rates (£ per minute, Feb 2013 prices)		
Payment rate	£611	£54
Bonus payment rate	£153	£13

Source: HS1 Ltd 5YAMS

3.17 However, we remain unconvinced with HS1 Ltd's logic for carrying out the recalibration exercise as part of PR14 and then not applying the results to CP2. As a result, the CP2 rates and thresholds in respect of LSER services and the thresholds in respect of EIL services will remain based on simulated rather than actual data.

3.18 If HS1 Ltd carries out a recalibration of the performance regime during the next periodic review, we expect it to make much clearer from the outset the circumstances in which it would use the results of the recalibration and the circumstances in which it would retain the existing performance thresholds and benchmarks.

3.19 We agree with HS1 Ltd that the definition of Material Change in the HS1 Access Terms should remain the same, as follows:

(a) a significant physical modification to the network; or

(b) a physical modification to the HS1 network due to an inherent defect in the construction of the network; or

(c) an increase or decrease of not less than 4% in the number of timetabled train movements on the HS1 network in any Timetable Year; or

(d) a significant change in the performance and reliability of the train operator's rolling stock; or

(e) a change in the performance regime of another train operator or the entering into of a Track Access Agreement with a train operator which has a material effect on the performance regime.

3.20 The current reopener provisions cover recalibration of the regime when a new operator is introduced. We accept HS1 Ltd's proposal to add an additional recalibration of payment rates and thresholds 12 months after a Material Change. This would enable the payment rates and thresholds to be modified if the payment rates and thresholds established as a result of the initial recalibration did not reflect actual fare revenue and performance during the first 12 months following the Material Change.

3.21 The methodology used to recalibrate the rates and thresholds in the event of a Material Change should be consistent with the HS1 Ltd PATs and FATs. Consistent with HS1 Ltd's proposed approach for

setting the rates and thresholds for CP2 as part of PR14, as part of this draft determination we are not setting out the methodology that should be used to calculate the rates and threshold in the event of a Material Change.

3.22 We further note that HS1 Ltd has included recovery from major incidents as one of its initiatives to address “line of sight”. We recognise the difficulty in learning lessons from recovering from major incidents when there is little first-hand experience from which to learn. Whilst we share HS1 Ltd’s aim of a continuously high-performing network, we will look to see how HS1 Ltd copes with major incidents, and recovery from them, if and when they arise. We would welcome representations from stakeholders in this area, where these have been discussed with HS1 Ltd in the first instance.

Possessions regime

Background

3.23 Our review of HS1 Ltd’s possessions regime focused on whether it was fit for purpose, whether the relevant costs, direct costs and compensation cap were set at an appropriate level and whether the possessions regime incentivised the correct behaviour when an engineering possession was taken. As with the performance regime, there was no real stakeholder appetite to change the possessions regime.

Our assessment

3.24 In our PR14 initial consultation, we recognised that HS1 Ltd’s approach was consistent with the requirements of the Regulations (i.e. to keep delays and cancellations on the HS1 network to a minimum). In our approach document, we said that we expected to see that the incentives regime works to encourage efficient operation of the railway, drives the right behaviours (in terms of recovery from incidents, rather than being used as a tool for financial flows) and is set up to take account of the entry of any new operators in CP2.

3.25 We also said that our expectation of the HS1 network in CP2 was for a 7 Day Railway, and that we would consider HS1 Ltd’s possessions strategy in light of striking a reasonable balance between the needs of both passenger and freight operators and HS1 Ltd’s obligations as a responsible infrastructure manager.

Performance and possessions regimes in CP2 and beyond

3.26 In our PR14 approach document, we agreed with HS1 Ltd and stakeholder views that no wholesale review of the performance and possessions regimes was necessary ahead of CP2. We also said that we would expect a more thorough review to be carried out in future periodic reviews to take account of the increased level of available data, the arrival of any new entrants and the likely increase in the number of services over the network.

3.27 As part of our next periodic review, we will expect to see evidence of a more thorough review of the incentives framework, to ensure that it is coping well with the levels of performance on the HS1 network, that it is fit for purpose and to make use of the increased level of data available to HS1 Ltd.

Outperformance sharing mechanism

Background

3.28 In 2012, HS1 Ltd renegotiated its OA with NR(HS). As a result of the new fixed price under the revised OA, the financial gains were shared amongst HS1 Ltd, NR(HS) and TOCs, with 60% of the total going to TOCs.

3.29 As part of PR14, HS1 Ltd has worked to construct and contractualise a formal mechanism to share outperformance benefits with TOCs in CP2.

3.30 As indicated in our PR14 initial consultation and approach documents, when reviewing and challenging the outperformance mechanism, our starting point was the information included in the 5YAMS, as well as the views of stakeholders. We consider that the efficient operation and maintenance elements of the access charges, as determined before the start of each Control Period through the agreed 5YAMS, act as the baseline for determining outperformance. Any underspend achieved whilst delivering the required output targets without compromising the long-term asset condition and serviceability of the HS1 network will be classified as outperformance. In conducting any review of specific outperformance payments, we would expect, amongst other things, to reflect issues where assets have not been maintained in line with asset specific policies to avoid the potential for lower costs (due to poorer maintenance) being mistaken for outperformance.

3.31 We recognise that HS1 Ltd is potentially incentivised to set a 'soft' target so that outperformance becomes less challenging. As part of its review, we have considered whether the plan in HS1 Ltd's 5YAMS submission is challenging but achievable, but we have also taken into account what an efficient cost for running the HS1 network would be.

3.32 As we said in our approach document, we consider that the outperformance mechanism must incorporate the impact of underperformance – all parties must bear the risk for underperformance (i.e. where costs are higher than expected) as well as outperformance. The onus is therefore on TOCs and HS1 Ltd to reach a challenging but achievable level of charges, and for TOCs in particular (as well as ORR) to challenge HS1 Ltd's assumptions and conclusions.

HS1 Ltd's final 5YAMS

3.33 HS1 Ltd has defined outperformance as the amount equal to the operation and maintenance of the network after all cost deductions are made by NR(HS) in fulfilling their OA obligations. We note that the

Concession Agreement does not contain any outperformance sharing requirements in respect of operations and maintenance costs.

3.34 HS1 Ltd, in line with the OA, has proposed to divide the outperformance benefit as 50% to NR(HS) and 50% to itself. It proposes to allocate 60% of its own share (i.e. 30% of the total benefit) to TOCs / FOCs, with any benefits being shared in years 3, 4 and 5 of CP2 and CP3. The TOC / FOC share is split between TOCs / FOCs in proportion to the annual OMR charges paid under a TOC's / FOC's framework agreement in that financial year. These proposed changes are covered in the revised drafting to the contractual documentation, contained in Annexes C - F.

3.35 The 5YAMS states that only TOCs / FOCs with framework agreements will be entitled to a share of the outperformance benefit, with the OMR charge per train minute fixed for CP2, without adjustment for any financial outperformance.

3.36 The 5YAMS also states that the relevant proportion of the outperformance share for the financial year will be credited to TOCs / FOCs, net of a management fee of no less than 10%. The process will be completed no later than 120 business days after the end of the financial year.

Our assessment

3.37 We note the comments of consultees in response to our PR14 initial consultation and in response to HS1 Ltd's 5YAMS consultation. We have also reviewed the way in which HS1 Ltd has proposed to contractualise the outperformance sharing mechanism in its framework agreements with TOCs / FOCs.

3.38 As part of our discussions with HS1 Ltd, we proposed some changes to this mechanism, which HS1 Ltd has adopted. In the round, we are content with the outperformance mechanism as presented in the 5YAMS, as it will better align incentives, and with the process for administering the outperformance mechanism. We consider that it should be adopted as drafted in the 5YAMS for CP2.

Cost allocation

3.39 As HS1 Ltd notes in its 5YAMS, station activities (including operation, maintenance, repair and renewal activities) and the access charges for the four HS1 network stations are outside the scope of PR14. DfT is conducting a parallel review of long-term charges at the HS1 network stations. HS1 Ltd also has other unregulated income streams, including from retail space and car parking at stations.

3.40 It is therefore necessary to apportion all of HS1 Ltd's costs across the price controlled part of the HS1 network (including freight), stations and unregulated activities to ensure that costs are not double-counted or omitted. Throughout the PR14 process, we have held regular trilateral meetings with HS1 Ltd and DfT to agree a set of principles and an approach for the way in which HS1 Ltd's costs are allocated. Following

these meetings we set out the principles and approach that HS1 Ltd should use to allocate costs across the price controlled part of the HS1 network (including freight), stations and unregulated activities for the 5YAMS.

3.41 As part of HS1 Ltd's 5YAMS consultation, we considered the methodology used to allocate costs across the price controlled part of the HS1 network, stations and unregulated activities. This methodology was set out in a cost allocation paper that HS1 Ltd submitted to us in September 2013. We reviewed that paper and are broadly content that it provides an appropriate allocation of HS1 Ltd's costs and is consistent with the principles and approach discussed in the trilateral meetings with HS1 Ltd and DfT.

3.42 The split of costs between the price controlled part of the HS1 network, stations and unregulated activities detailed in Table 4 of the draft 5YAMS consultation document was broadly consistent with the cost allocation paper; however there were some small differences between the cost allocation paper and the draft 5YAMS, which we highlighted in our draft 5YAMS consultation response to HS1 Ltd on staff costs, technical and legal costs.

3.43 HS1 Ltd addressed these points in its final 5YAMS noting that further detailed changes to the cost allocation methodology, after the draft 5YAMS consultation version, and rounding of some of the numbers explained the differences we highlighted in our response. We have reviewed HS1 Ltd's changes to its cost allocation methodology and are content that it is still appropriate. We also accept HS1 Ltd's confirmation that the allocation of wear and tear between operators and the apportioned delivery of savings in the OMRC model is correct.

3.44 We are content with the process of engagement between ourselves, DfT and HS1 Ltd around cost allocation, which has allowed us to have a clear understanding of the way in which costs have been split across the different areas of the HS1 Ltd business.

4. Asset management

Key messages in this chapter

This chapter describes the review and assessment of HS1 Ltd's asset management approach.

- We have reviewed the HS1 Ltd asset management approach and found it to be reasonable in terms of robustness and sustainability.
- We acknowledge the development of the Asset Specific Policies to provide justification for the approach applied in the 5YAMS and 40-year plans.
- We note the significant step forward in the development of whole life cycle cost models to provide a tool for evaluating different intervention options in terms of; safety, service and cost.
- We note that asset condition is broadly where we would expect it to be based on the age of the asset base and recognise the renewal interventions will begin to ramp up in CP4 as asset condition triggers renewal for 'medium' life assets.

Introduction

4.1 Asset Management is concerned with the sustainable stewardship of HS1's infrastructure including the approach taken to the maintenance and renewals of the asset base to ensure the delivery of key outputs such as safety, performance, asset reliability and system capability. HS1 Ltd's general duty in respect of asset stewardship in the Concession Agreement requires the company to secure the operation, maintenance, renewal and replacement of the railway infrastructure in accordance with best practice and in a timely, efficient and economic manner, and with a long-term (40 year) view. Although the concession is for a 30 year period, HS1 Ltd must always consider whole life decisions based on a 40 year horizon. The Concession Agreement defines "best practice" as meaning in respect of HS1 Ltd the exercise of that degree of skill, diligence, prudence, foresight and practice which would reasonably be expected from a skilled and experienced infrastructure manager engaged in the provision of high speed railway infrastructure.

ORR's approach

4.2 HS1 Ltd's asset management plans have been reviewed as part of our obligations under the Concession Agreement. This included the evaluation and challenge of key documents such as the ASPs

and the 5YAMS document together with reviewing supporting models such as the 40 year plan and whole life cycle cost ("WLCC") model.

4.3 This review was carried out by our Engineering and Asset Management team of specialist engineers, drawing on their experiences and parallels from the recent PR13. This exercise built on the review of the draft asset specific policies which was undertaken by Lloyds Register and published in January 2013.

4.4 Our engineers have reviewed the ASPs thoroughly to understand the assumptions in HS1 Ltd's approach in managing the assets and its risks and sought clarification from HS1 Ltd on any areas of concern. HS1 Ltd has responded to the issues and we consider that the ASPs which underpin the maintenance and renewals plans are robust and sustainable. As the infrastructure is in a relatively new condition (having been opened on 14 November 2007) our focus in this periodic review is to ensure that sufficient money is set aside in the escrow account in order to meet likely capital renewal requirements in the future. There is inevitably a degree of uncertainty at this early stage of the concession around the accuracy of the central estimate, but we expect that this will continue to be refined over time.

4.5 We have also reviewed the WLCC models supporting the individual ASPs. This involved:

(a) HS1 Ltd presented its modelling assumptions and outputs to the ORR and we reviewed and challenged the options presented to us; and

(b) we tested a number of examples from different asset groups, for example, for track where we reviewed the basis of the calculations in terms of degradation rates, interventions and application of unit costs right through to determining the volumes and costs which support the 5YAMS submission.

4.6 Some of the early modelling work had shown some inconsistencies in the phasing of some of the capital renewals profiles but these had subsequently been 'smoothed' to reflect a more realistic renewals approach.

HS1 Ltd's asset policies

4.7 NR(HS) has produced, on behalf of HS1 Ltd, a suite of ASPs aimed at optimising asset performance of key assets through their lifecycle by adopting a structured whole-life cost approach in operations, maintenance, and renewals including asset disposal. These have been used to inform HS1 Ltd's submission.

4.8 In general terms, the asset specific policies contain the details of:

(a) the types and volumes of key assets which have been installed on the route;

(b) an analysis of the current and historic performance of the assets and their criticality;

(c) assumptions and methods of managing the asset base supported by WLCC modelling;

(d) optimised interventions based on lowest whole-life costs which deliver the relevant outputs; and

(e) identification of areas for further development.

4.9 It should be noted that the ASPs do not cover the complete range of assets that comprise the HS1 infrastructure but they have been developed in order to cover the high risk asset groups. HS1 Ltd has used a risk-based methodology in order to identify the areas of high risk in terms of safety, service and expenditure.

4.10 There are nine ASPs which have been developed for the high risk assets together with an overarching Route ASP which sets out the key objectives for the ASPs and the approach adopted by HS1 Ltd.

4.11 The policies represent a significant step forward in the development of the asset management practice on the HS1 network in a number of key areas:

(a) options within policies are supported by WLCC modelling which is key for demonstrating the robustness and sustainability of the policies;

(b) benchmarking has been conducted with other railway undertakings or parallel industries to validate assumptions and proposed intervention strategies; and

(c) risk and criticality have been considered.

4.12 There are a few areas for improvement noted within the ASPs that we would anticipate being incorporated into future developments/revisions of the documents. Key areas of focus include:

(a) improving understanding of asset degradation rates and how they are impacted by time/utilisation;

(b) reviewing maintenance interventions to move towards a risk-based approach;

(c) exploring opportunities for the further application of condition monitoring;

(d) wider co-ordination of asset interventions at a system level to ensure optimisation of activities and access; and

(e) increasing the breadth of ASPs to cover additional assets.

4.13 In terms of specific comments on the ASPs, the following additional asset specific items are noted:

(a) track:

(i) assumed design lives of components are now being refined using data from current degradation rates and the predicted service lives for rail, sleepers and ballast have been significantly extended

from the design values. Developments are planned to move further towards a risk based approach to maintenance and renewal. The policy details planned continuous improvement initiatives which should deliver improved safety, performance and sustainability. Initiatives such as under-sleeper pads and the implementation of an Absolute Track Geometry approach are to be commended; and

(ii) with the introduction of more and varied rolling stock onto the infrastructure wheel/rail interface issues and degradation rates will have to be closely monitored. Any changes will affect the modelling so a regular review process will be required. Further asset stewardship developments would benefit from the system approach to managing infrastructure, particularly as track performance is intrinsically linked to drainage management;

(b) civils:

(i) civils assets have an expected 120 year life, with the exception of ancillary items and fencing. With the noted aspiration to begin risk-based examinations in the future, it is crucial that degradation of the assets is recorded at the earliest opportunity to collect evidence that will support the risk assessments required to implement this change. We welcome that both tunnel condition monitoring index (TCMI) and bridge condition marking index (BCMI), which are used by NRIL, are being considered for this purpose;

(ii) during CP2 we would welcome more detail relating to the inspection and maintenance of earthworks drainage within future development of the ASP; and

(iii) the three bridges and one drainage outfall that require early interventions are of particular concern;

(c) communications:

(i) the communications ASP focuses on the Data Transmission Network (DTN) employed by HS1 Ltd, very little policy information is provided for other communications assets (radio, operational telephones, CCTV, Radio propagation system and Emergency Response Organisation (ERO) systems); and

(ii) the GSM-R system is planned to be extended to cover track to train communications in 2014. A separate ASP will be produced for GSM-R once this system is complete and the Cab Secure Radio (CSR) is retired;

(d) control systems:

(i) the control system ASP highlights the work in CP2 to renew the ‘processing’ elements of the control systems. This work is required due to obsolescence issues but does not constitute a full

renewal of the systems as the other components of the system are in a satisfactory condition with an appropriate level of reliability;

(e) overhead contact systems:

(i) the overhead contact systems ASP highlights the movement of renewal interventions away from manufacturers' recommendations to a condition based approach aligned with the approach of other infrastructure operators. This has resulted in a significant change in the intervention profile;

(f) Signalling:

(i) the signalling ASP highlights key initiatives to employ condition monitoring and highlights the work undertaken to apply lessons learnt from failures to reduce service risk;

(g) Ventilation:

(i) the ventilation ASP has been developed based on existing practices and overhaul recommendations but further work is required to support a movement to condition based interventions;

(h) lineside buildings:

(i) the policy is consistent with standard practice, although this has not been benchmarked; and

(ii) stations are not covered in this ASP as these form part of the separate stations review;

(i) rail plant:

(i) HS1 Ltd needs to understand its position with respect to the Entities in Charge of Maintenance (ECM) regulations.

Whole Life Cycle Cost modelling

4.14 HS1 Ltd, in conjunction with NR(HS) and supported by external consultants (AMCL) has developed a WLCC model to evaluate the different asset management options outlined in its asset policies.

4.15 The model is used to evaluate the cost and risks of using different intervention options for maintenance and renewal and how these impact on asset degradation which in turn influences key outputs such as safety and service. Data has been derived from existing systems within the business, but due to the extent of data available some engineering judgement has been utilised.

4.16 The model has been used to assess four common scenarios across all assets. These were:

(a) Baseline option – apply proposed interventions and maintain risk;

(b) Low Cost – High Risk – Reduce the costs in CP2 at the expense of increasing risk;

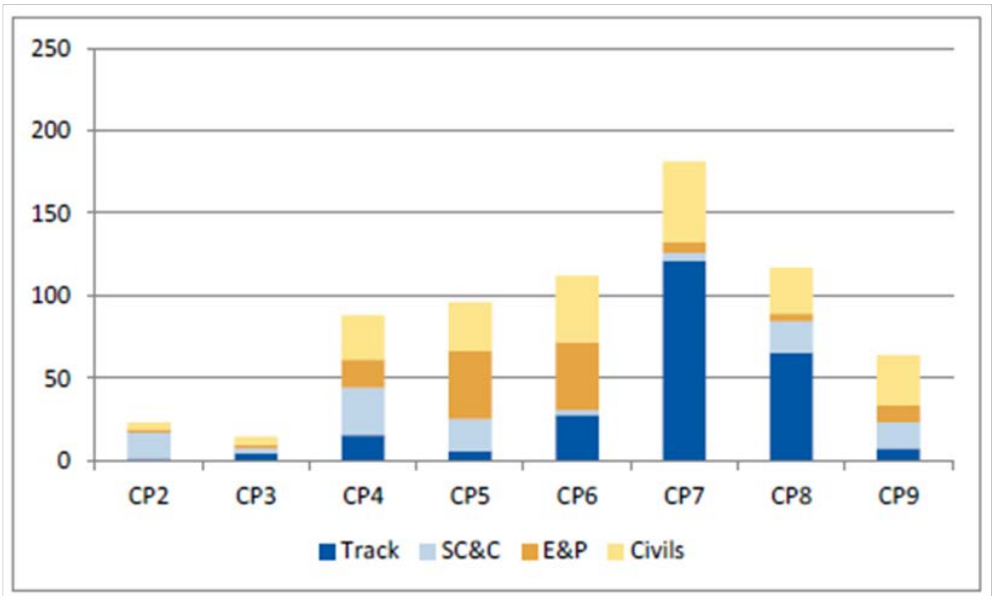
(c) High Cost – Low Risk – Reducing the risk at the expense of increasing cost; and

(d) Life Extension – Options for prolonging asset life.

4.17 HS1 Ltd recognises the need to develop these models further, particularly with respect to increasing its understanding of asset degradation with utilisation for the range of assets employed on the HS1 network and in examining opportunities for the integration of interventions to achieve an optimal cost-risk balance. Helped by the fact the railway is relatively new, HS1 Ltd clearly know what assets they have and what condition they are in. We do therefore recognise that the models and approach are a significant step forward.

4.18 We have traced the inputs from the asset policies through the model to the results the WLCC model produces and we found that the outputs were reasonable given the limited information available on actual local wear rates since the infrastructure is in an 'as new' condition, although clearly NR(HS) engineers have consulted with colleagues in France who have virtually identical infrastructure on their high-speed lines, as a result of the HS1 network being built to the same set of standards. The modelling assumptions will be refined over time and as HS1 Ltd gains more detailed knowledge about the asset behaviour, modelling forecasts will also improve. The investment modelling shows that there is no significant renewals activity expected before around 2025 (CP4) at this stage (see figure 4.1).

Figure 4.1: 40 year renewal costs breakdown (£m, February 2013 Prices)



Source: Extracted from Figure 21 of HS1 Ltd's 5YAMS

Maintenance and renewals plans (5YAMS and 40 year plan)

4.19 HS1 Ltd has produced a 40 year plan based on its asset policies covering the anticipated renewal interventions required on the HS1 network over this period.

4.20 The plan is far more detailed than the submission made as part of the original CP1 submission, which was fairly basic and made a number of optimistic assumptions including about the interest rates. The current plan includes much greater detail for renewals, planned and re-active maintenance and provisions for service and safety risk.

4.21 The plan includes interventions on assets that have a relatively short life span such as electronic systems (signalling, telecommunications and control systems) and medium life assets such as track and overhead contact systems. At this stage it does not include significant work on assets with longer lives such as earthworks and structures.

4.22 The 40 year plan has been derived from the ASPs but does include line entries for other assets not covered by these policies. These entries have been based on engineering judgement but without the detailed evidence contained within other ASPs. Further points to note are that:

(a) where expenditure on assets outside of these policies has been identified, its justification has been separately stated in the 5YAMS document; and

(b) there are some uncertainties on the on-going licencing and maintenance costs of the GSM-R system which is due to be deployed shortly. These costs will require evaluation when they are clearly understood. More detail on the process of this evaluation is available in chapter 7 of this document.

4.23 In overall terms, the 40 year plan provides better insight into future expenditure requirements which is used to forecast the escrow provision for renewals. However, it should be noted that these figures will be further refined at each determination as different assets come into the scope of the rolling 40 year look ahead and improved knowledge about asset behaviour refines the workbanks during the concession.

4.24 One of the most important issues in asset management terms is that sufficient funds are provided in the escrow account to ensure that the right level of funding will be available to undertake capital works at the optimal time. We are content that the proposal presented by HS1 Ltd based on their asset stewardship approach as defined in the 5YAMS represents the best possible estimate at this current time.

Benchmarking

4.25 HS1 Ltd carried out both top-down and bottom-up exercises as part of the PR14 process. Both exercises were intended to complement other elements of the PR14 process, including testing how efficient the cost base is, rather than being seen as standalone pieces of work. Further information is set out below.

4.26 We took a particular interest in HS1 Ltd's benchmarking work, given that its existing level of robustness was something we commented specifically on in our Regulatory Statement (see paragraph 23 of this statement).

4.27 The 5YAMS summarises planned cost efficiencies, which are described as being a result of an internal "root and branch" review of NR(HS)'s costs supplemented by the findings of the benchmarking exercises and learning from the NRIL PR13 submission. The total NR(HS) cost savings planned for CP2 is £17.4m (after taking in to account additional investment to achieve the savings) offset by £1.6m of research and development towards the achievement of savings in CP2 and CP3, giving net cost savings of £15.8m. The largest savings are expected to come from 'Suppliers – aligning objectives and incentives' and headcount reductions.

Bottom-up benchmarking work

4.28 HS1 Ltd commissioned Interfleet to undertake a bottom-up benchmarking exercise. This exercise reviewed appropriate team sizes for key functions on HS1 Ltd in CP2 and for each area of NR(HS) operational and maintenance activities. Interfleet reviewed the standards, the number and type of assets and available track access.

4.29 Interfleet's general conclusions were:

(a) NR(HS) fulfils its obligations diligently and professionally;

(b) in most asset areas, NR(HS) has a programme of initiatives to improve delivery and these are supported by Interfleet;

(c) at present, HS1 Ltd is delivering very high reliability with very limited access for maintenance; and

(d) the limited route length of HS1 Ltd, its unique infrastructure and the consequent need for specialist resources create many diseconomies.

4.30 We have challenged both Interfleet and HS1 Ltd strongly on the findings set out in the Interfleet report, particularly with regard to the level of staffing within NR(HS), and the way in which NR(HS) as an organisation is structured, as well as overall maintenance strategies and standards. We also focused on the extent to which HS1 Ltd was an 'informed client' of NR(HS), and investigated the level of challenge which HS1 Ltd itself had brought to NR(HS).

4.31 We have reviewed the responses to the challenge we have brought in these areas, as well as reviewing the cost efficiency recommendations set out in Table 51 of the 5YAMS. We have also considered the responses of those consultees who commented on the 5YAMS.

4.32 We are satisfied with the recommendations which have been included in the 5YAMS, and the ways in which HS1 Ltd intends to work with NR(HS) to address them. We will be monitoring progress against the efficiency plan throughout CP2.

Top-down benchmarking work

4.33 Leigh Fisher undertook a top-down benchmarking analysis on behalf of HS1 Ltd. We have reviewed Leigh Fisher's report and are pleased with its overall quality and findings. We note the comparator organisations used by Leigh Fisher and are satisfied that these represent a good range of similar high-speed rail infrastructure managers. We look to HS1 Ltd to continue to build these contacts in future years (please see the section, below, on HS1 Ltd's future benchmarking plans).

4.34 The top-down benchmarking study was undertaken by Leigh Fisher and HS1 Ltd and benchmarked HS1 Ltd against 10 comparators in Europe and Asia. After adjustment for inherent cost drivers and excluding the management organisation, Leigh Fisher concluded that HS1 Ltd has a cost level 39% higher than the average when calculated on a per line basis, or 14% above average on a per country basis. This is not the same as the possible cost improvements possible during CP2 as this comparison has not been normalised for a number of factors (such as scale and performance requirements) and there is also an issue around how quickly savings can be made. Leigh Fisher did however conclude on the scale of improvements which they thought might be achievable and made a series of recommendations to reduce costs. They estimated that implementation of the recommendations could result in a cost reduction relative to the NR(HS) expenditure at the start of CP2 of 10% with a further reduction during CP2 of 12%. NR(HS) state in the NR(HS) 5YAMS that the 10% reduction will be broadly achieved by the end of 2015/16 but that the further 12.5% for CP2 is open to question given the current lack of detailed workings to support this. NR(HS) believes that the recommendations are appropriate but that the benefits arising from them are over-stated, they have also questioned whether the output performance of lower-cost comparator high-speed lines has been taken in to account.

Future benchmarking plans

4.35 We welcome HS1 Ltd's robust plans to take forward its benchmarking plans into CP2 and beyond. As has been mentioned previously in this document, our Regulatory Statement considered that HS1 Ltd's benchmarking programme could be improved; so the steps set out at section 11.4.4.3 of the 5YAMS are positive and encouraging.

5. Operations, corporate costs and pass through costs

Key messages in this chapter

- This chapter describes the background, CP1 performance, HS1 Ltd assessment (as per HS1 Ltd's 5YAMS) and our draft decision for operations, corporate functions, the management fee, risk premium for NR(HS) and the internal, contract and pass through costs for HS1 Ltd in CP2.
- We have reviewed NR(HS)'s operations and corporate functions expenditure assumptions for CP2 and consider them to be reasonable.
- We have reviewed NR(HS)'s proposals for the management fee and risk premium and note NR(HS)'s positive response to our challenge regarding the level of management fee during the draft 5YAMS consultation, so we think they are now reasonable.
- We have reviewed the HS1 Ltd assumptions for contract costs and internal costs and consider them to be reasonable.
- We have reviewed the HS1 Ltd assumptions for pass through costs and consider them to be reasonable.

Introduction

5.1 In this chapter we explain our assessment of the operations, corporate, and pass through cost assumptions set out in the final 5YAMS that relate to HS1 Ltd and NR(HS) for CP2. Operations and corporate costs are those costs that are incurred by HS1 Ltd in order to support and operate the HS1 network. This includes elements of NR(HS)'s costs such as those relating to its staff, corporate functions and utilities, including the management fee and risk premium. We have also reviewed HS1 Ltd's own contract and non-contract costs and pass through costs such as insurance and business rates. The assessment considers the reasonableness of the cost assumptions in the round rather than providing a bottom-up review of each cost item, given our regulatory approach to HS1 Ltd as discussed earlier. We continue to be in discussion with HS1 Ltd on a small number of minor issues e.g. NR(HS) corporate cost allocation; however these are not expected to materially impact on our final decision.

5.2 In this chapter, we do not discuss our assessment of the cost of maintaining and renewing the HS1 network as this is included in chapter 4 (Asset management). We also do not discuss how these costs are recovered by HS1 Ltd as this is set out in chapter 3 (Regulatory framework).

5.3 The rest of this chapter is structured as follows:

(a) NR(HS) operations and corporate costs;

(b) NR(HS) management fee and risk premium;

(c) HS1 Ltd costs; and

(d) pass through costs.

NR(HS) operations and corporate costs

Background

5.4 NR(HS) receives an annual fixed price payment from HS1 Ltd, which is agreed every five years, for its work on the high speed line. This annual fixed price recovers NR(HS)'s forecast costs over the period plus a risk premium and management fee. The OA allows for an increase in the annual fixed price each year by RPI +1.1%.

5.5 In this section, we review the NR(HS)'s costs that relate to operations and corporate activities supporting the HS1 network. This includes staff costs (including agency staff), corporate functions (including consultancy work) and the management fee and risk premium. Based on CP2 forecast costs, the NR(HS) support and operations costs reviewed in this chapter total £79m over five years. This is 25% of the total cost that is charged to passenger and freight operators.

5.6 Table 5.1 shows the total NR(HS) Annual Fixed Price per the 5YAMS before indexation and freight cost adjustments. For brevity the full picture of NR(HS) proposed O&M costs are presented within this chapter however for the purposes of our assessment the costs have been split between this chapter and chapter 4 (Asset management).

Table 5.1: NR(HS)'s Operations and Maintenance costs – CP2

£million (in Feb 2013 prices)	2014-15 (CP1 exit)	2015-16	2016-17	2017-18	2018-19	2019-20	2019-20 - 2014-15	% change
Operations, corporate functions, management fee and risk premium (chapter 5)								
NR(HS) Operations	2.8	2.7	2.6	2.4	2.3	2.2	-0.6	-21%
NR(HS) Corporate functions	10.8	10.1	9.4	8.9	8.5	8.4	-2.4	-22%
NR(HS) management fee & risk premium	6.4	4.5	4.4	4.4	4.2	4.2	-2.2	-34%
Total (chapter 5)	**20.0**	**17.3**	**16.4**	**15.6**	**15.1**	**14.8**	**-5.3**	**-26%**
Asset management (chapter 4)								
Staff costs	11.2	11.1	11.0	10.8	10.8	10.7	-0.5	-5%
Other corporate provisions[9]	0.5	0.2	0.3	0.2	0.2	0.3	-0.2	-40%
Plant & vehicles	3.8	3.6	3.8	3.9	3.8	3.6	-0.1	-5%
Materials	1.5	1.3	1.3	1.3	1.3	1.3	-0.2	-13%
Sub-contractors	6.0	5.8	5.8	5.8	5.7	5.8	-0.2	-3%
Total (chapter 4)	**23.0**	**22.0**	**22.2**	**22.0**	**21.8**	**21.7**	**-1.3**	**-6%**
Outperformance	0.8	-	-	-	-	-	-0.8	-
Total (annual fixed price, per 5YAMS)	**43.8**	**39.3**	**38.6**	**37.6**	**36.9**	**36.5**	**-7.3**	**-17%**

Source: NR(HS) 5YAMS and our own assessment. Note: numbers may not reconcile due to rounding.

CP1 costs

5.7 The CP1 exit annual fixed price of £43.8m includes £0.8m relating to forecast outperformance within 2014-15. Adjusting for this gives an assumed saving of 15.1% during CP2 against forecast actual costs in the final year of CP1.

5.8 During CP1, NR(HS) expects to achieve overall cost savings of 8% on total costs reviewed in this chapter and chapter 4 (Asset management), compared to the original CP1 cost assumption. The original OA allowed HS1 Ltd to market test for alternative service providers for operations and maintenance activities during CP1. HS1 Ltd did conduct a market review of the alternatives although not a full market test and as a result in 2012-13 they renegotiated the OA with NR(HS), which led to a reduction in the CP1

[9] Other corporate provisions includes: occupation and maintenance of Ashford IECC, provision of auto-ballaster and other corporate costs.

annual fixed price by 10%. Of this saving, 60% was passed onto TOCs through lower charges for the last three years of CP1.

5.9 Table 5.2 shows actual and forecast operations costs over the five full years of CP1. A breakdown of the 2009-10 part-year costs was not included as part of the NR(HS) 5YAMS. Over the CP1 period staff costs (operations) and other operations costs are expected to remain relatively constant to levels in 2010-11.

Table 5.2: NR(HS) Operations - CP1 breakdown

£million (in Feb 2013 prices)	2010-11 actual	2011-12 actual	2012-13 actual	2013-14 forecast	2014-15 forecast	Total CP1
Staff costs (operations)	2.6	2.7	2.7	2.8	2.5	13.3
Other operations	0.2	0.2	0.3	0.3	0.3	1.3
Total	**2.8**	**2.9**	**3.0**	**3.1**	**2.8**	**14.6**

Source: NR(HS) 5YAMS. Note: numbers may not reconcile due to rounding.

5.10 Table 5.3 shows actual and forecast cost over CP1 for corporate functions. Over the CP1 period costs of corporate functions largely remain constant with small reductions in staff costs and in other costs attributable to building maintenance and repairs.

Table 5.3: NR(HS) Corporate functions - CP1 breakdown

£million (in Feb 2013 prices)	2010-11 actual	2011-12 actual	2012-13 actual	2013-14 forecast	2014-15 forecast	Total CP1
Corporate functions – staff costs	2.8	2.9	2.1	2.3	2.3	12.4
Corporate functions - other	4.8	5.1	5.0	5.0	5.0	24.9
Insurance	1.4	1.0	1.0	0.9	0.9	5.2
Other	3.7	3.5	3.5	2.6	2.6	15.9
Total	**12.7**	**12.5**	**11.6**	**10.8**	**10.8**	**58.4**

Source: NR(HS) 5YAMS. Note: numbers may not reconcile due to rounding.

HS1 Ltd's 5YAMS assessment

5.11 The final HS1 Ltd 5YAMS indicates that HS1 Ltd expects NR(HS) to make total savings of 17% for CP2 compared with 2014-15 (15% after adjusting for the assumed £0.8m outperformance in 2014-15). In 2014-15 the overall NR(HS) headcount (including vacancies) is expected to be 292.5 full time equivalent (FTE) and NR(HS) have specific plans in place to reduce headcount by 5% to 277 FTEs by the end of CP2. In total NR(HS) have plans to reduce headcount by 7% from current (2013-14 levels) to the end of CP2.

5.12 Table 5.4 shows the forecast costs over CP2 for operations expenditure. Staff costs relating to operations are forecast to reduce by 24% on 2014-15 levels which reflects the headcount reduction related schemes in the NR(HS) cost efficiency plan.

Table 5.4: NR(HS) Operations – CP2 breakdown

£million (in Feb 2013 prices)	2014-15 (CP1 exit)	2015-16	2016-17	2017-18	2018-19	2019-20	2019-20 - 2014-15	% change
Staff costs (operations)	2.5	2.4	2.3	2.1	2.0	1.9	-0.6	-24%
Other operations	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0%
Total	**2.8**	**2.7**	**2.6**	**2.4**	**2.3**	**2.2**	**-0.6**	**-21%**

Source: NR(HS) 5YAMS and our own assessment. Note: numbers may not reconcile due to rounding.

5.13 Costs relating to corporate functions are forecast to reduce by 22% between 2014-15 and 2019-20. Table 5.5 shows the forecast corporate functions costs over CP2.

Table 5.5: NR(HS) Corporate functions – CP2 breakdown

£million (in Feb 2013 prices)	2014-15 (CP1 exit)	2015-16	2016-17	2017-18	2018-19	2019-20	2019-20 - 2014-15	% change
Staff costs (corporate functions)	2.3	2.4	2.3	2.3	2.3	2.2	-0.1	-4%
Corporate functions	5.0	3.9	3.8	3.5	3.4	3.3	-1.7	-34%
Insurance	0.9	0.9	0.9	0.9	0.9	0.9	0.0	0%
Other	2.6	2.9	2.4	2.2	1.9	2.0	-0.6	-23%
Total	**10.8**	**10.1**	**9.4**	**8.9**	**8.5**	**8.4**	**-2.4**	**-22%**

Source: NR(HS) 5YAMS and our own assessment. Note: numbers may not reconcile due to rounding.

5.14 NR(HS) corporate staff costs are expected to remain relatively constant from CP1 through CP2. NR(HS) procures corporate functions, e.g. HR and information management from NRIL. As such corporate functions were examined in some detail as part of the PR13 process for CP5. A number of significant efficiency savings were identified which NR(HS) will benefit from during CP2. A reduction in other costs of 23% is forecast for CP2 which NR(HS) have said is predominantly coming from savings on training costs.

5.15 The NR(HS) operations and corporate functions costs reviewed within this chapter are forecast to reduce by £3.0m (22%) from 2014-15 to 2019-20.

Table 5.6: NR(HS) Operations & Corporate functions

£million (in Feb 2013 prices)	2014-15 (CP1 exit)	2015-16	2016-17	2017-18	2018-19	2019-20	2019-20 - 2014-15	% change
Operations and corporate functions (chapter 5)								
NR(HS) Operations	2.8	2.7	2.6	2.4	2.3	2.2	-0.6	-21%
NR(HS) Corporate functions	10.8	10.1	9.4	8.9	8.5	8.4	-2.4	-22%
Total	**13.6**	**12.8**	**12.0**	**11.3**	**10.8**	**10.6**	**-3.0**	**-22%**

Source: NR(HS) 5YAMS and our own assessment. Note: numbers may not reconcile due to rounding.

Our assessment

5.16 As part of our review we have held several constructive meeting with HS1 Ltd and NR(HS) to seek clarification and where appropriate challenge cost and efficiency assumptions. We responded formally to the draft 5YAMS stakeholder consultation and have continued to meet with HS1 Ltd and NR(HS) during the preparation of this draft decision to further explore assumptions within the 5YAMS.

5.17 The OA allows, in addition to RPI indexation, an escalation uplift of 1.1% per annum in all planned O&M costs for the calculation of the Annual Fixed Price. We have considered as part of our review whether it is appropriate that this is funded in CP2. The HS1 Ltd 5YAMS explains how the escalation factor impacts on the Annual Fixed Price which forms part of charges to customers. Following discussion with NR(HS) and HS1 Ltd it is clear that the 1.1% escalation factor is the long-term assumption for input price inflation which means that NR(HS) take on all input price risk for the whole length of the OA, i.e. to 31 December 2047. Therefore we have not adjusted this assumption.

5.18 Our assessment of NR(HS) costs relating to Operations and Corporate Activities are set out in tables 5.7 and 5.8.

Table 5.7: NR(HS) Operations – CP2 breakdown

£million (in Feb 2013 prices)	2014-15 (CP1 exit)	2015-16	2016-17	2017-18	2018-19	2019-20	2019-20 - 2014-15	% change
Staff costs (operations)	2.5	2.4	2.3	2.1	2.0	1.9	-0.6	-24%
Other operations	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0%
Total	**2.8**	**2.7**	**2.6**	**2.4**	**2.3**	**2.2**	**-0.6**	**-21%**

Source: NR(HS) 5YAMS and our own assessment. Note: numbers may not reconcile due to rounding.

Table 5.8: NR(HS) Corporate functions – CP2 breakdown

£million (in Feb 2013 prices)	2014-15 (CP1 exit)	2015-16	2016-17	2017-18	2018-19	2019-20	2019-20 - 2014-15	% change
Staff costs (corporate functions)	2.3	2.4	2.3	2.3	2.3	2.2	-0.1	-4%
Corporate functions	5.0	3.9	3.8	3.5	3.4	3.3	-1.7	-34%
Insurance	0.9	0.9	0.9	0.9	0.9	0.9	0.0	0%
Other	2.6	2.9	2.4	2.2	1.9	2.0	-0.6	-23%
Total	**10.8**	**10.1**	**9.4**	**8.9**	**8.5**	**8.4**	**-2.4**	**-22%**

Source: NR(HS) 5YAMS and our own assessment. Note: numbers may not reconcile due to rounding.

Staff costs (Operations and Corporate functions)

5.19 We have reviewed the NR(HS) responses to the Interfleet (bottom-up) benchmarking study and Leigh Fisher (top-down) benchmarking study as stated in the HS1 Ltd 5YAMS. It is clear that NR(HS) has only partially accepted the recommendations of Interfleet and in particular Leigh Fisher. Leigh Fisher for example recommends that a cost reduction of 10% could be achieved by the start of CP2 with all of the suggested savings resulting from staff costs. By contrast NR(HS)'s planned change in staff costs by the start of CP2 is an increase of 5.3%. The further 12.5% savings identified by Leigh Fisher were expected to come from a mixture of staff savings and efficiencies on other cost categories.

5.20 However we have also considered the efficiency projections against the CP5 determination for NRIL and found that the efficiency profile for NR(HS) costs to be broadly comparable with that in the CP5 final determination for NRIL. Accordingly on balance we are satisfied with NR(HS) assumptions in respect of operations and corporate activities.

Corporate functions costs

5.21 The second major operations and support expenditure area is in corporate functions. All of NR(HS) corporate functions are supplied by NRIL. NRIL charge NR(HS) a share of total corporate functions costs depending on estimates of the level of usage of that corporate function. The efficiency of NRIL's corporate functions were reviewed as part of PR13. We have also examined the suitability of the charging methodology and found this to be reasonable. At the time of writing this draft determination further information is still awaited from NRIL in order to enable us to complete a full review of these costs. We will report on this in our final determination but do not anticipate it materially impacting on our final decision.

NR(HS) management fee and risk premium

Background

5.22 The annual fixed price charged by NR(HS) includes a risk premium, to cover known and unknown risks, and a management fee, which is a return NR(HS) are receiving to cover equity risk. These additional costs account for approximately 11.5% of the annual NR(HS) fixed price in CP2.

CP1 costs

5.23 In CP1, the NR(HS) management fee and risk premium were set as a percentage of NR(HS) core operations and maintenance outturn costs. The management fee was set at 10% and the risk premium was set at a 7.5% mark-up on O&M costs for each year of the control period.

5.24 Table 5.9 shows actual and forecast cost over CP1 for the management fee and risk premium. The management fee and risk premium reduced over the CP1 period in line with the reduction in total O&M costs of 8%.

Table 5.9: NR(HS) Management fee and Risk premium - CP1 breakdown

£million (in Feb 2013 prices)	2010-11 actual	2011-12 actual	2012-13 actual	2013-14 forecast	2014-15 forecast	Total CP1
Management fee	4.1	4.2	3.8	3.8	3.7	19.4
Risk premium	3.0	3.1	2.9	2.8	2.7	14.6
Total	**7.1**	**7.3**	**6.7**	**6.6**	**6.4**	**34.0**

Source: NR(HS) 5YAMS and our own assessment. Note: numbers may not reconcile due to rounding.

HS1 Ltd 5YAMS assessment

5.25 In support of its CP2 annual fixed price proposal, NR(HS) appointed Oxera to review the charging structure and determine what would be a fair level for the management fee and risk premium. On the management fee Oxera concluded that a management fee for NR(HS) should be considered in the range of 6-11% of costs.

5.26 In its draft 5YAMS, HS1 Ltd assumed that in CP2 the NR(HS) management fee would remain at CP1 levels (10%). In response to stakeholder feedback, including our own robust challenge, HS1 Ltd has proposed a reduction in the CP2 management fee to 8%, slightly below the average of the range proposed by Oxera.

5.27 NR(HS) has also proposed a change to how the fee is calculated such that in CP2 the management fee is a fixed amount based on the agreed percentage of forecast costs rather than a percentage of actual costs.

5.28 The risk premium is used to cover downside risk, which is not covered in the management fee. The analysis carried out by Oxera was a review of data provided by NR(HS), a check of the data against evidence from actual events, including delay payments and a sensitivity test. Oxera concluded that the appropriate risk premium for the services of NR(HS) is likely to be approximately 5% of cost. NR(HS) has proposed that the risk premium for CP2 is reduced to 5%. As with the management fee, NR(HS) has proposed that this should be expressed as a fixed amount within the Annual Fixed Price. Unlike the management fee, HS1 Ltd propose to continue with the approach taken in CP1 of including the risk premium within the outperformance sharing mechanism. This means that if risks do not materialise in years 3-5 of CP2 the financial saving is shared between HS1 Ltd, NR(HS) and TOCs, which we consider appropriate. Table 5.10 sets out the NR(HS) management fee and risk premium breakdown for CP2.

Table 5.10: NR(HS) Management fee & risk premium – CP2 breakdown

£million (in Feb 2013 prices)	2014-15 (CP1 exit)	2015-16	2016-17	2017-18	2018-19	2019-20	2019-20 - 2014-15	% change
Management fee	3.7	2.8	2.7	2.7	2.6	2.6	-1.1	-29%
Risk premium	2.7	1.7	1.7	1.7	1.6	1.6	-1.1	-41%
Total	**6.4**	**4.5**	**4.4**	**4.4**	**4.2**	**4.2**	**-2.2**	**-34%**

Source: NR(HS) 5YAMS and our own assessment. Note: numbers may not reconcile due to rounding.

Our assessment

5.29 We submitted during the 5YAMS stakeholder consultation that a management fee of 10% was not supported by the evidence put forward by NR(HS) and that a management fee closer to the middle of the range identified within the Oxera report better reflected the evidence available and that the cost of equity has decreased since an assessment was made for the CP1 period. We are satisfied that NR(HS) have adequately responded to our concerns and those of other stakeholders in revising the management fee to 8% of O&M cost which, at below average within the range, is a reasonable response to the report's

conclusions, as we consider this level to be more consistent with the evidence put forward by NR(HS) and the movement in the cost of equity.

Table 5.11: NR(HS) Management fee & Risk premium – CP2 breakdown

£million (in Feb 2013 prices)	2014-15 (CP1 exit)	2015-16	2016-17	2017-18	2018-19	2019-20	2019-20 - 2014-15	% change
Management fee	3.7	2.8	2.7	2.7	2.6	2.6	-1.1	-29%
Risk premium	2.7	1.7	1.7	1.7	1.6	1.6	-1.1	-41%
Total	**6.4**	**4.5**	**4.4**	**4.4**	**4.2**	**4.2**	**-2.2**	**-34%**

Source: NR(HS) 5YAMS and our own assessment. Note: numbers may not reconcile due to rounding.

5.30 We have considered NR(HS)'s proposal that the management fee and risk premium should be a fixed amount within the Annual Fixed Price. We accept the proposal because it will minimise the risk of a disincentive for NR(HS) to reduce its costs.

HS1 Ltd costs

Background

5.31 The 5YAMS separates HS1 Ltd's own costs into contract costs (excluding NR(HS) contract) and internal costs. These costs are recovered through the OMRC.

(a) HS1 Ltd contract costs cover:

(i) NR other - primarily costs incurred in relation to the interface assets between the NRIL and HS1 networks and the costs of additional services required on the route over and above services covered by the Operator Agreement;

(ii) NRIL GSM-R - costs relating to the HS1 Ltd owned Global System for Mobile Communications – Railway ("GSM-R") equipment and a percentage of the national NRIL spine network;

(iii) NGC connection fees - connection charges for HS1 Ltd/UKPNS assets into the National Grid;

(iv) BTP - costs relating to the work of British Transport Police ("BTP") on the HS1 network; and

(v) ORR regulatory and safety - costs relating to the work of ORR in regulating the HS1 network and HS1 Ltd.

(b) HS1 Ltd internal costs cover:

(i) staff - employment costs of staff employed by HS1 Ltd;

(ii) technical/legal support - consultancy costs of technical, procurement, projects (e.g. electricity studies) legal work; and

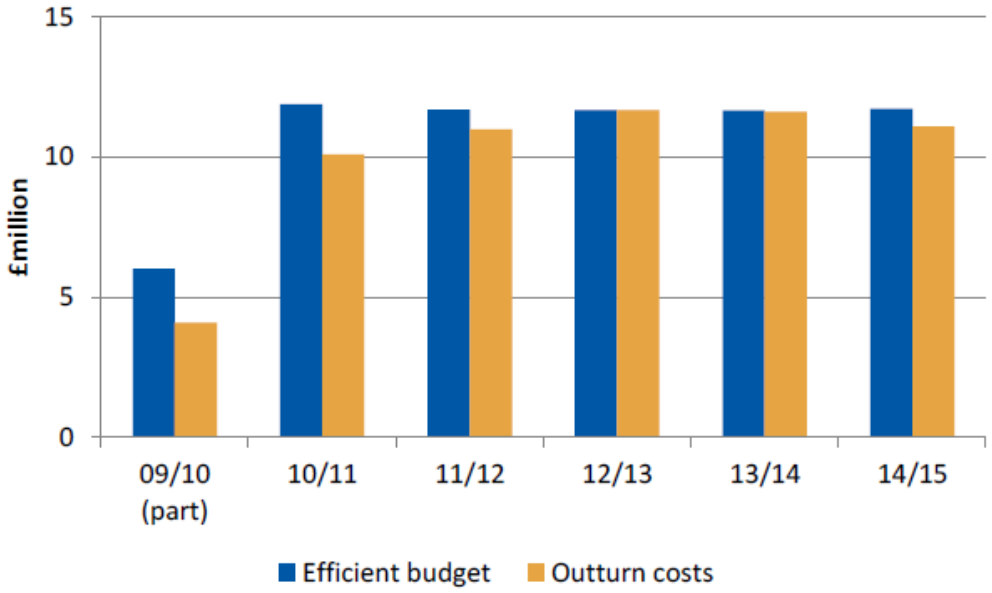
(iii) office running costs - predominantly rent and IT/telecoms.

5.32 Based on the CP2 forecast, HS1 Ltd's contract costs and internal costs are £54.6m over five years and represent approximately 17% of total O&M costs.

CP1 costs

5.33 Over CP1, HS1 Ltd costs are forecast to fall from the peak of £11.7m in the middle of the control period to £11.1m in the final year of CP1. HS1 Ltd expects to achieve a total saving of £5.1m across CP1. This is 8% of the original CP1 assumptions. Figure 5.1 shows that expenditure has remained within assumptions for all years of CP1 to date and is forecast to continue to be for the remainder of the control period.

Figure 5.1: HS1 Ltd costs CP1 actual/forecast outturn vs. budget (in 2012-13 prices)



Source: HS1 Ltd 5YAMS

5.34 Table 5.12 below shows HS1 Ltd's contract actual costs incurred and forecast costs to the end of CP1.

Table 5.12: HS1 Ltd Contract costs - CP1 breakdown

£million (in Feb 2013 prices)	2009-10 (part) actual	2010-11 actual	2011-12 actual	2012-13 actual	2013-14 forecast	2014-15 forecast	Total CP1
NR other	0.9	2.1	2.0	1.5	1.5	1.5	9.5
NRIL GSM-R	0.1	0.2	0.2	0.2	0.3	0.4	1.5
NGC connection fees	0.2	0.6	0.5	0.5	0.5	0.5	2.8
BT Police	0.6	1.2	1.0	1.0	1.0	1.0	5.8
ORR regulatory and safety	0.4	0.5	0.3	0.5	0.5	0.4	2.6
Total	**2.2**	**4.6**	**3.9**	**3.7**	**3.7**	**3.8**	**22.2**

Source: HS1 Ltd 5YAMS. Note: numbers may not reconcile due to rounding.

5.35 During CP1, in 2012, HS1 Ltd renegotiated the OA, covering the costs of the interface assets between the main rail network and the high speed line, resulting in a saving of 40%. Additionally, HS1 Ltd agreed a 10% reduction in BTP costs when it renegotiated its contract early in CP1.

5.36 HS1 Ltd expects NRIL GSM-R costs to increase over CP1 as the system will be upgraded for train and trackside signaller communications. This is expected to impact on maintenance costs and licence fees.

5.37 Table 5.13 below shows HS1 Ltd internal actual costs incurred and forecast costs to the end of CP1.

Table 5.13: HS1 Ltd Internal costs - CP1 breakdown

£million (in Feb 2013 prices)	2009-10 (part) actual	2010-11 actual	2011-12 actual	2012-13 actual	2013-14 forecast	2014-15 forecast	Total CP1
Staff	1.3	2.4	3.0	3.7	3.7	3.7	17.8
Technical/legal support	0.1	1.0	2.5	1.8	1.8	1.6	8.8
Office running	0.5	0.8	0.7	1.4	1.3	1.0	5.7
Other	-0.1	1.3	0.9	1.0	1.0	1.0	5.1
Total	1.9	**5.5**	**7.1**	**8.0**	**7.9**	**7.3**	**37.4**

Source: HS1 Ltd 5YAMS. Note: numbers may not reconcile due to rounding.

5.38 HS1 Ltd staff costs increased during CP1 as they recruited a full complement of staff and introduced new bonus arrangements for senior staff. By 2014-15, office running costs are forecast to have increased above their level at the start of CP1 due to the increased annual costs of rent and IT charges following an office move and IT system upgrade during the control period. There were also one-off costs in CP1 relating to the office move in 2012-13 and the replacement of the IT system in 2013-14.

HS1 Ltd 5YAMS assessment

Contract costs

5.39 HS1 Ltd has reviewed its contract costs and found no further opportunities to make savings. However, in two areas, NR other and GSM-R, HS1 Ltd has proposed an increase amounting to a total rise in subcontract costs of 8%. HS1 Ltd explained in the 5YAMS that the contracts are primarily single choice long-term arrangements. Table 5.14 sets out HS1 Ltd contract costs in CP2.

Table 5.14: HS1 Ltd CP2 contract costs

£million (in Feb 2013 prices)	2014-15 (CP1 exit)	2015-16	2016-17	2017-18	2018-19	2019-20	2019-20 - 2014-15	% change
NR other	1.5	1.6	1.6	1.6	1.6	1.6	0.1	9%
NRIL GSM-R	0.4	0.5	0.5	0.5	0.5	0.5	0.1	43%
NGC connection fees	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0%
BT Police	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0%
ORR regulatory and safety	0.4	0.4	0.4	0.5	0.5	0.4	0.0	0%
Total	**3.8**	**4.0**	**4.0**	**4.1**	**4.1**	**4.3**	**0.3**	**8%**

Source: HS1 Ltd 5YAMS and our own assessment. Note: numbers may not reconcile due to rounding.

5.40 The increase in NR other costs includes £0.2m covering costs related to operating assets commissioned since the OA was introduced and relevant NR(HS) costs that are route related but excluded from the scope of the OA. In addition, Ripple Lane exchange sidings mothballing costs of £0.2m per annum have been included in the scope of the OA from CP2.

5.41 The increase in GSM-R costs relates to an upgrade in the system, and an anticipated increase of £0.1m in licensing fees. HS1 Ltd proposes to add a cost reopener provision to the HS1 Access Terms to adjust for actual negotiated GSM-R maintenance and licence fee costs, given the current uncertainty surrounding this forecast. The proposed contractual drafting is set out annex E, and this is discussed further in chapter 7.

5.42 There are no changes proposed to BTP and ORR regulatory and safety costs in CP2. The BTP fixed price contract was renegotiated by HS1 Ltd during CP1 achieving a 10% saving and was challenged again in 2013. Additional quality improvements were secured but no further saving was secured. Costs are assumed to increase by RPI during CP2 in line with the contract. The ORR cost profile reflects the ORR's current efficiency programme but also additional work in 2017-18 and 2018-19 for PR19.

Internal costs

5.43 HS1 Ltd have reviewed internal costs and identified opportunities to make savings of 10% during the CP2 period in comparison to 2014-15 costs. Table 5.15 sets out HS1 Ltd internal costs in CP2.

Table 5.15: HS1 Ltd CP2 internal costs

£million (in Feb 2013 prices)	2014-15 (CP1 exit)	2015-16	2016-17	2017-18	2018-19	2019-20	2019-20 - 2014-15	% change
Staff	3.7	3.5	3.5	3.5	3.5	3.5	-0.2	-5%
Technical/legal support	1.6	1.4	1.3	1.8	1.8	1.3	-0.3	-20%
Office running	1.0	1.0	1.1	1.0	1.0	1.0	0.0	-3%
Other	1.0	0.8	0.8	0.8	0.8	0.8	-0.2	-19%
Total	**7.3**	**6.6**	**6.7**	**7.1**	**7.1**	**6.6**	**-0.7**	**-10%**

Source: HS1 Ltd 5YAMS and our own assessment. Note: numbers may not reconcile due to rounding.

5.44 These savings are made up from the following areas:

(a) a reduction in staff costs of 5% is proposed reflecting a reduction of two FTEs on current staff numbers offsetting an increase in remuneration of RPI + 0.25%. HS1 Ltd state that 60% of staff by pay have been appointed in the last three years so pay rates have been market tested and 10 of the most senior roles have been benchmarked;

(b) technical/legal support costs have been built bottom-up and are forecast to reduce by 20% during CP2. HS1 Ltd estimate the additional consultancy cost of PR19 will be £1.0m across 2017/18 and 2018/19; and

(c) a reduction in office running costs of 3% and a reduction in other costs of 19% is proposed.

Our assessment

5.45 During the 5YAMS draft consultation period we met with HS1 Ltd in a series of challenge meetings to discuss the company's own costs. As a result of these meetings HS1 Ltd was asked to provide further information and supporting evidence to substantiate assumptions made within the 5YAMS. We have now reviewed this information and set out our assessment of these costs below.

Contract costs

5.46 NR other, NRIL GSM-R and NGC Connection Fees are outside the scope of this chapter and are covered within chapter 4 (asset management). In this chapter we cover the costs of BTP and ORR regulatory and safety oversight.

5.47 We have challenged HS1 Ltd on their forecast costs for BTP. In addition EIL in their consultation response asked HS1 Ltd to consider using a private security contractor for certain functions as a way of

reducing costs. HS1 Ltd responded that they have considered this during the PR14 process and committed to continue to review possible opportunities during CP2 and beyond.

5.48 ORR regulatory and safety costs have been derived from an internal resourcing review exercise reflecting current and historic costs of regulating HS1 Ltd whilst also recognising the continuing work to reduce costs and ensure efficient regulation. Table 5.16 sets out HS1 Ltd contract costs for CP2.

Table 5.16: HS1 Ltd CP2 contract costs

£million (in Feb 2013 prices)	2014-15 (CP1 exit)	2015-16	2016-17	2017-18	2018-19	2019-20	2019-20 - 2014-15	% change
NR other	1.5	1.6	1.6	1.6	1.6	1.6	0.1	9%
NRIL GSM-R	0.4	0.5	0.5	0.5	0.5	0.5	0.1	43%
NGC connection fees	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0%
BT Police	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0%
ORR regulatory & safety	0.4	0.4	0.4	0.5	0.5	0.4	0.0	0%
Total	**3.8**	**4.0**	**4.0**	**4.1**	**4.1**	**4.1**	**0.3**	**8%**

Source: HS1 Ltd 5YAMS and our own assessment. Note: numbers may not reconcile due to rounding.

Internal costs

5.49 We have discussed with HS1 Ltd the expected staff costs during CP2 and HS1 Ltd has, as a result, provided greater detail on resourcing plans during CP2 in order for us to determine whether internal costs are efficient. HS1 Ltd has also shared further information on their costs and staff complement during CP1 which has formed part of our review.

5.50 On technical and legal support HS1 Ltd provided further information on consultancy work supporting PR14 for us to assess the reasonableness of the assumptions for consultancy work to support PR19.

5.51 We challenged the need for an office location in the high rental cost area of St Pancras. HS1 Ltd has explained that they were required to move location recently because of the lease expiring in the original offices. They argued that the operational requirements of staff mean that there is an efficiency benefit from locating in the St Pancras area compared with an outer-London site and that the rents represented good value compared with rents for newly let premises in the area.

5.52 We are satisfied that HS1 Ltd have provided reasonable evidence to support their cost assumptions for internal and contract costs during CP2 and we do not propose to make any adjustments to these figures as part of our determination. Table 5.17 sets out HS1 Ltd internal costs for CP2.

Table 5.17: HS1 Ltd CP2 internal costs

£million (in Feb 2013 prices)	2014-15 (CP1 exit)	2015-16	2016-17	2017-18	2018-19	2019-20	2019-20 - 2014-15	% change
Staff	3.7	3.5	3.5	3.5	3.5	3.5	-0.2	-5%
Technical/legal support	1.6	1.4	1.3	1.8	1.8	1.3	-0.3	-20%
Office running	1.0	1.0	1.1	1.0	1.0	1.0	0.0	-3%
Other	1.0	0.8	0.8	0.8	0.8	0.8	-0.2	-19%
Total	**7.3**	**6.6**	**6.7**	**7.1**	**7.1**	**6.6**	**-0.7**	**-10%**

Source: HS1 Ltd 5YAMS and our own assessment. Note: numbers may not reconcile due to rounding.

Pass through costs

Background

5.53 As with NR(HS) costs and HS1 Ltd's Internal and contract costs, an assessment is made of pass through costs during the PR14 process in order for them to be used to determine access charges for operators. However unlike NR(HS) and HS1 Ltd internal and contract costs these are indicative prices used only in the advance billing of train operators throughout the year. During the annual 'wash-up' process an adjustment is made to ensure train operators are only charged for actual efficient expenditure relating to pass through costs. The four areas of pass through costs are:

(a) Non-traction electricity;

(b) UPKPNS O&M renewals;

(c) insurance; and

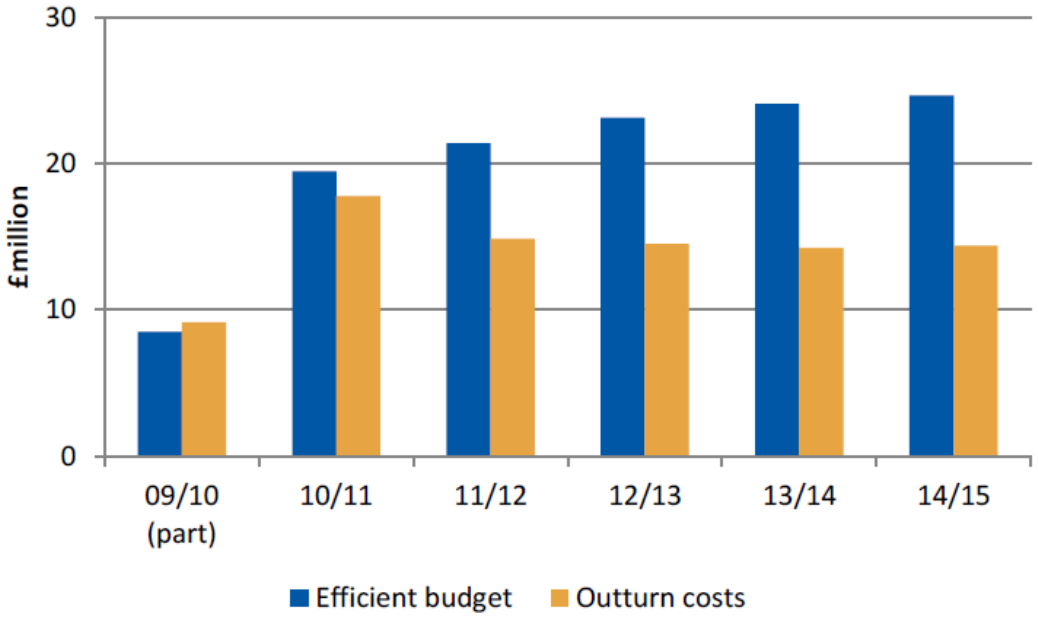
(d) rates.

5.54 In CP2 pass through costs are forecast to represent 22% of total O&M costs.

CP1 costs

5.55 Over CP1, pass through costs are forecast to fall from £17.8m in 2010-11 (the first full year of CP1) to £14.4m in the final year of the control period. Figure 5.2 and table 5.18 detail HS1 Ltd pass through costs in CP1.

Figure 5.2: Pass through costs CP1 actual/forecast outturn vs. budget (in 2012-13 prices)



Source: HS1 Ltd 5YAMS

Table 5.18: Pass through costs - CP1 breakdown

£million (in 2012-13 prices)	2009-10 (part) actual	2010-11 actual	2011-12 actual	2012-13 actual	2013-14 forecast	2014-15 forecast	Total CP1
Rates	3.2	6.4	4.7	4.7	4.7	4.6	28.3
Insurance	2.7	5.3	4.2	3.8	3.7	3.8	23.5
UKPNS O&M and renewals	2.4	4.8	4.7	4.8	4.7	4.7	26.1
Non-traction electricity	0.8	1.3	1.3	1.3	1.2	1.2	7.1
Total	**9.1**	**17.8**	**14.9**	**14.5**	**14.2**	**14.4**	**84.9**

Source: HS1 Ltd 5YAMS and our own assessment. Note: numbers may not reconcile due to rounding.

5.56 The reduction in pass through costs over CP1 is due to the reductions in business rates secured by HS1 Ltd's advisors during a review in 2010 and £1.5m insurance savings made from 2012-13 (relative to 2010-11) through improved procurement and good claims history. All of these savings are passed through to TOCs.

HS1 Ltd 5YAMS assessment

5.57 The 5YAMS highlights the reductions that have been made in pass through costs during CP1 and recommits HS1 Ltd to review potential options to reduce costs with train operators at the six monthly "line of sight" review meetings. In the context of the savings delivered during CP1, HS1 Ltd has cautioned operators that further substantial reductions are not forecast for CP2.

5.58 Table 5.19 shows that HS1 Ltd forecast a reduction of 3% in pass through costs during CP2. All of the saving is attributable to a reduction in insurance costs of 13% between 2014-15 and 2019-20. HS1 Ltd has assumed that during CP2 they can continue to make annual reductions in insurance premiums through increased competition between insurers and risk management.

Table 5.19: CP2 Pass through costs

£million (in Feb 2013 prices)	2014-15 (CP1 exit)	2015-16	2016-17	2017-18	2018-19	2019-20	2019-20 - 2014-15	% change
Rates	4.6	4.6	4.6	4.6	4.6	4.6	0.0	0%
Insurance	3.8	3.7	3.6	3.5	3.4	3.3	-0.5	-13%
UKPNS O&M and renewals	4.7	4.7	4.7	4.7	4.7	4.7	0.0	0%
Non-traction electricity	1.2	1.2	1.2	1.2	1.2	1.2	0.0	0%
Total	**14.4**	**14.3**	**14.2**	**14.1**	**14.0**	**13.9**	**-0.5**	**-3%**

Source: HS1 Ltd 5YAMS and our own assessment. Note: numbers may not reconcile due to rounding.

5.59 On rates, the existing assessment will last until March 2017 when the assessment of values from the next revaluation (based on market and economic circumstances as at April 2015) will impact on rates charges. As with all pass through costs, TOCs are at risk for changes in rates and HS1 Ltd has made commitments to involve them in revaluation discussions.

5.60 For UKPNS O&M and renewals HS1 Ltd have a fixed price contract (indexed by RPI) to provide O&M and renewals for electricity substations and connections to HS1 Ltd catenary. The contract contains no price reopener and few options to terminate on performance / other factors.

5.61 In the 5YAMS draft consultation EIL, LSER and ORR asked HS1 Ltd to commit to specific reviews of pass through costs at regular intervals with direct input from operators. In particular on the UKPNS contract, HS1 Ltd was asked to review the UKPNS contract regularly so that opportunities to improve the current position can be realised. In the final 5YAMS, HS1 Ltd agreed that it would be helpful to review the pass through costs regularly with TOCs. On non-traction electricity, EIL stated in its consultation response that it would expect HS1 Ltd to challenge NRIL on the new contract due to come into effect in October 2014 to ensure that operators benefit from the best terms possible. HS1 Ltd have committed to challenge NRIL to ensure that HS1 Ltd receive the optimum value for TOCs in future revised contracts.

5.62 Finally on rates, EIL have expressed concern about a potential increase in cost from April 2017 due to the rates revaluation. As above HS1 Ltd have said they will involve TOCs in discussions on rateable value revaluations.

Our assessment

5.63 We have met with HS1 Ltd to challenge assumptions underlying their pass through costs assumptions and to seek additional evidence to support the figures in the 5YAMS.

5.64 On rates we have reviewed the outputs and work done by HS1 Ltd's ratings advisers in the 2010 review. HS1 Ltd's advisers consider that there is no reason for a change in the current methodology or assumptions.

5.65 Our review of the insurance costs included a review of the insurance terms within the Concession Agreement specifying what is to be covered by insurance and a register of insurance programmes prepared by Willis the insurance broker for HS1 Ltd. We have sought clarification on the coverage provided by the insurance funded by pass through costs and how that relates to insurance held by NR(HS). We have also considered how HS1 Ltd is funded for risks through the performance regime and whether there is any potential for risks to be double-counted within insurance and the performance regime.

5.66 We have had sight of the UKPNS O&M and renewals contract with HS1 Ltd and the UKPNS Summary of Annual Fees and HS1 Ltd informed us that it has taken legal advice in particular in respect of the reopener and termination provisions. We recognise the challenges HS1 Ltd face in securing real savings with the contract and note that it will work constructively with UKPNS to ensure recent performance improvements become embedded and further improvements pursued for the long term value for money of the contract.

5.67 Our review of non-traction electricity has included challenge of HS1 Ltd's assumptions on price and volumes (roll forward of 2012-13 actuals). HS1 Ltd foresees no major changes in the use of assets during the period. On price HS1 Ltd have considered a number of forecasts of future electricity prices but noted that there was no consistency in forecast prices. Table 5.20 shows HS1 Ltd pass through cost assumptions for CP2.

Table 5.20: CP2 Pass through costs

£million (in Feb 2013 prices)	2014-15 (CP1 exit)	2015-16	2016-17	2017-18	2018-19	2019-20	2019-20 - 2014-15	% change
Rates	4.6	4.6	4.6	4.6	4.6	4.6	0.0	0%
Insurance	3.8	3.7	3.6	3.5	3.4	3.3	-0.5	-13%
UKPNS O&M and renewals	4.7	4.7	4.7	4.7	4.7	4.7	0.0	0%
Non-traction electricity	1.2	1.2	1.2	1.2	1.2	1.2	0.0	0%
Total	**14.4**	**14.3**	**14.2**	**14.1**	**14.0**	**13.9**	**-0.5**	**-3%**

Source: HS1 Ltd 5YAMS and our assessment. Note: numbers may not reconcile due to rounding.

5.68 We are satisfied that HS1 Ltd has provided reasonable evidence to support its cost assumptions for pass through costs during CP2 and therefore we do not propose to make any adjustments to these figures as part of our determination.

Summary

5.69 In this chapter we have reviewed the forecast costs of operations and corporate functions related to NR(HS), the forecast internal and contract costs of HS1 Ltd and estimates of pass through costs for CP2. Where applicable we have relied on our own work in respect of our PR13 review of NRIL to test NR(HS) assumptions and found these to be consistent other than in specific circumstances, for example the on-going contractual commitment to annual input price indexation at RPI +1.1%.

5.70 We have held several challenge meetings with NR(HS) and HS1 Ltd and sought additional evidence to support the 5YAMS assumptions during the consultation stage and note HS1 Ltd and NR(HS)'s positive response to our challenges, for example in respect of the level of the management fee.

5.71 We consider that the submission includes reasonable forecasts of efficiency and as such we have taken a proportionate approach to our review considering HS1 Ltd's CP2 cost assumptions in the round e.g. looking at NR(HS) operations as a whole. We are content that the cost assumptions within the final 5YAMS are supported by an appropriate level of evidence and therefore do not seek to make any adjustments to the cost assumptions within the 5YAMS.

6. Financial assumptions

Key messages in this chapter

- On balance, we propose to accept HS1 Ltd's final 5YAMS financial assumptions, including its approach to calculating the CP2 renewals charge.
- The annual renewals charge will increase from £5.9m in CP1 to £11.2m in CP2. However, on current expenditure and interest rate forecasts, the renewals charge will need to increase further to £16.4m in CP3 and £17.4m from CP4 onwards to recover the impact of underfunding in CP1, and to reflect the latest view of future renewals expenditure.
- HS1 Ltd has assumed an average annual interest rate of 2.2% on escrow funds in CP2.
- HS1 Ltd has assumed a discount rate equal to its weighted average cost of capital of 6.60% on a nominal pre-tax basis and 3.75% on a real pre-tax basis.

Introduction

6.1 In this chapter, we explain our assessment of the financial assumptions that HS1 Ltd has used within its final 5YAMS and the approach it has taken to calculating the annual CP2 renewals charge. Examples of HS1 Ltd's financial assumptions include its forecast of interest rates, the annual rate of price inflation and its own discount rate that is used to determine charges.

6.2 These assumptions are important because they can impact the value of charges that train operators pay to use the HS1 network.

6.3 The rest of this chapter is structured as follows:

(a) cost of capital / discount rate;

(b) interest rate assumptions;

(c) inflation assumptions;

(d) approach to calculating escrow payments; and

(e) financial modelling.

Cost of capital / discount rate

Background

6.4 For CP2, HS1 Ltd needs to calculate a discount rate for the following two areas of its structure of charges:

(a) to determine a flat annual charge (in real terms) to recover the costs of operating and maintaining the HS1 network over the control period[10]; and

(b) to calculate any additional investment recovery charges (IRC) that are required to recover the costs of undertaking any specified upgrades[11].

6.5 A company would normally choose to discount any cash flows using a discount rate that is equal to its weighted average cost of capital ("WACC")[12], as this measure reflects the opportunity cost to its investors from putting their money into a particular investment.

6.6 In other regulatory determinations, cost of capital estimates are very important because they are often used in the calculation of the return that regulated utilities can recover through charges, on their regulated assets. This 'allowed return' is often a significant proportion of a regulated utility's income. However, for HS1 Ltd, the IRC, which is similar to the allowed return[13], is outside of the scope of PR14.

6.7 As HS1 Ltd's discount rate (or WACC) is calculated separately for each control period, but the IRC is fixed over the length of the concession, it is unlikely that the assumptions used to calculate the discount rate will be consistent with the IRC. This means that the choice of discount rate to determine a flat annual charge (in real terms) to recover the costs of operating and maintaining the HS1 network over the control period will affect the overall charge that train operators pay, e.g. everything else being equal, the discount rate used for HS1 Ltd can affect the value of the operations and maintenance charge (OMC) paid by train operators. Other regulators in some situations also use a discount rate/cost of capital to smooth charges over a control period.

6.8 However, the choice of discount rate for HS1 Ltd has a relatively small impact on the OMC paid by TOCs. For example, if the discount rate used in the CP2 charging model was increased by one percentage point (1.0%), this would lead to a reduction in OMC of less than 0.1%. However, this is likely to have a

[10] This is because HS1 Ltd sets the annual OMC equal to the sum of the present value of the total forecast operations and maintenance expenditure over the control period. To calculate the present value of expenditure, HS1 Ltd needs to select a discount rate that reflects its time value of money.

[11] The Concession Agreement defines a specified upgrade as a major upgrade of the signalling system, control system or trackform including any upgrades in connection with the implementation of a TSI requirement.

[12] The cost of capital is the expected return to equity and debt holders (i.e. shareholders and lenders).

[13] The purpose of the IRC is to recover the long-term construction costs of the HS1 network.

bigger impact on the additional IRC calculation because the rate of return, which will be based on HS1 Ltd's WACC, is a key input into calculating this charge.

CP1 experience and HS1 Ltd 5YAMS assessment

6.9 HS1 Ltd used a discount rate of 4.29%[14] in their model for CP1. However, there is no documentation for the source of these numbers or any explanation of why these values were considered appropriate for CP1.

6.10 In HS1 Ltd's draft 5YAMS, it used a real discount rate of 3.5%, which was based on the HM Treasury Green Book[15] discount rate assumption. As part of our review of the draft 5YAMS, we asked HS1 Ltd to consider whether the use of the Green Book assumption was appropriate, given that HS1 Ltd was not a public body.

6.11 In its final 5YAMS, HS1 Ltd revised its CP2 discount rate assumptions. Instead of using the Green Book assumption of 3.5%, it used a rate based on its current funding costs, i.e. its WACC, of 6.60% (on a nominal pre-tax basis). When adjusting for inflation, this gives a real (pre-tax) cost of capital of 3.75%. This real pre-tax cost of capital is used for both OMC calculations and for calculating additional IRC for specified upgrades. The effect on OMC from changing the discount rate to 3.75% is small (£16k over CP2).

6.12 HS1 Ltd's cost of capital estimate is based on its latest audited financial statements for the year-ending 31 March 2013. HS1 Ltd's financial statements use the cost of capital as an input into the test for impairment of its assets. Table 6.1 shows HS1 Ltd's estimate of its CP2 WACC.

Table 6.1: HS1 Ltd's estimate of its CP2 WACC

Pre-tax nominal	Value	WACC derivation
Cost of equity (%)	13.00%	From range of estimates based on recent regulatory determinations (adjusted for gearing)
Cost of debt (%)	4.30%	Based on HS1 Ltd's actual cost of debt
Gearing: debt / assets	73.90%	Based on HS1 Ltd's actual gearing
Nominal pre-tax WACC (%)	**6.60%**	
Inflation	2.75%	
Real pre-tax WACC (%)	**3.75%**	

Source: HS1 Ltd analysis in support of the HS1 Ltd 5YAMS. Note: numbers may not reconcile due to rounding.

[14] HS1 Ltd have also said there are other spreadsheets relating to the calculation of CP1 charges that indicate the rate used might have been 4.53%.

[15] The Green Book is HM Treasury guidance for public sector bodies on how to appraise proposals before committing funds to a policy, programme or project. This is available at: https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-governent.

Responses to HS1 Ltd's draft 5YAMS consultation

6.13 There were no other responses, except for our own comments, on the appropriateness of HS1 Ltd's discount rate assumptions for CP2.

Our assessment

6.14 We have reviewed HS1 Ltd's CP2 discount rate assumptions. We have considered the evidence provided by the company in support of its final 5YAMS and we have also reviewed other regulators' recent cost of capital estimates.

6.15 We agree that it is better for the CP2 discount rate used by HS1 Ltd to be based on an estimate of its own cost of capital, rather than an assumption from HM Treasury's Green Book, which is focused on public bodies.

6.16 The cost of capital estimate included in the final 5YAMS is based on HS1 Ltd's current funding arrangements, e.g. reflecting its current capital structure and interest costs, rather than a longer-term view of likely future costs. The approach taken by HS1 Ltd results in a cost of capital estimate that could change significantly between control periods if there are changes to HS1 Ltd's capital structure and to wider economic conditions between control periods.

6.17 We can see evidence of this volatility in HS1 Ltd's 2012-13 financial statements where the estimated cost of capital (on a nominal pre-tax basis) has fallen from 8.5% in 2011-12 to 6.6% in 2012-13. This reduction reflects the recent re-financing of its debt.

6.18 For HS1 Ltd, the cost of capital estimate used in our determination will have a smaller impact on the company's income than for other regulated utilities. However, it is still important that we assess HS1 Ltd's assumptions and determine whether its estimate is reasonable.

6.19 Most regulators do not just focus on current market conditions and the company's actual mix of debt and equity when estimating a company's cost of capital, e.g. they also consider forward looking forecasts of funding costs and an efficient capital structure, which may not be the same as the actual capital structure. For example, if we were to use HS1 Ltd's cost of debt and equity assumptions but use the gearing assumption from our PR13 determination of NRIL (62.5% rather than HS1 Ltd's actual gearing of 73.9%), this would give a nominal pre-tax WACC of 7.6%.

6.20 Although we do not necessarily agree with HS1 Ltd's approach to calculating its cost of capital for CP2, on the basis of our analysis, and given the nature of this periodic review as described earlier, i.e. that the cost of capital is not used to calculate an allowed return, we do not think that it is necessary to change HS1 Ltd's discount rate for CP2. However, we also expect the cost of capital used for the discount rate in the final 5YAMS to be consistent with the cost of capital used to calculate any additional IRC relating to

CP2. For future periodic reviews, we would expect HS1 Ltd to draw on forward looking evidence for its funding costs as well as its current costs.

Interest rate assumptions

Background

6.21 The interest rates assumed by HS1 Ltd in its 5YAMS feed into the calculation of the CP2 renewals charge. HS1 Ltd has to make assumptions about the interest rates on any escrow funds[16] so that it can include this income in its calculation of the annual renewals charge required in CP2. It also has to make assumptions about the interest rates on any debt it may incur to fund expenditure that would otherwise cause the escrow account balance to fall below zero[17].

CP1 experience and HS1 Ltd's 5YAMS assessment

6.22 The shortfall in interest earned on escrow funds in CP1, compared to the original CP1 assumptions was £9.0m (in nominal prices). This shortfall has occurred because the original CP1 charging model assumed an annual interest rate on positive escrow balances of 7.41%. However, the actual/forecast interest rate that has been achieved over CP1 is on average 0.22%.

6.23 Interest rates in CP1 have been lower than assumed mainly as a result of the weaker economic environment, which caused interest rates to fall to historically low levels and HS1 Ltd has been able to achieve only very low interest rates on funds within the escrow account. For example, since early 2013, escrow funds have been deposited into an account, earning an interest rate of 0.15%.

6.24 However, the Concession Agreement allows for escrow funds to be moved into authorised investments to earn a greater return and so from the end of 2013, HS1 Ltd has moved funds that will not be required in CP1 or CP2 from the escrow account into authorised investments[18].

6.25 In its final 5YAMS, HS1 Ltd made assumptions about the interest rates it will receive on authorised investments and on the proportion of escrow funds that it will invest in authorised investments over CP2.

6.26 In its final 5YAMS, HS1 Ltd assumed that 80% of escrow funds would be placed in authorised investments, with the remaining 20% left in the escrow account. To determine the balance between

[16] By escrow funds, we mean any funds remaining within the escrow account or those funds invested in authorised investments.

[17] Under the Concession Agreement, HS1 Ltd is not permitted to withdraw funds from the escrow account balance where this would cause it to become overdrawn and so HS1 Ltd would have to incur debt in order to fund expenditure that would otherwise cause the escrow account to fall below zero.

[18] HS1 Ltd may make Authorised Investments in accordance with the provisions of the Concession Agreement. This permits HS1 Ltd to place funds from the Escrow Account, in specified circumstances, on deposit with the Escrow Bank or a London branch of an Acceptable Bank or to use funds to purchase Treasury Bills or short-dated gilts rated AAA by Standard and Poor's or Aaa by Moody's.

authorised investments and funds remaining in the escrow account, HS1 Ltd considered the level of forecast renewals expenditure in CP2 and it assumed that it should maintain a buffer over forecast renewals expenditure of 100% to allow for deviations from its expenditure forecasts.

6.27 To calculate the percentage of funds to hold in the escrow account, HS1 Ltd looked at the years within CP2 where renewals spend was forecast to be highest (£4.8m in 2016-17 and £8.2m in 2018-19). It then calculated the funds that it would need to remain in the escrow account in these years to provide a 100% buffer on expected spend. HS1 Ltd has chosen a value of 20% as its assumption for each year of CP2. This is relatively consistent should a 100% buffer of escrow funds remain within the account based on the years in which renewals spend was forecast to be highest (21% (£9.6m on a £47m balance in 2016-17) and 22% (£16.4m on a £75m balance in 2018-19)).

6.28 For its interest rate assumptions on authorised investments, HS1 Ltd has used forecasts provided by external Treasury consultants, PMC Treasury. In its analysis, PMC Treasury used forward interest rates on money market deposits as the basis for its forecast. PMC Treasury used money market rates rather than rates on longer term investments such as government bonds due to the current restrictions that the Concession Agreement places on authorised investments. For example, authorised investments are limited to 12 months and these have to be invested in institutions that have an AAA or Aaa credit rating.

6.29 In its final 5YAMS, HS1 Ltd used the interest rates assumptions as set out in table 6.2.

Table 6.2 HS1 Ltd interest rate assumptions

Year	Interest rate on authorised investments	Interest rate on escrow account	Weighted average interest rate on escrow funds
2015-16	1.4%	0.0%	1.1%
2016-17	2.1%	0.0%	1.7%
2017-18	2.9%	0.0%	2.3%
2018-19	3.4%	0.0%	2.7%
2019-20	3.7%	0.0%	3.0%
After 2019-20	3.7%	0.0%	3.0%

Source: HS1 Ltd 5YAMS and our own analysis. Note: numbers may not reconcile due to rounding.

6.30 For funds remaining in the escrow account in CP2, HS1 Ltd has assumed that no interest is received on this balance. HS1 Ltd has explained to us that it has taken this approach to ensure that the overall interest rate assumptions applied to escrow funds is reasonable, as it thinks that the assumptions on the authorised investments may be too optimistic.

6.31 HS1 Ltd has also assumed an interest rate of 6.0% on any debt that it incurs to fund expenditure that would otherwise cause the escrow funds to fall below zero. In its draft 5YAMS, HS1 Ltd used an estimate from PMC Treasury of 7.5% based on unsecured short term overdraft requirements. However, following discussions with us, where we explained that we thought this assumption was too high, HS1 Ltd reduced its interest rate assumption to 6.0%. The effect of this assumption is small (using an interest rate of 6.0% rather than 7.5% reduces the total renewals charge paid by TOCs over 40 years by £1.1m) because the escrow account is forecast to be negative in less than 10 years of the 40-year period.

Responses to HS1's Ltd's draft 5YAMS consultation

6.32 There were no other responses, except for our own comments, on the appropriateness of HS1 Ltd's interest rate assumptions for CP2.

Our assessment

6.33 We have reviewed the interest rate assumptions that HS1 Ltd has used in the calculation of the CP2 renewals charge and we consider that overall HS1 Ltd's assumptions for interest rates are slightly conservative, particularly its assumptions beyond CP2.

6.34 We note the use of money market rates to inform HS1 Ltd's forecast of interest rates on authorised investments. We think that this is appropriate because at the moment the current Concession Agreement limits investments to a maximum of 12 months in duration. However, we do not agree with HS1 Ltd's approach to calculating the average interest rate on escrow funds, i.e. to assume that funds left in the escrow account will earn no interest. We would prefer to see separate assumptions for rates on authorised investments and rates on funds remaining within the escrow account and would expect this information to be available at future periodic reviews and we would prefer a more realistic view of long-term interest rates.

6.35 The only impact of HS1 Ltd's interest rate assumptions is on the annual renewals charge, i.e. higher interest rates give a lower charge and we do not propose to change the interest rate assumptions contained within the final 5YAMS because:

(a) there is uncertainty in both the underlying renewals expenditure forecast (the renewals charge before re-profiling would rise from £15.9m in CP1 to £16.4m in CP2) and also in the financing assumptions; and

(b) we understand that the TOCs are content with the level of the proposed CP2 renewals charge set out within the final 5YAMS.

6.36 We will however, monitor the interest rates that HS1 Ltd achieves in relation to both authorised investments and funds remaining within the escrow account over CP2 to ensure that HS1 Ltd works with TOCs and always seek to achieve an efficient return within the constraints it faces under the Concession Agreement.

Inflation assumptions

Background

6.37 HS1 Ltd needs to forecast annual inflation for two reasons:

(a) in calculating the renewals charge; HS1 Ltd needs to make assumptions about the annual rate of inflation for the 40-year period, which is used as the basis of the renewals charge calculation; and

(b) for the annual inflation uplift of the OMRC; track access contracts allow HS1 Ltd to uplift its track access charges each year for inflation[19]. HS1 Ltd needs to calculate charges before it knows the actual inflation rate experienced in the year and so it needs to forecast the inflation rate.

6.38 However, any errors within HS1 Ltd's inflation forecast are unlikely to cause any material financial impacts for TOCs because their track access agreements include an inflation wash-up provision, as described below.

6.39 Although HS1 Ltd charges are fixed each year, the company bills train operators quarterly in advance. For each year, HS1 Ltd uses a forecast of the year's inflation and applies this to the first quarter's bill. HS1 Ltd forecasts inflation for the first quarter because it uses the change in RPI from February-to-February to uplift the OMRC. The February RPI is not normally available before HS1 Ltd issues the first quarter bills to TOCs in March. However, for the following three quarters of the year, the February RPI value will have been published and so HS1 Ltd can use the actual change in the RPI from February to February to index its charges. At the end of every financial year, HS1 Ltd then performs a wash-up by calculating the difference between forecast and outturn RPI, with any difference being recovered from, or paid to, TOCs.

CP1 experience and HS1 Ltd's 5YAMS assessment

6.40 In CP1 to date, February-to-February RPI has ranged from 3.2% to 5.5%, whilst the recent December 2012 to December 2013 RPI is 2.7%. Track access contracts in CP1 allow HS1 Ltd to uplift its charges above RPI in each year (RPI plus 1.1%). The 1.1% uplift was intended to allow for input price inflation, above RPI, that HS1 Ltd was expected to experience in CP1. However, the actual levels of input price inflation that HS1 Ltd has experienced to date are likely to have been overall significantly lower than the assumptions that informed the CP1 indexation provision.

6.41 In its final 5YAMS, HS1 Ltd assumed an annual inflation rate of 2.75% from 2013-14 onwards, which is based on a long-term average forecast of RPI. It also proposed to remove the 1.1% uplift within track access contracts that allowed it to increase charges by more than the rate of RPI inflation in each year.

[19] Track access contracts allow HS1 Ltd to increase charges each year by the inflation rate (RPI) in the previous year, published by ONS in March.

Responses to HS1 Ltd's draft 5YAMS consultation

6.42 There were no other responses, except for our comments, on the appropriateness of HS1 Ltd's inflation assumptions.

Our assessment

6.43 Although HS1 Ltd's inflation assumptions differ from those used in our PR13 final determination for Network Rail, we do not think that this has a material impact on charges paid by operators. For example, if we were to increase the inflation rate assumption in HS1 Ltd's charging model by one percentage point to 3.75%, i.e. an increase of over 35%, the annual renewals charge would increase by only 5%. The inflation rate assumed in the charging model only impacts the renewals charge. There is no impact on the OMC because inflation is not an input into the calculation of these charges.

6.44 We consider that HS1 Ltd has used reasonable inflation assumptions in its CP2 charging model. Given the difficulty of accurately forecasting inflation over a five-year period and that additionally any forecasting errors within the inflation assumptions that HS1 Ltd applies when indexing the OMRC in each year of CP2 will be corrected through the annual inflation wash up, we are not changing the inflation forecasts used by HS1 Ltd.

Approach to calculating escrow payments

Background

6.45 Part of the charging income received from TOCs is set aside to pay for future renewals expenditure. In CP1, the total CP1 renewals charge was £29.5m (in February 2012 prices). Income from the renewals charge is paid into a separate escrow account each quarter. Drawdowns from this account by HS1 Ltd need to be authorised by the SoS and can only be used to fund renewals expenditure which has prior approval from ORR.

6.46 HS1 Ltd is therefore required to calculate an annual renewals charge for each control period that recovers a proportion of the cost of future renewals work.

Risk on the escrow account

6.47 In our response to HS1 Ltd's draft 5YAMS, we asked for further information on the allocation of risk in relation to renewals spend and the performance of escrow funds. Since HS1 Ltd published its draft 5YAMS, we have met with HS1 Ltd and passenger TOCs to discuss this issue.

6.48 In our discussions with HS1 Ltd and passenger TOCs, there was a common understanding that HS1 Ltd was at risk for the delivery of renewals projects. However, there was less agreement about the

allocation of risk in relation to the financial management of the escrow funds and forecasting errors for future renewals expenditure.

6.49 HS1 Ltd considers that the only risk it bears in relation to the escrow funds is the delivery risk on renewals projects, i.e. once it has agreed an efficient cost for a project, and received funds from the escrow account to deliver the work, it is then on risk for delivering renewals work to the agreed budget. HS1 Ltd does not consider itself to be on risk for the performance of the escrow funds, i.e. the rate of interest earned on any positive balance, or for any errors in forecasting future renewals expenditure.

6.50 However, TOCs believe that HS1 Ltd should be on risk for the management of the escrow funds as HS1 Ltd exercises more control over its management than TOCs do.

6.51 It is important that all parties clearly understand the allocation of risk in relation to the escrow funds because TOCs and HS1 Ltd need to be aware of the circumstances in which they could be responsible for providing additional funding if risks are realised. There is also a need to ensure that HS1 Ltd and TOCs are appropriately incentivised.

6.52 HS1 Ltd has agreed to work with passenger TOCs, DfT and ourselves to reach a collective understanding of the allocation of risk in relation to the escrow funds, and how best to incentivise the efficient management of the escrow funds. This work will consider the provisions of the Concession Agreement, and both the obligations and restrictions on HS1 Ltd in its management of the escrow account. For example, investment decisions are limited to certain banks and certain time-periods, and all decisions need to be approved by ORR and DfT. HS1 Ltd has also committed to being transparent about the way that it exercises its discretion in relation to investment decisions, including by involving operators so that operator's interests are taken into account. We expect this work to take place following the completion of PR14, and will come to mutually agreeable timescales for this work with the parties concerned, which will be included in our final determination. We would welcome any representations in this area.

CP1 experience

6.53 Although it is not anticipated that there will have been any withdrawals from the escrow account in CP1, the end of CP1 closing escrow balance is forecast to be around £8m lower than was assumed at the start of CP1. This is because the interest rate assumed on the escrow account (7.4%) was much higher than the interest rate that was achieved within CP1 (the actual rate is 0.2%). This reduction in interest income was partly offset by a deferral of assumed renewals expenditure of £0.8m into CP2 and a higher amount of money paid into the account of £0.1m because actual inflation in CP1 was higher than forecast.

6.54 The approach to calculating the CP1 renewals charge was based on a present value calculation of future income and costs. This approach was forecast to result in a large negative escrow balance at the end of 40 years because it did not reflect the way the escrow account worked, e.g. did not reflect interest

rates on positive and negative balances. Tables 6.3 and 6.4 set out the actual and forecast escrow account balance in each year of CP1 and show a comparison of the original CP1 assumptions compared to the latest HS1 Ltd forecast.

Table 6.3: Movements in the escrow account in CP1

£000, nominal	2009-10 actual	2010-11 actual	2011-12 actual	2012-13 actual	2013-14 forecast	2014-15 forecast
Opening balance	0	2,423	7,397	12,735	18,396	24,281
Transfers in[20]	2,421	4,961	5,311	5,627	5,851	6,064
Withdrawals	0	0	0	0	0	0
Interest	1	13	26	35	34	41
Closing balance	**2,423**	**7,397**	**12,735**	**18,396**	**24,281**	**30,386**

Source: HS1 Ltd 5YAMS. Note: numbers may not reconcile due to rounding.

Table 6.4: Comparison of the original CP1 assumption and actual/forecast escrow account balance at the end of CP1

£000, nominal	Original CP1 model	Actual/ forecast	Difference
Transfers in	30,143	30,236	+92
Withdrawals	-844	0	+844
Interest	9,191	151	-9,041
Total	**38,490**	**30,386**	**-8,104**

Source: HS1 Ltd 5YAMS. Note: numbers may not reconcile due to rounding.

HS1 Ltd's 5YAMS assessment

6.55 Prior to CP1, there was a limited understanding of the 40-year renewals expenditure profile for the HS1 network. Based on the information now available, which we have reviewed in detail, HS1 Ltd considers that renewals expenditure for the next 40 years will be significantly higher than the level assumed at the start of CP1. As a result, the low level of the CP1 renewals charge[21], calculated on the basis of the information available at that time, has led to a significant underfunding of the escrow account during CP1 (circa £50m in 2012-13 prices).

6.56 In order for HS1 Ltd to recover the underfunding from CP1, and to reflect the latest view of future renewals expenditure, in its final 5YAMS, HS1 Ltd proposed an increase in the total renewals charge from the start of CP2. Figure 6.1 shows how HS1 Ltd has explained the different elements that contribute to the increase in the renewals charge from CP1 to CP2.

[20] These payments are not the same value in each year because they include the annual uplift for RPI inflation.

[21] The CP1 renewals charge also excluded 'oncosts', while as noted above, other assumptions such as the rate of interest on escrow funds were significantly overstated. Oncosts are indirect costs of renewals projects such as project management costs.

6.57 Figure 6.1 shows that the increase in the renewals charge is made up of a number of elements:

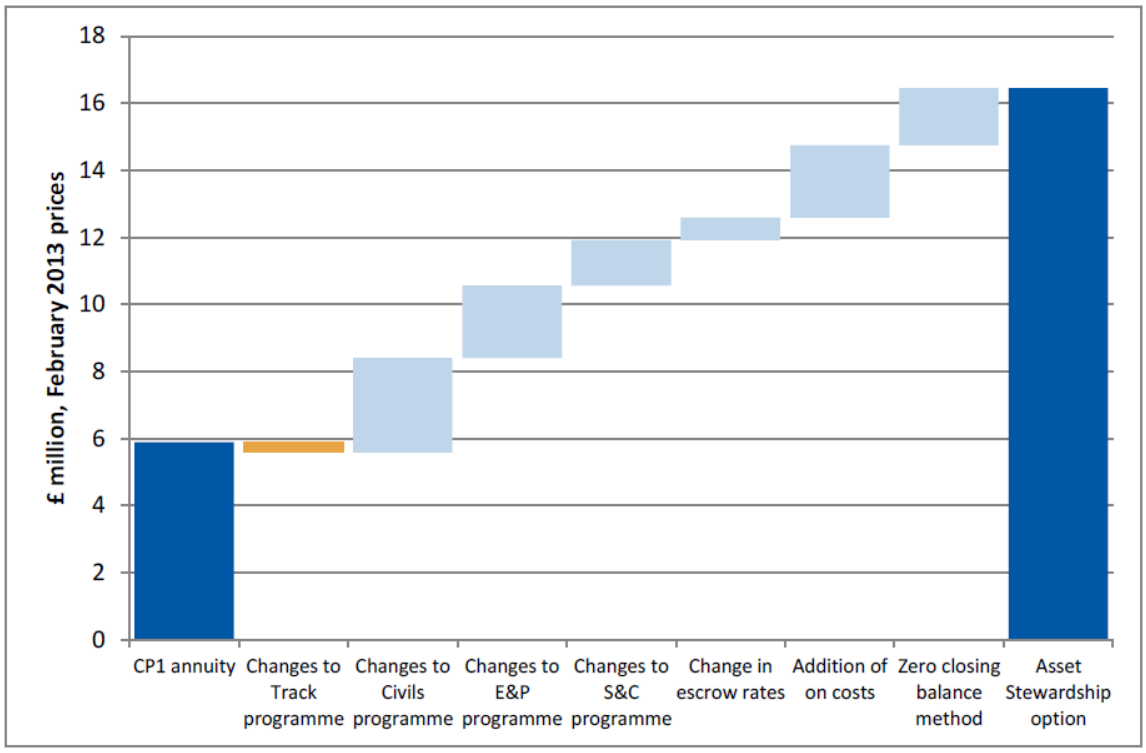
(a) an increase in forecast direct renewals costs, e.g. track and civils renewals;

(b) lower interest rate assumptions on escrow account balances;

(c) the inclusion of indirect or 'oncosts' within forecast renewals expenditure. These costs were not previously included in expenditure forecasts; and

(d) a change in approach to calculating the renewals charge. Using an approach which results in a zero escrow balance after 40 years increases the renewals charge compared to the approach used for CP1.

Figure 6.1: Changes in the renewals charge (£ million per annum, February 2013 prices)



1. Change in escrow rates – this is the impact of reducing the interest rate assumptions for CP2 onwards compared to those assumed at the start of CP1.
2. Addition of oncosts - these indirect or 'oncosts' were not previously included in renewals expenditure forecasts.
3. Zero closing balance method – the change in approach to calculating the renewals charge in CP2, i.e. a method that results in a zero escrow balance after 40 years rather than the CP1 approach.
4. Asset stewardship option – the 40-year expenditure forecast scenario proposed by HS1 Ltd.

Source: HS1 Ltd 5YAMS.

6.58 If HS1 Ltd was to increase the renewals charge from the start of CP2 to recover the underfunding from CP1, and to reflect the latest view of future renewals expenditure, it estimates that the annual charge (in 2012-13 prices) would be £16.4m. This is based on an annual payment, which results in a zero escrow balance after 40 years.

6.59 Following consultation with the TOCs, rather than introducing the full increase in the renewals charge from the start of CP2, HS1 Ltd has proposed to phase in the increase over three control periods as follows:

(a) CP2: 50% of the increase from CP1 is funded (annual charge: £11.2m);

(b) CP3: the renewals charge is the full £16.4 million per annum; and

(c) CP4 onwards: the renewals charge is increased to £17.4m to ensure a zero closing balance in the escrow account after 40 years.

6.60 Where a new operator starts operating on the HS1 network within CP2, a re-opener will be used to revise the charges paid by operators.

Responses to HS1 Ltd's draft 5YAMS consultation

6.61 EIL and ORR were the only consultees to comment on the escrow account. EIL asked for more information about the certainty/sensitivity associated with the proposed £16.4m annual renewals charge. EIL suggested that HS1 Ltd could, for example, adopt a 'lowest credible' contribution to the escrow account, even if this meant accepting that this would probably result in an increase in the future charge when the assets are better understood.

6.62 In HS1 Ltd's response to this comment, it explained that in discussions with ORR and train operators, it had revised its renewals charge for CP2.

Our assessment

6.63 We have considered HS1 Ltd's 40-year renewals expenditure profile as part of our asset management assessment, which is described in chapter 4 (Asset management), and we have already discussed the financial assumptions in relation to the escrow account earlier in this chapter.

6.64 We have reviewed HS1 Ltd's modelling of the CP2 renewals charge and, as part of our assessment, we have considered a number of different approaches to calculating the charge within the rules of the Concession Agreement. In our assessment, we have considered:

(a) the impact on the renewals charge in CP2 and in future control periods;

(b) the overall impact on the total value of charges paid by train operators over CP2 and in future control periods;

(c) the speed at which the escrow underfunding could be recovered from train operators; and

(d) the uncertainty of the current forecast of renewals expenditure and interest rates.

6.65 In this section we consider the appropriateness of HS1 Ltd's proposed approach to calculating the CP2 renewals charge and compare this proposal to two alternatives, which are:

(a) **a gradual increase in the renewals charge over CP2**. This approach would result in a 20% increase from the CP1 renewals charge in year 1 of CP2, a 40% increase in year 2, a 60% increase in year 3, a 80% increase in year 4 and a 100% increase in year 5. This approach phases in the required increase in the renewals charge rather than introducing a step increase between control periods. This is similar to the approach we took in the PR13 determination for increases to freight track access charges, where there was a significant increase in the charge; and

(b) **a charge based on the last 25 years of the current 40-year renewals forecast**. The HS1 network is a new railway and so the current 40-year expenditure forecast (where the first 15 years of renewals spend is very low) is unlikely to reflect the long-run average renewals spend required to maintain the HS1 network in its current condition. By considering only the last 25 years of the current 40-year forecast, we exclude the first 15 years of very low one-off expenditure levels. This results in a charge that could better reflect the long-run average renewals expenditure for HS1 Ltd.

6.66 Tables 6.5 and 6.6 and Figure 6.2 show the total annual renewals charge over CP1, CP2, CP3 and CP4 and beyond for the three main approaches we have considered.

Table 6.5: Comparison of possible annual renewals charges over CP1, CP2, CP3 and CP4

(£'000, February 2013 prices)	CP1	CP2	CP3	CP4+
HS1 Ltd proposal	5,892	11,157	16,423	17,406
Gradual increase over CP2	5,892	12,572[22]	17,026	17,026
25 year renewals profile	5,892	23,677	23,677	23,677

Source: HS1 Ltd 5YAMS and our own analysis. Note: numbers may not reconcile due to rounding.

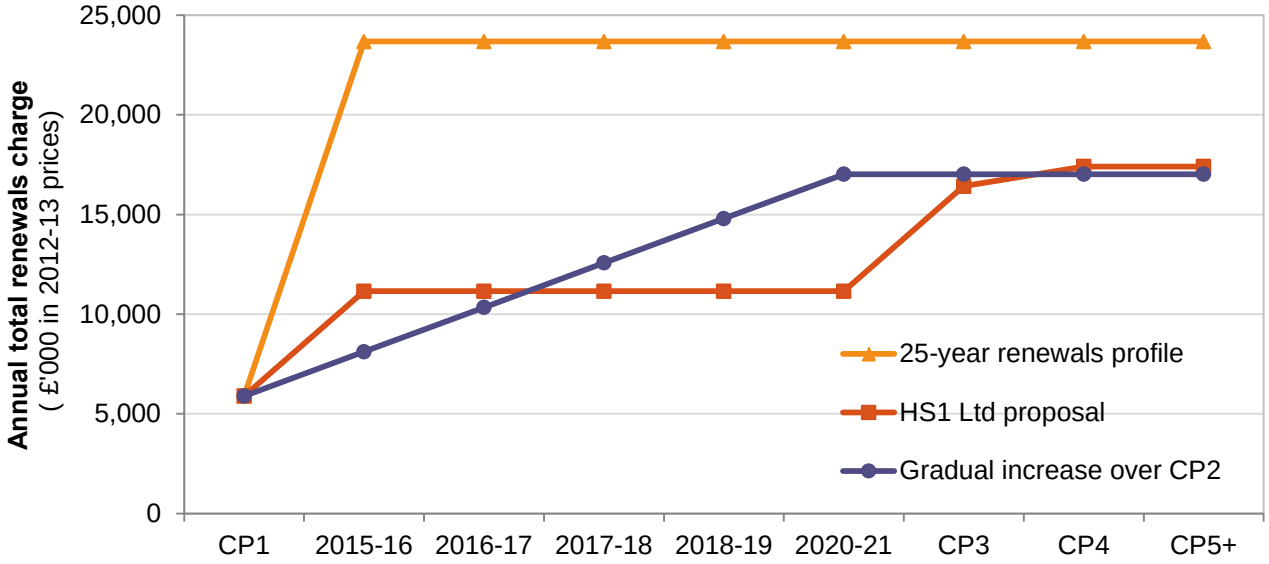
Table 6.6: Comparison of possible annual CP2 renewals charges

(£'000, February 2013 prices)	2015-16	2016-17	2017-18	2018-19	2019-20	CP2
HS1 Ltd proposal	11,157	11,157	11,157	11,157	11,157	55,785
Gradual increase over CP2	8,119	10,345	12,572	14,799	17,026	62,861
25 year renewals profile	23,677	23,677	23,677	23,677	23,677	118,385

Source: HS1 Ltd 5YAMS and our own analysis. Note: numbers may not reconcile due to rounding.

[22] This figure is the CP2 average charge.

Figure 6.2: Comparison of possible annual renewals charges

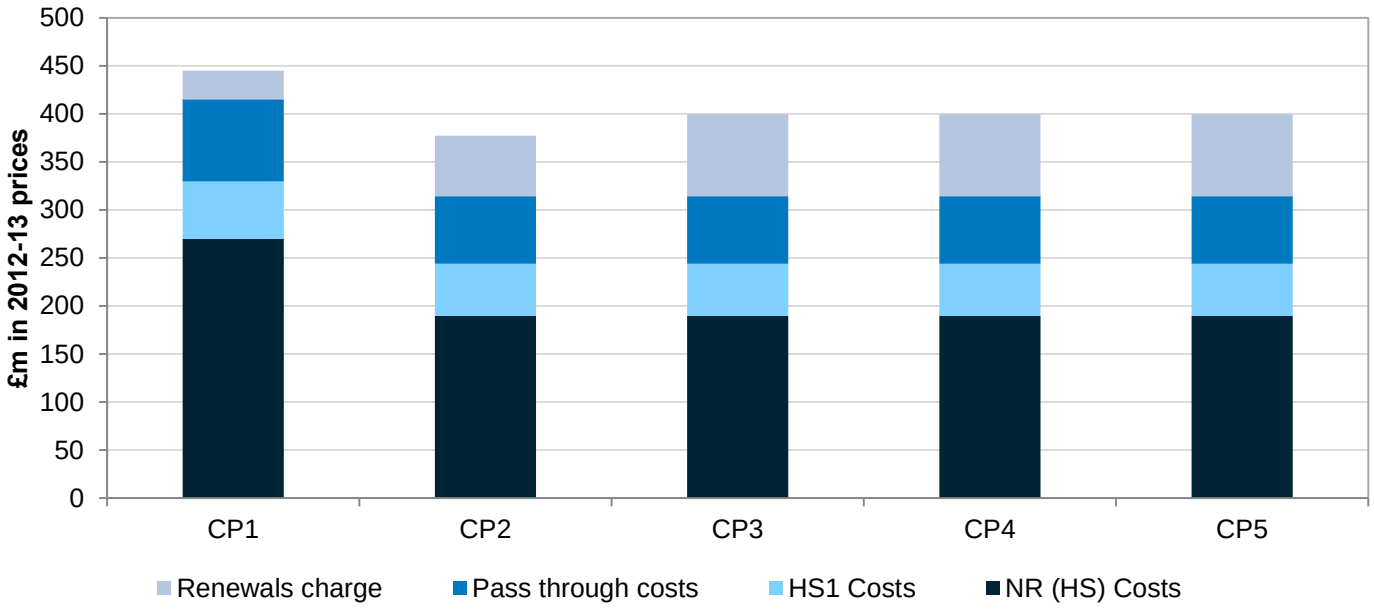


Source: ORR analysis.

6.67 Overall, there is a relatively modest difference in the renewals charge in CP2 between the HS1 Ltd proposal and the gradual increase over CP2 approach. The HS1 Ltd proposal results in a total CP2 renewals charge of £55.8m compared to £62.9m under the gradual increase over CP2 approach. However, under the 25-year renewals profile approach, the renewals charge is much higher at £118.4m over CP2, which is around four times higher than the charge in CP1.

6.68 We have also considered the longer-term effects of HS1 Ltd's proposal on the level of the company's total charges paid by TOCs. Figure 6.3 shows the level of total charges from CP2 to CP5, holding other charges, except the renewals charge, constant at CP2 levels, i.e. we assume that HS1 Ltd and NR(HS) do not make any further efficiencies after CP2.

Figure 6.3: Total costs to passenger train operators over CP1 to CP5 under HS1 Ltd's approach to calculating the renewals charge



Source: HS1 Ltd 5YAMS and ORR analysis.
Note: This chart assumes that after CP2, there is no change to NR(HS) costs, HS1 Ltd costs or pass through costs.

6.69 Our analysis shows that under the current HS1 Ltd proposal, there is a significant reduction in total charges from CP1 to CP2 and without HS1 Ltd (and NR(HS)) delivering further efficiencies in CP3 of around 8-10%, then total charges paid by TOCs could rise in real terms between CP2 and CP3. This could have an impact on HS1 Ltd attracting additional customers onto the HS1 network.

6.70 We have also taken into account, when considering our draft decision on this issue, that there is a relatively small difference in the renewals charge in CP2 between the HS1 Ltd proposal and the gradual increase over CP2 approach, and that HS1 Ltd's proposal has TOC support. Also, if HS1 Ltd was to calculate the renewals charge based on a 25-year renewals forecast covering the last 25 years of the 40 year period, this may not produce a reasonable renewals charge in CP2, given the uncertainty of forecasting renewals expenditure 40 years into the future.

6.71 Further, it is also worth noting that the Concession Agreement provides for an interim review of access charges in the event that circumstances change significantly from our assumptions in the periodic review process.

6.72 We acknowledge the uncertainty in the forecast of interest rates and future renewals spend, which are the main driver of the renewals charge. However, an advantage of using an escrow approach to funding renewals is that several control periods exist for us to adjust the payments, as our knowledge of the actual performance of the assets improves. This is particularly the case when the payments start a long time in

advance of the control period in which substantial withdrawals would be needed to fund renewals expenditure. Another significant uncertainty is interest rates, which for the escrow account need to be forecast over a 40 year period. Given these factors, we consider that the proposed HS1 approach is the most appropriate for CP2. For CP3, we will review this approach and if the underlying level of renewals has increased or the interest rate assumptions have decreased, resulting in a higher renewals charge, we will consider whether the renewals charge for future control periods needs to be higher than presently forecast.

Financial modelling

Background

6.73 As part of the periodic review process, we require HS1 Ltd to develop access charges that are consistent with European regulations. For CP1, HS1 Ltd developed an Excel-based model that calculated access charges on a per train minute and per train service basis. This model has been used throughout CP1 and has been fully shared with both us and the TOCs.

6.74 To calculate CP2 access charges, HS1 Ltd commissioned Leigh Fisher to update and improve the CP1 model, so that it could calculate access charges for CP2. The model developed by Leigh Fisher has been used to support HS1 Ltd's final 5YAMS.

HS1 Ltd's 5YAMS assessment

6.75 As part of the PR14 process, at our request, HS1 Ltd commissioned an independent review of its CP2 charging model by consultants, Aecom. HS1 Ltd explained that the scope of Aecom's review was to:

(a) review cell by cell the formulae and consistency to ensure mathematical accuracy throughout the model;

(b) suggest possible improvements to the financial model to improve transparency and user friendliness; and

(c) provide an independent view on the financial model and whether it is correct.

6.76 In its audit, Aecom did not identify any issues with the technical or functional content of the charging model. It concluded that: "subject to the quality of the input data and appropriate implementation of guidance for calculating track access charges[23], we therefore believe that the model is an appropriate tool for calculating access charges". Aecom also made recommendations for improvements to the model, mainly in relation to presentation. Following the audit by Aecom, HS1 Ltd updated the CP2 model for the

[23] Aecom's audit did not assess whether the methodology used in the model was consistent with the charging methodology agreed between HS1 Ltd and ORR. However, we have separately considered HS1 Ltd's structure of charges and how it has calculated charges within the CP2 charging model. We think that HS1 Ltd's charging model is consistent with the CP2 charging methodology. In chapter 7 (Access charges), we further discuss the appropriateness of HS1 Ltd's structure of charges.

majority of the recommendations in the report. This was completed prior to HS1 Ltd publishing its final 5YAMS.

Our assessment

6.77 As part of our assessment of the draft and final 5YAMS, we have reviewed the CP2 charging model. The focus of our own review was on the model's approach to calculating charges, rather than a cell-by-cell review. We have relied on Aecom's audit for assurance that there are no arithmetic errors within the charging model.

6.78 We undertook a review of the CP2 charging model that accompanied the draft 5YAMS. Our review found the model to be broadly robust but we challenged a number of inputs into the model, including the source of the cost apportionment percentages and the approach HS1 Ltd had taken to calculate the annual CP2 renewals charge.

6.79 Prior to publishing its final 5YAMS, Leigh Fisher updated the charging model. We have now reviewed the latest version of the charging model, which supported the final 5YAMS, and are content that the issues that we raised have been incorporated into the charging model.

Summary of CP2 income and expenditure

6.80 In Tables 6.7 and 6.8 below, we present a summary of our assumptions for HS1 Ltd's total CP2 expenditure and income covered by our PR14 review. These assumptions are the basis of our draft decisions.

6.81 OMRC income includes the renewals charge which is paid into the escrow account to fund future renewals expenditures including renewals expenditure in CP2. The renewals charge amounts to £11.2m for each year of CP2 (in total for domestic and international operators). Over CP2, this results in a £35.2m difference between renewals income and renewals expenditure in the table below (being £55.8m of renewals income less £20.8m of renewals expenditure).

6.82 The only changes from HS1 Ltd's final 5YAMS relate to freight charges. Subsequent to the release of HS1 Ltd's final 5YAMS, HS1 Ltd proposed to allocate costs between all freight users of the Ripple Lane infrastructure. This will ensure that HS1 Ltd's international freight customers do not pay the full OMR costs when the infrastructure is also used by other operators. On this basis a lower OMR freight charge has been proposed.

6.83 We note HS1 Ltd's proposal that the remaining proportion of the Ripple Lane costs (£0.1m p.a.) will be recovered from the freight trains accessing Ripple Lane via NRIL. As this charge is not currently levied on those freight services, it is appropriate for HS1 Ltd to consult and work with freight operators and other

stakeholders in order to explore the appropriate mechanism for recovery of these costs, in accordance with the Regulations.

Table 6.7: Conclusions on total HS1 Ltd expenditure for CP2

£m (February 2013 prices)	2014-15 (CP1)	2015-16	2016-17	2017-18	2018-19	2019-20	CP2 total	Chapter reference
HS1 Ltd								
HS1 contract	3.8	4.0	4.0	4.1	4.1	4.1	20.3	Chapter 5
HS1 internal	7.3	6.6	6.7	7.1	7.1	6.6	34.2	Chapter 5
Total HS1 Ltd	11.1	10.6	10.7	11.3	11.3	10.7	54.6	
NR(HS)								
Core O&M	36.6	34.8	34.1	33.3	32.7	32.3	167.2	Chapter 5
Management fee, risk premium	6.4	4.5	4.4	4.4	4.2	4.2	21.7	Chapter 5
Outperformance	0.8	-	-	-	-	-	-	
Total NR(HS)	43.8	39.3	38.6	37.6	36.9	36.5	188.9	
Escalation	0.5	0.4	0.4	0.4	0.4	0.4	2.1	Chapter 5
Freight-specific	-0.5	-0.3	-0.3	-0.3	-0.3	-0.3	-1.4	Note 1
Total NR(HS) inc. escalation	43.8	39.5	38.7	37.7	37.0	36.6	189.6	
Other costs								
Pass through	14.4	14.3	14.2	14.1	14.0	13.9	70.4	Chapter 5
Freight-specific	1.4	0.5	0.5	0.5	0.5	0.5	2.7	Chapter 5
Renewals	0.0	1.2	4.8	3.8	8.2	2.8	20.8	Chapter 4
Total OM&R costs	**70.7**	**66.1**	**69.0**	**67.5**	**71.0**	**64.5**	**338.1**	
Traction electricity	14.0	14.0	13.9	13.9	14.1	14.1	69.9	Chapter 7
Total costs	**84.7**	**80.1**	**82.9**	**81.4**	**85.1**	**78.6**	**408.0**	

Source: HS1 Ltd 5YAMS and our own analysis. Note: numbers may not reconcile due to rounding.

Note 1: The freight-specific element of the NR(HS) costs has been removed from total NR(HS) costs as these are also included within freight specific costs under the other category.

Table 6.8: Conclusions on total HS1 Ltd income for CP2

£m (February 2013 prices)	2014-15 (CP1)	2015-16	2016-17	2017-18	2018-19	2019-20	CP2 total	Chapter reference
OMRC - international	32.3	28.5	28.6	28.0	28.0	28.8	142.0	Chapter 7
OMRC – domestic	52.2	45.6	45.6	45.6	45.6	45.6	228.2	Chapter 7
Freight charges	1.4	0.4	0.4	0.4	0.4	0.4	1.9	Chapter 7
Traction electricity	14.0	14.0	13.9	13.9	14.1	14.1	69.9	Chapter 7
Total Income	**99.9**	**88.5**	**88.5**	**87.9**	**88.1**	**88.9**	**442.0**	

Source: HS1 Ltd 5YAMS and our own analysis. Note: numbers may not reconcile due to rounding.

7. Access charges

Key messages

- As part of PR14, we are required to approve HS1 Ltd's operating, maintenance and renewal charges. Other charges and sources of income, in particular charges for stations, charges that recover investment, and income from commercial activities, are not regulated as part of PR14 and not covered in this chapter.
- In CP1, passenger services paid all categories of OMR costs apportioned to them, whereas freight services paid variable and avoidable costs (i.e. those which would be avoided if there were no freight trains (freight specific costs)). In its draft 5YAMS, HS1 Ltd proposed to retain the CP1 structure of OMR charges in CP2.
- Under the legal framework, track access charges should be set to recover cost directly incurred, with some exceptions to these principles permitted under certain circumstances. Some freight stakeholders have argued that not all the freight specific costs that HS1 Ltd identified are cost directly incurred, and noted that Network Rail's structure of charges has a different classification of freight costs.
- HS1 Ltd has reclassified one of its costs as a result of the comments it has received and has explained why it considers the remaining freight specific costs to be cost directly incurred. We recognise, in line with the rulings of the European Court of Justice, that the definition of 'cost directly incurred' is not currently a precise one and therefore there is an element of discretion when applying this concept and that flexibility is needed in its interpretation. Taking account of the commercial environment in which HS1 Ltd operates, and the modification HS1 Ltd has made, we are content to approve the structure of OMR charges that it has proposed.
- HS1 Ltd has reduced its proposed passenger charges relative to its draft 5YAMS, responding to comments we and others made on a number of cost items. We are minded to approve its proposed charges of £48.14 per train minute for international passenger services (12% lower than the equivalent CP1 exit charge) and £36.32 per train minute for domestic passenger services (13% lower than the equivalent CP1 exit charge). These charges are subject to re-opener provisions relating to the GSM-R upgrade and associated with substantive changes in traffic volumes.
- HS1 Ltd has reduced its freight charges relative to its draft 5YAMS, responding to comments we and others have made. In particular it has increased its assumption regarding the number of freight trains following a submission from DBS (the volume of freight trains will also be subject to a re-opener) and it has proposed to charge all the users of the Ripple Lane facility instead of just the HS1 freight users, by allocating an appropriate proportion of the £172k per annum cost of Ripple Lane to all users. We propose to approve

its charge of £5.36 per train km; this compares to £8.10 per train km for CP1, based on 800 trains per annum. In CP1, certain freight services were eligible for a discounted rate of £4.00 per train km and HS1 Ltd states that it will continue to support discussions between its freight customers and DfT on funding options for freight. However, the final 5YAMS submission does not detail any proposal in this regard.

Introduction

7.1 In this chapter we set out our draft conclusions on the regulated access charges for HS1 Ltd to levy on its customers, passenger and freight operators, in CP2. We also set out our draft conclusions on HS1 Ltd's structure of charges in light of HS1 Ltd's proposals to re-assign certain costs within its existing structure of charges to better ensure consistency with the Regulations.

7.2 HS1 Ltd recovers its costs through income from the following sources:

(a) operating, maintenance and renewal (OMR) charges;

(b) investment recovery charge (IRC);

(c) a traction electricity charge;

(d) station qualified expenditure;

(e) station long-term charges; and

(f) unregulated activities.

7.3 We approve the level of HS1 Ltd's OMRC for the next control period as part of the periodic review. As part of the periodic review process, we review and approve the charges HS1 Ltd has calculated in order to ensure that OMRC is set at the level needed to provide for operation, maintenance and renewal in accordance with HS1 Ltd's General Duty. This chapter concerns charges in respect of the OMRC only. The process by which HS1 Ltd's forecast CP2 costs are allocated between those recovered by OMR charges and those recovered by other sources of income is set out in the cost allocation section of chapter 3 (Regulatory framework) of this document.

7.4 It is important that HS1 Ltd's charges reflect the costs they are designed to recover. In this way charges provide the best possible signals to HS1 Ltd and to its customers about the provision and use of its infrastructure. This in turn drives efficient use of resources both in terms of existing infrastructure and the provision of new capacity and incentives to reduce costs.

7.5 HS1 Ltd's OMR charges paid by operators are calculated on the basis of its total OMR costs and the forecast volumes of traffic operating on its network. We discuss our views on HS1 Ltd's efficient costs in chapter 4 (Asset management) and chapter 5 (Operations, corporate costs and pass through costs) of this document and our review of the traffic forecasts in this chapter.

7.6 As part of PR14, HS1 Ltd has undertaken a thorough review of the costs that its charges are set to recover and calculated the charges on that basis. In this chapter, we set out our views on HS1 Ltd's proposal to make certain adjustments to the structure of its charges. We also outline the work HS1 Ltd has undertaken to calculate its charges, our review of that work and our conclusions.

7.7 HS1 Ltd is proposing a significant reduction in track access charges for passenger and freight operators in CP2, relative to CP1. The OMR charge for international passengers will fall from £54.61 to £48.14 per train minute. And for domestic passenger services, the charge will fall from £41.52 to £36.32 per train minute. The OMR charge for freight services falls from £8.10 per train-km to £5.36 per train-km, based on 800 trains per annum.

7.8 The rest of this chapter is structured as follows:

(a) we outline the legal framework;

(b) we explain HS1 Ltd's structure of OMR charges for CP1;

(c) we review the structure of HS1 Ltd's OMR charges in CP2;

(d) we consider HS1 Ltd's proposed charges for traction electricity for CP2;

(e) we set out the traffic forecasts used to calculate OMR charges and associated OMR charges re-openers for CP2; and

(f) we explain our draft conclusions on the levels of OMR charges for passengers and freight and additional IRC for passengers.

The legal framework

7.9 Under Regulation 12 of the Regulations, HS1 Ltd is responsible for establishing the specific charging rules governing the determination of the fees to be charged. Under Regulation 28(2) ORR is obliged to ensure that the charges adopted by HS1 Ltd comply with the charging principles set out in Part 4 and Schedule 3 of the Regulations.

7.10 Under these charging principles, the starting point for calculating the track access charges each operator pays, is the 'cost directly incurred' by HS1 Ltd as a result of allowing operators' services to use its network, for example the wear and tear of the track.

7.11 In order for an infrastructure manager to recover its full costs (i.e. the total costs of providing the HS1 network, which by definition are higher than cost directly incurred) the Regulations allow for two exceptions to the charging principles. The first exception allows higher charges to be levied in the form of a mark-up above cost directly incurred, provided that certain principles are met, including that the charge does not price certain market segments off the network.

7.12 The second exception allows the infrastructure manager to set higher charges in order to recover the long-term costs of a project so long as:

(a) the project increases efficiency or cost-effectiveness; and

(b) the project could not otherwise have been undertaken without the prospect of such higher charges.

HS1 Ltd's OMR charges in CP1

7.13 HS1 Ltd's charging structure was established in 2009 by the SoS, through the Concession Agreement. HS1 Ltd's OMR charges recover its full OMR costs. HS1 Ltd explained in its 5YAMS that it charges for cost directly incurred through OMRCA1 and OMRCA2 and charges for its common costs (an economic concept for which a standard definition is costs that cannot be directly attributed to a particular type of traffic) through OMRCB and OMRCC. HS1 Ltd also levies a separate charge for traction electricity, which is discussed in this chapter.

7.14 The OMR charges consist of the following:

(a) OMRCA1: the variable costs reflecting wear and tear of additional trains on common track. This mainly relates to track costs;

(b) OMRCA2: the avoidable costs on a long run incremental cost (LRIC) basis where the costs of infrastructure specific to a class of operator (e.g. international passenger train operators or freight operators) that would be avoided (i.e. not required) in the event that a specific class of operator ceased operating services are allocated to that particular class of operator. An example is the section of infrastructure from Ashford International to the Channel Tunnel which is used only by international passenger operators[24];

(c) OMRCB: the common costs (which HS1 Ltd has also termed the long-term costs of the operating phase of the project). OMRCB includes, for example, head office costs, and infrastructure costs that vary with the length of track but not the volume of traffic; and

[24] This section is also used by freight traffic. However, HS1 Ltd charges freight on the basis of it being marginal traffic, i.e. it allocates the costs associated with the infrastructure to international passenger operators, then calculates the additional wear and tear associated with freight trains.

(d) OMRCC: the pass through costs. These are common costs that in the Concession Agreement are deemed to be largely beyond HS1 Ltd's control, such as insurance and business rates. For this category of cost there is an annual wash-up process to adjust for differences between actual and forecast costs.

7.15 Passenger TOCs are charged all four elements of OMR charges, whereas FOCs are charged only the elements of the charge related to cost directly incurred as a result of operating freight services (ie. OMRCA1 and OMRCA2).

Review of the structure of HS1 Ltd's OMRC

Our initial consultation and stakeholders' views

7.16 In our initial consultation, setting out our approach to PR14, we invited stakeholders to comment on the structure and level of HS1 Ltd's charges. Passenger TOCs did not raise comments regarding the structure of charges itself. However, FOCs and freight representative bodies raised concerns that the approach adopted by HS1 Ltd appeared inconsistent with the Regulations as regards the application of the principle that charges should recover 'the cost directly incurred'.

7.17 In particular, in their consultation responses to the 5YAMS, those respondents disagreed with HS1 Ltd's interpretation of the Regulations and contended that FOCs should only pay variable costs, i.e. OMRCA1. In particular, DB Schenker considered that certain costs which HS1 Ltd had identified as being 'cost directly incurred' should better be described as 'mark-ups' and therefore subject to an assessment to ensure those market segments upon which the charge was levied could afford to pay.

7.18 Those responses cited our recent determination of NRIL's charging structure under which some freight avoidable costs are recovered as a 'mark-up' on the variable usage charge payable only by operators deemed able to bear the cost of the mark up. DB Schenker questioned how the principles of a charging structure could be defined differently for different infrastructure managers within the same jurisdiction.

HS1 Ltd's submission explaining its structure of OMR charges

7.19 In light of these concerns, we invited HS1 Ltd to provide us with a written explanation of its structure of charges. In doing so, HS1 Ltd noted that the Regulations do not provide a clear definition of what costs should be classified as 'cost directly incurred' and that recent case law had also left the question open to interpretation.

7.20 The relevant provision in the Regulations, paragraph 1(4) of Schedule 3 reads: "*The charges for the minimum access package and track access to services…shall be set at the cost that is directly incurred as a result of operating the train service*". HS1 Ltd argued that the meaning of 'cost directly incurred' rests on the concept of 'cost causation', for example "international passenger traffic directly causes the costs of

infrastructure between Ashford and the tunnel because without this traffic the costs would not be incurred". In reaching this view, HS1 Ltd relied, in particular, on the judgments of the Court of Justice of the European Union ("CJEU"), in the cases the European Commission brought against the Republic of Poland[25] and the Czech Republic[26]. These cases highlighted the lack of a precise definition of the term 'cost directly incurred' and noted that there is a certain discretion when transposing and applying the term in national law. HS1 Ltd argued that the meaning of cost directly incurred should be interpreted broadly to include avoidable costs based on the long run incremental costs of a particular class of operator, as that is a better reflection of cost causality.

7.21 HS1 Ltd relies on the 'long-term costs' exception to levy some elements of its OMR charges (specifically those it terms 'common costs') and the IRC. This exception requires the satisfaction of two conditions before costs may be recovered through it. The first condition states that '*the project must increase efficiency or cost-effectiveness'.*

7.22 HS1 Ltd told us that it considered this condition to be satisfied because the building and operation of the HS1 network has achieved substantial efficiencies in terms of journey times on inter-capital routes and very substantial improvements on journey times for Kent commuters. In addition, HS1 Ltd stated that the project creates enhanced transport hubs at King's Cross / St Pancras and Stratford and a new hub at Ebbsfleet International, as well as contributing to wider economic efficiency by enabling the regeneration of land at those locations. HS1 Ltd stated that the cost-effectiveness of the project is demonstrated by its delivery in accordance with the planned timetable and budget, as well as HS1 Ltd's obligation to undergo five-yearly periodic reviews under the Concession Agreement.

7.23 The exception also requires that, '*the project could not otherwise have been undertaken without the prospect of such higher charges'.* HS1 Ltd stated that this condition is satisfied because the nature of the construction of the HS1 network and the private risk that was taken was possible only with the prospect that the full costs of running the railway would be recovered. HS1 Ltd added that this applies to both the construction phase and the current phase with HS1 Ltd as the concession-granted operator.

7.24 HS1 Ltd also contended that the term 'long-term costs' has no specific meaning and that no specific category of cost is excluded from consideration. As the Regulations make no reference to any restriction on long-term costs (e.g. limiting such costs to 'capital costs' only), HS1 Ltd has taken 'long-term' to mean all costs associated with delivering its infrastructure manager obligations in the long-term.

[25] European Commission v Republic of Poland (Case C-512/10).

[26] European Commission v Czech Republic (Case C-545/10).

Our draft conclusions on HS1 Ltd's structure of OMR charges

7.25 We agree with HS1 Ltd that the Regulations do not clearly define which costs may be captured within the scope of 'cost directly incurred'. As a result, we consider there is scope for different infrastructure managers to adopt different interpretations. Indeed, recognising the need for clarity (and to better ensure consistency between infrastructure managers), Article 31(3) of the recast Directive 2012/34 provides "*Before 16 June 2015, the Commission shall adopt measures setting out the modalities for the calculation of the cost that is directly incurred as a result of operating the train*".

7.26 Prior to such measures being adopted, infrastructure managers have little to assist them in reaching a view on what falls within the scope of 'cost directly incurred' other than the few judgments of the Court of Justice which touch on this area. The Commission's case against the Republic of Poland is potentially helpful in this regard. Paragraphs 99-100 of the judgment provides:

"(99)…the costs connected with signalling, traffic management, maintenance and repairs are liable to vary, at least partially, depending on traffic and, accordingly, may be considered, in part, to be directly incurred as a result of operating the train service.

(100) It follows, conversely, that because they include fixed costs relating to the provision of a stretch of line on the rail network which the manager must bear even in the absence of train movements, the maintenance and traffic management costs …[referred to in the relevant national legislation]*.. must be considered to be only partially directly incurred as a result of operating the train service".*

7.27 We recognise that HS1 Ltd's interpretation of costs directly occurred is (by including some element of avoidable cost) broader than that taken for NRIL. The CJEU expressly recognises that the concept raises considerable practical difficulties as there is no precise definition in EU law and therefore national authorities, who will of course need to have regard to the specific circumstances of the rail infrastructure in question[27], enjoy a certain margin of discretion in its application. Therefore, we agree with HS1 Ltd that a flexible approach to the meaning is justified in order to take account of the particular operating and commercial environment under which an infrastructure manager operates.

7.28 We state in our HS1 Regulatory Statement that we expect to regulate HS1 Ltd "as far as possible" in the way we regulate NRIL but that we recognised that there are differences between HS1 Ltd and the HS1 network, and the national network and that: "In general we would therefore expect to apply our general published policies and principles of regulation having regard to these differences to the extent that they are relevant".

[27] See C545/10 European Commission v Czech Republic at paragraph 65.

7.29 Having considered carefully the arguments put forward by HS1 Ltd and those of its customers, on the basis of the points we have made above, our view is that HS1 Ltd's charging structure is consistent with the Regulations. In reaching our decision, we have sought to ensure that charges are cost reflective and send the right signals to users to ensure the appropriate use of the network and at the same time enable HS1 Ltd recover its full operating costs.

7.30 As part of our review of HS1 Ltd's structure of charges, we thought there was one cost element which, in its draft 5YAMS, HS1 Ltd was purporting to recover as a 'cost directly incurred' under OMRCA2 for both passengers and freight which we considered fell outside the scope of paragraph 1(4) of Schedule 3, namely the costs arising from mothballing assets if a specific class of operator ceased to operate on the HS1 network[28]. We considered that these costs were fixed costs that arose in the absence of train movements and hence could not fall to be considered as 'costs that are directly incurred as a result of operating the train service'. FOCs also argued that such costs fell outside the scope of avoidable costs in their responses to HS1 Ltd's draft 5YAMS.

HS1 Ltd's revised structure of OMR charges for CP2

7.31 In its final 5YAMS, HS1 Ltd set out its new proposed OMR charges structure. After taking the views of ORR and respondents to the draft 5YAMS consultation into account, HS1 Ltd amended the structure of charges in its final 5YAMS submission by reallocating 'mothballing' costs from OMRCA2 to OMRCB, i.e. treating them as common costs (with all other costs remaining as allocated originally).

Traction electricity charges

7.32 HS1 Ltd treats traction electricity costs and charges separately from OMR costs. These charges are levied separately on operators depending on usage. HS1 Ltd bulk buys electricity via a NRIL bulk contract for the traction electricity for the mainline network.

7.33 In both its draft and final 5YAMS, HS1 Ltd set out indicative charges for CP2 based on forecast electricity costs of £407 per train for international services and £95 per train for domestic services. We note that these are indicative prices as train operators will pay traction electric costs based on actual prices and train numbers/formations.

7.34 We consider that the HS1 Ltd forecasts of traction electricity costs in CP2 are reasonable given the uncertainty of future electricity prices and that these costs are largely passed through, so we are content with its assumptions on traction electricity charges. Table 7.1 below shows HS1 Ltd's 5YAMS CP2 electricity costs forecast.

[28] Maintaining a capability for freight and passenger services to access the network is a capability requirement as set out in Schedule 3 of the Concession Agreement.

Table 7.1: HS1 Ltd's CP2 forecast traction electricity costs, £m (February 2013 prices)

	2015-16	2016-17	2017-18	2018-19	2019-20	Total	2019-20 - 2014-15
Total	14.0	13.9	13.9	14.1	14.1	69.9	+1%

Source: Table 64 HS1 Ltd's 5YAMS. Note: numbers may not reconcile due to rounding.

7.35 TOCs and ORR called for HS1 Ltd to undertake a regular review of its electricity procurement contract. TOCs also called for HS1 Ltd to do more to reduce the level of transmission losses. We share operators' concern that HS1 Ltd manages effectively the transmission losses on its network. We support initiatives to improve efficiency and reduce costs, and encourage HS1 Ltd to work collaboratively with its stakeholders to explore innovative cost-effective methods to reduce energy costs. We note the programme of work to reduce losses as set out in the 5YAMS and will monitor the plans and commitments which HS1 Ltd is making in this area.

Capacity reservation charge

7.36 As part of PR14 we are also required to consider any proposed changes to the capacity reservation charge. Under the Regulations, HS1 Ltd is permitted to levy a charge for capacity that is requested but not used by an operator in the New Working Timetable. The charge must provide incentives for the efficient use of capacity. The amount of the charge is set out in the PATs and FATs. For passenger services the charge is 25% of the full investment recovery charge (i.e. ignoring any discount). For freight, the charge is 25% of the avoidable directly incurred cost element of the freight OMRC per train. A train operator that surrenders capacity is entitled to a rebate of part of its capacity reservation charge if the surrendered capacity is used by another operator.

7.37 In its final 5YAMS HS1 Ltd said that it considers the charge acts as a disincentive on an operator to reserve large amounts of capacity it is unlikely to use. HS1 Ltd also said that it promotes competition on the HS1 network by helping to ensure efficient utilisation of capacity by operators. HS1 Ltd highlighted that with the likelihood of another international operator operating on the HS1 network, it will be increasingly important to incentivise the efficient use of capacity. As it considered that the current provisions had been successful over CP1, it proposed to leave them unchanged.

7.38 Key stakeholders, who responded on this issue, supported HS1 Ltd's proposal to make no changes to the current provisions.

7.39 We have reviewed the provisions and stakeholders' responses with respect to the reservation charge. We agree with HS1 Ltd that it is important to promote the efficient use of capacity, and this provides incentives to do so. On this basis we are minded to approve HS1 Ltd's proposal to make no change to the capacity reservation charge.

Passenger and freight traffic forecasts and OMR charges re-openers

7.40 In this section we consider:

(a) passenger traffic forecasts;

(b) freight traffic forecasts; and

(c) the re-opener provisions, which primarily relate to the uncertainty of traffic forecasts.

Passenger traffic forecasts

7.41 The forecast of the number of train paths used on the HS1 Ltd's network is important in the context of a periodic review because it is the primary driver of HS1 Ltd's revenue and it influences HS1 Ltd's asset management strategy and approach (as usage volumes dictate degradation rates), and charges to TOCs.

7.42 As part of PR14, HS1 Ltd looked to:

(a) validate and improve its forecasts of train paths (or timetabled movements) for CP2; and

(b) provide an indication of the likely variability within those forecasts.

7.43 HS1 Ltd appointed Oliver Wyman to carry out this analysis. Oliver Wyman carried out similar work (which turned out to be very accurate) prior to the sale of HS1 Ltd in 2010, and used a reviewed and updated form of these forecasts for CP2. It developed forecasts under the following four scenarios:

(a) **50:50** - 50% probability that the number of paths will be lower/higher. This scenario includes entry of a new international operator in CP2.

(b) **50:50 no new international operator** - This scenario excludes the entry of a new international operator in CP2 as timing of entry is difficult to predict.

(c) **Upside** - Only 20% probability that demand could be this high.

(d) **Downside** - Only 20% probability that demand could be this low.

7.44 We have reviewed the Oliver Wyman forecasts of international passenger, domestic passenger and freight paths in CP2 together with the approach proposed by HS1 Ltd in the 5YAMS.

7.45 We recognise the uncertainty in these scenarios, particularly associated with the timing of any entry of a new international passenger operator and possible upside and downside. As such, we accept that HS1 Ltd's proposed approach to its passenger traffic forecasts, i.e. using the 50:50 No New International Operator scenario, is the most appropriate approach, and should also be used in the calculation of the OMR charge. We are also content that the charges are subject to a symmetric volume re-opener provision,

so that if these traffic levels are not realised then HS1 Ltd would still be able to recover, but not over recover, its passenger specific costs.

Freight traffic forecast

7.46 In its draft 5YAMS, HS1 Ltd used the Oliver Wyman 50:50 scenario freight forecasts. Under this scenario, freight traffic was forecast to remain flat at current CP1 levels of 208 trains per year. This compared to a forecast of 2,530 freight trains per year for the start of CP1.

7.47 In response to the consultation, DBS and RFG questioned the conclusion of the freight traffic demand forecasting. In particular, DBS set out its plans to increase significantly the number of overnight freight services it operates on the HS1 network from 4 per week to 16 per week.

7.48 Following this statement, HS1 Ltd revised its final 5YAMS freight OMRC to be consistent with this updated freight traffic forecast, subject to a re-opener provision relating to the forecast.

7.49 We recognise that freight OMR charges are highly sensitive to forecast levels of freight traffic. We are content that HS1 Ltd has appropriately taken account of DBS's plan to increase the number of freight services in its freight traffic forecasts and in its calculation of the OMR charge. We are also content that the charges are subject to a symmetric volume re-opener provision, so that if these traffic levels are not realised then HS1 Ltd would still be able to recover, but not over recover, its freight specific costs.

Volume re-opener provision

Background

7.50 HS1 Ltd's PATs and FATs contain re-opener provisions with the aim that the uncertainty of traffic forecasts can be efficiently managed in CP2. Under the current HS1 Ltd PATs, the re-opener provision is triggered by any of the following Review Events:

(a) the total anticipated timetabled train movements on the HS1 network in respect of a timetable year is at least 4% more or less than the actual number of timetabled train movements in the year following the last Review Event; or

(b) any individual train operator's anticipated timetabled train movements on the HS1 network in respect of a timetable year is at least 4% more or less than that train operator's actual timetabled train movements in the year following the last Review Event.

7.51 Under the current HS1 FATs, a Review Event is defined as a 4% change in total anticipated timetabled passenger and freight train movements. There is no trigger related to an individual freight operator.

Passenger services

7.52 We note HS1 Ltd's proposal to roll over the existing re-opener provisions for passenger operators in the HS1 PATs. We further note that HS1 Ltd considered the option of reducing the trigger to +/- 2% but abandoned it on the basis of concerns that it would pass additional volume risk to TOCs and also would create additional administrative costs. We also note that the risk associated with the introduction of a new operator, the event most likely to cause a substantive change in traffic volumes and hence revenue, would be dealt with by existing provisions. Given the above, and the agreement from TOCs to retain the existing provisions, we agree with HS1 Ltd's proposal to roll over the existing CP1 provisions for CP2.

7.53 We also note HS1 Ltd's proposal to include a re-opener provision for the passenger charge to recover the actual negotiated GSM-R maintenance and licence fee costs, subject to approval by ORR that these have been efficiently incurred, once the Specified Upgrade to the GSM-R is complete.

Freight services

7.54 In the draft 5YAMS HS1 Ltd proposed that freight charges be reviewed in the following cases:

(a) freight volumes change by +/-50% compared with the current forecast of 208 freight trains per year;

(b) there are a material number of freight trains running to the North London Line connection rather than to Ripple Lane; or

(c) there is a move to greater than 5 nights a week working.

7.55 Following representations from FOCs as a result of the 5YAMS consultation, HS1 Ltd proposed the following adjustments to the criteria (reflected in the draft amendments to the contractual documentation at Annex F), which would lead to the use of a re-opener provision for freight services:

(a) the existing Review Event, defined as a 4% change in total anticipated timetabled passenger and freight train movements, would be retained;

(b) in light of HS1 Ltd's acceptance of DBS's proposal to use a forecast of 800 freight train movements per year, there would be an additional Review Event if:

i. following the end of the first year of CP2, freight volumes change by +/-12.5% per year compared with the forecast freight volumes; and

ii. from the end of the second year of CP2 onwards, freight volumes change by +/-12.5% per year compared with the actual number of freight train movements in the immediately preceding Relevant Year;

(c) if in any 52 week period, any possessions scheduled in the Applicable Engineering Access Statement have been materially affected on at least 28 separate occasions as a result of any changes to the New

or Applicable timetable. HS1 Ltd explained that this provision was to facilitate flexibility in how engineering possessions are managed on the HS1 network.

7.56 We continue to think that it is appropriate to retain the existing Review Event.

7.57 We propose to approve the threshold for the re-opener trigger being a change of +/- 12.5% per year as we consider that this provides an appropriate mechanism for HS1 Ltd and the industry to efficiently manage the risk of the actual freight volumes in CP1 being different to those proposed by freight operators.

7.58 The third provision would allow NR(HS) to vary when it takes possessions in order to accommodate additional freight services when requested by FOCs, but where the cumulative impact of changes to possessions has a material impact on NR(HS)'s costs, ensure that HS1 Ltd is able to recover these costs. Through this mechanism, HS1 Ltd considers it is better able to respond to commercial opportunities as they arise, i.e. for FOCs to run additional services, without HS1 Ltd being exposed to the additional costs of those services. We note the FOCs are in agreement with these new provisions and we think this flexible approach better allows HS1 Ltd to respond to the needs of its customers. Therefore, we agree with HS1 Ltd's proposal to adopt these revised criteria for the review events for freight services in CP2.

7.59 For both freight and passengers services, the changes are reflected in the amended access terms in annexes E and F of this document.

OMR charges and additional IRC for passengers

7.60 In this section we set out:

(a) HS1 Ltd's draft 5YAMS: CP2 passenger charges;

(b) additional IRC – GSM-R;

(c) stakeholder responses to HS1's draft 5YAMS: CP2 passenger charges;

(d) ORR's response to HS1 Ltd's draft 5YAMS: CP2 passenger charges;

(e) review of HS1 Ltd's charging model;

(f) HS1 Ltd's final 5YAMS CP2 OMR charges for passengers; and

(g) our draft conclusions on passenger charges.

Draft 5YAMS passenger charges

7.61 In its draft 5YAMS, HS1 Ltd set out its proposed CP2 passenger charge rates for each OMRC cost category. HS1 Ltd proposed that the total OMR charges for international passenger services should fall

from £54.61 in CP1 to £53.62 per train minute in CP2, a fall of 2%. The domestic passenger services charge should fall from £41.51 per train minute to £38.63 per train minute, a fall of 7% on CP1.

7.62 HS1 Ltd explained that the forecast reduction in costs was predominantly due to a fall in operating and maintenance costs. There is also a change in the allocation of avoidable costs between international and domestic passenger services as a result of an improved accuracy in the allocation of track km between services. However, the renewals element of the charge was set to increase significantly due to a substantial increase in the amount need to be paid into the escrow account for future renewals expenditure. We discuss HS1 Ltd's cost forecasts in more detail in chapters 4, 5 and 6 of this document.

Additional IRC: GSM-R

7.63 HS1 Ltd plans only one Specified Upgrade (as defined by the Concession Agreement) during CP2, an upgrade of GSM-R that in its 5YAMS it estimated would cost £4.4m. It intends to recover the cost of this investment through an Additional IRC on passenger services. It estimated the additional IRC for international passenger services to be £0.52 per train minute and £0.17 per train minute for domestic services. HS1 Ltd noted that approval of this charge will be considered separately to PR14, in accordance with the requirements of the Concession Agreement, and included these estimates in the 5YAMS for information purposes.

7.64 HS1 Ltd expected to complete the upgrade to the GSM-R system by the end of 2015. However, for PR14, HS1 Ltd forecast of the maintenance costs in CP2 associated with the GSM-R infrastructure is still uncertain. Given this, by virtue of provisions in the Concession Agreement, HS1 Ltd proposed in its 5YAMS to include a cost re-opener provision in the HS1 PATs, to adjust for the actual negotiated GSM-R maintenance and licence fee costs, when these are known. This will be subject to ORR approval that the GSM-R cost recovery meets the conditions required for levying an Additional IRC. We agree with this approach.

Stakeholders response to HS1 Ltd's draft 5YAMS passenger charges

7.65 Eurostar welcomed HS1 Ltd's efforts in reducing operating costs, but stressed that it would continue to look to it to continue to reduce costs further. Eurostar maintained its view that the combination of the margin and risk premium in the arrangements between HS1 Ltd and NR(HS) looked high. It argued that since the intent of the risk premium was to de-risk the margin, it was surprising to see a risk-premium higher than the permitted rate of return on the national network. Eurostar said it would expect this type of margin to be lower in a competitive environment.

7.66 LSER welcomed the overall reduction in OMR costs. It made various comments regarding costs and other assumptions that feed into charges, which we discuss in the relevant chapter.

ORR's response to HS1's Ltd's draft 5YAMS passenger charges

7.67 In response to HS1 Ltd's proposed charge rates set out in its draft 5YAMS we challenged the costs on which the charges are based. These included a reduction in the management fee for NR(HS) and a small reduction in the cost of the GSM-R licence fee by £25,000 per annum. We discuss these issues in chapters 4, 5 and 6.

Review of HS1 Ltd's charging model

7.68 In order to convert HS1 Ltd's full costs into OMRCA1, OMRCA2, OMRCB, ORMCC charges, HS1 Ltd used an access charging model, developed in 2009 for the purpose of setting CP1 charges. The model calculates the cost components related to each of the four charges above and allocates them between operators to produce a charge per train minute for passenger services and charge per train-km for freight services. Finally, these are converted into a charge per train using chargeable journey time for passenger services and distance for freight services.

7.69 Leigh Fisher updated the model for CP2. AECOM carried out an independent audit, which found no issues with the technical or functional content of the model but made recommendations about improving the presentation of the model. These recommendations were adopted by HS1 Ltd. Separately, we have undertaken checks which have given us assurance that the model functions according to its specification. We discuss this in chapter 6 (Financial assumptions).

HS1 Ltd's 5YAMS OMR charges for passengers

7.70 In its 5YAMS, HS1 Ltd reduced its proposed costs in response to our challenges as discussed in chapters 4, 5 and 6. This resulted in a reduction in OMR charges for passenger operators, as compared to those set out in the draft-5YAMS. The revised charge rates are shown in table 7.2 below in comparison to the draft-5YAMS rates.

Table 7.2: HS1 Ltd's Final 5YAMS passenger OMR charges (February 2013 Prices)

	International passenger services		Domestic passenger services	
Charge per train per minute	Draft-5YAMS CP2	Final 5YAMS CP2	Draft-5YAMS CP2	Final 5YAMS CP2
ORMCA1	£9.40	£7.40	£3.28	£2.58
ORMCA2	£15.03	£12.94	£3.22	£3.12
ORMCAB	£21.46	£20.07	£24.40	£22.89
OMRCC	£7.73	£7.73	£7.73	£7.73
Total OMRC	**£53.62**	**£48.14**	**£38.63**	**£36.32**

Source: Table 73 HS1 Ltd 5YAMS. Note: numbers may not reconcile due to rounding.

7.71 Table 7.3 compares HS1 Ltd's proposed OMRC charges for passengers for CP2 as compared to CP1.

Table 7.3: Comparison of CP1 with CP2 total passenger OMR charges (£ per train minute) (February 2013 prices)

Service code	CP1 (exit 2014-15)	CP2	% Change
International passenger services	£54.61	£48.14	-12%
Domestic passenger services	£41.52	£36.32	-13%

Source: Table 75 HS1 Ltd 5YAMS. Note: numbers may not reconcile due to rounding.

Our draft conclusions on passenger charges

7.72 We have assessed HS1 Ltd's passenger OMR costs and we are satisfied that these reflect the efficient cost of passenger services operating on its network in CP2. On this basis we propose to approve HS1 Ltd's 5YAMS passenger OMR charges as set out in table 7.4 below.

Table 7.4: Our conclusions on HS1 Ltd's CP2 passenger OMRC rates (£ per train minute) (February 2013 prices)

Charge per train per minute	International passenger services	Domestic passenger services
Cost category	**CP2**	**CP2**
OMRCA1	£7.40	£2.58
OMRCA2	£12.94	£3.12
OMRCB	£20.07	£22.89
OMRCC	£7.73	£7.73
Total OMRC	**£48.14**	**£36.32**

Note: numbers may not reconcile due to rounding.

OMR charges for freight

7.73 In this section we consider:

(a) HS1 Ltd's draft 5YAMS: CP2 freight charges;

(b) stakeholder responses to HS1 Ltd's draft 5YAMS: CP2 freight charges;

(c) ORR's response to HS1 Ltd's draft 5YAMS: CP2 passenger charges;

(d) HS1 Ltd's final 5YAMS: CP2 freight charges; and

(e) our draft conclusions on freight charges.

HS1 Ltd's draft 5YAMS freight charges

7.74 In its draft 5YAMS HS1 Ltd forecast a fall in its total annual freight costs used to calculate freight OMR charges in CP2 from £1.4 million per annum (CP1 exit 2012-13) to just under £0.6 million per annum. This reduction in forecast freight costs was driven by two main factors: renegotiation of the Ripple Lane exchange sidings contract, where maintenance and operations is undertaken by NRIL, and a significant reduction in forecast freight traffic relative to the CP1 assumptions.

7.75 Despite the large decrease in freight costs for CP2, in its draft 5YAMS, HS1 Ltd's proposed freight charges increase significantly from £8.10 in CP1 (before any discount) to £31.05 per train km. This was because the decrease in forecast costs was more than offset by the large reduction in forecast freight volumes (2,530 freight trains per year was forecast in order to calculate the CP1 charges compared to 208 trains per year in the draft 5YAMS). This is shown in Table 7.5.

Table 7.5: Comparison of HS1 Ltd draft 5YAMS OMR freight charges and CP1 charges (February 2013 prices)

	OMRCA1	OMRCA2	Total
Charge per train km			
CP1	£2.40	£5.70	£8.10
Draft CP2 (208 trains per annum)	£3.52	£27.53	£31.05
Charge per train (88.20 km per train)			
CP1	£212.68	£503.74	£714.42
Draft CP2 (208 trains per annum)	£310.46	£2,428.15	£2,738.61

Source: HS1 Ltd draft 5YAMS. Note: numbers may not reconcile due to rounding.

Stakeholders' response to HS1 Ltd's draft 5YAMS CP2 freight charges

7.76 All respondents who commented on freight charges opposed the proposed increase. DBS and RFG opposed the increase, on the basis that the charging structure was not compliant with the Regulations, arguing that freight should only be charged variable costs as discussed earlier in this chapter. They also challenged HS1 Ltd's freight specific costs estimates underlying the charges. TfL stated that the proposed charge rates were likely to have an adverse effect on the number of freight services using the HS1 network and that such an increase would not align with Proposal 2 of the Mayor for London's Transport Strategy.

This supports the development of more freight terminals in or near London, including on the HS1 network, to facilitate the movement of international freight to and from London. Freight on Rail opposed the increase in charges stating that this would price freight off the HS1 network and could undermine opportunities for freight to operate on HS2 in the future, if high gauge freight could not be carried on the HS1 network.

7.77 DBS questioned the £250,000 per annum operating and maintenance cost for the Ripple Lane exchange sidings, arguing that the cost was overstated. In support of its view DBS employed a maintenance cost calculation tool which modelled the cost of freight-only infrastructure, this put the cost at around £122,000 per annum. DBS and RFG also challenged the addition of £100,000 per annum of renewals cost for Ripple Lane as being far too high and argued that, based on an assumption of a 40 year asset life, the renewals cost should be around £50,000 per annum.

7.78 DBS also drew attention to domestic FOCs using the Ripple Lane sidings, arguing therefore that the Ripple Lane cost should be shared between all services that use Ripple Lane. Currently, NRIL's total Ripple Lane operating costs are paid by HS1 Ltd and recovered by HS1 Ltd via access charges paid by international DBS services using the HS1 network.

7.79 More fundamentally, DBS and RFG argued that the Ripple Lane exchange sidings should be transferred to NRIL and become part of the national network. DBS also said that it considered HS1 Ltd's freight specific costs, such as staff costs, to be too high.

ORR's response to HS1 Ltd's draft 5YAMS CP2 freight charges

7.80 In response to the draft 5YAMS we challenged the costs of Ripple Lane and the inclusion of freight assets mothballing costs as freight avoidable costs. Whilst we recognised the degree to which HS1 Ltd has negotiated a significant reduction in the cost of the Ripple Lane contract, we shared the concerns of freight operators that Ripple Lane forecast costs appeared high. Specifically, we questioned HS1 Ltd as to whether the standards of maintenance and inspection, equivalent to those required for mainline infrastructure, were required for sidings, and whether therefore the costs could be reduced further if a lower standard were appropriate.

HS1 Ltd's 5YAMS OMR charges for freight and subsequent submission

7.81 In response to the challenges on the allocation of freight specific mothballing costs, in the final 5YAMS HS1 Ltd re-allocated these costs to the common costs category, which is not recovered from freight operators. This resulted in a reduction in freight costs of £162,000 per annum (£150,000 for Ripple Lane and £12,000 for other freight-specific assets) relative to those set out in the draft 5YAMS.

7.82 Following DBS's confirmation of its plan to increase the number of trains it operates on the HS1 network to around 800 trains per annum (16 per week), in its 5YAMS, HS1 Ltd revised its freight OMR

charges based on this updated freight traffic forecast. This resulted in the proposed OMRC charges for freight falling by around 75%.

7.83 Taking together the reduction in total freight costs due to the reallocation of mothballing costs and the increase in forecast freight traffic volumes, in its 5YAMS HS1 Ltd proposed a freight OMR charge of £7.53 per train km. This was a significant reduction on the £31.05 HS1 Ltd had proposed in its draft 5YAMS, and marginally less than the £8.10 CP1 exit charge.

7.84 In its 5YAMS, HS1 Ltd had not adjusted its OMR freight charges to take account of the point made by DBS that the Ripple Lane sidings costs should be shared between all users of the sidings, and not just international traffic. We queried this, and asked HS1 Ltd for information concerning the traffic using the sidings. HS1 Ltd explained that two types of traffic currently use the Ripple Lane sidings. The first is traffic that accesses the HS1 network from Ripple Lane. The second type of traffic accesses the NRIL network from Ripple Lane. HS1 Ltd estimated that this latter category accounted for approximately 3,000 train movements annually. We also queried the charging arrangements that apply to other operators, in particular why they are not currently required to contribute to the cost of operating and maintaining the Ripple Lane sidings.

7.85 In responses to these concerns, subsequent to its submission of the final 5YAMS, HS1 Ltd has proposed to reallocate a proportion of the maintenance costs for the Ripple Lane sidings (which total £172,000 per annum) to the domestic freight operators who run over that infrastructure.[29] Based on the current traffic volumes, HS1 Ltd proposed recovering £132,000 per annum from services accessing Ripple Lane from the NRIL network, via a per-train charge. The remaining £40,000 per annum would be recovered from international services accessing Ripple Lane from the HS1 network. This proposal required a recalculation of the track access charges for the two types of freight traffic using Ripple Lane, so that the OMR charge for freight traffic on the HS1 network would fall from £7.53 to £5.36 per train km for CP2.

7.86 HS1 Ltd does not currently charge freight operators for using Ripple Lane if they access it from the NRIL network, and has historically allocated such costs to users of its HS1 network. For CP2, HS1 Ltd is proposing to apportion costs between both categories of traffic (traffic that accesses the HS1 infrastructure from Ripple Lane and traffic that accesses the NRIL network from Ripple Lane). Pending the resolution of legacy issues around charging for the use of Ripple Lane, we would expect HS1 Ltd to levy charges for freight traffic accessing Ripple Lane from the NRIL network, in accordance with the Regulations, and include these charges in its Network Statement.

[29] HS1 Ltd written submission to ORR, 'Updated proposal for freight charges in CP2 reflecting changes to Ripple Lane cost allocation', 20 February 2014.

7.87 HS1 Ltd's Final 5YAMS freight OMR charges and its subsequent submission are summarised in Table 7.6 below.

Table 7.6: HS1's proposed OMR freight charges (February 2013 prices)

Charge	Final 5YAMS	Subsequent submission
ORMCA1 (variable)	£2.77	£2.77
ORMCA2 (avoidable)	£4.76	£2.59
Total	**£7.53**	**£5.36**
OMR Charge per train	£664.15	£472.75

Source: Table 76 HS1 Ltd 5YAMS and HS1 subsequent submission Dated 20 February 2013.

Note: numbers may not reconcile due to rounding.

Our draft conclusions on freight OMR charges

7.88 We accept HS1 Ltd's reallocation of freight asset mothballing costs to common costs because these are costs HS1 Ltd cannot escape irrespective of whether or not freight services operate on its network.

7.89 Based on HS1 Ltd's response to our question as to whether the Ripple Lane sidings are being managed to a higher standard than operationally necessary, we are satisfied that the maintenance specification NRIL is applying to the infrastructure at Ripple Lane is generally in line with our expectations for this type of infrastructure and how it is used. Specifically, the maintenance of the overhead contact system is set at a level appropriate for a low use/low speed section of infrastructure. Maintenance of distribution and plant assets aligns with standard practice, much of which is driven by the need to meet statutory obligations. NRIL has applied a reliability based approach to the maintenance of the signalling assets at intervals which aligns with a low category route and recognises the high level of sand contamination found in the area. We are satisfied that the Ripple Lane contract costs are reasonable.

7.90 We accept HS1 Ltd's proposal to base its charges on the 2014-15 forecast volumes of 800 trains per annum following DBS's commitment to run this number of services. However, we note freight charges are sensitive to freight traffic volumes and that they will be subject to a re-opener if freight volumes vary by +/- 12.5% per year compared with (i) following the end of the first year of CP2, the forecast volume of 800 trains per year and (ii) from the end of second year onwards, the actual number of freight train movements in the immediately preceding year.

7.91 We support HS1 Ltd's intention, set out in subsequent information following submission of the 5YAMS, to allocate costs between all freight users of the Ripple Lane infrastructure. This will ensure that HS1 Ltd's international freight customers do not pay the full OMR costs when the infrastructure is also used by other operators

7.92 On this basis we propose to approve HS1 Ltd's freight OMR charge of £5.36 per train km, as set out in Table 7.7 below. Compared to the (undiscounted) CP1 exit charge of £8.10 this represents a fall of 34% in the freight charge.

7.93 In CP1, certain freight services were eligible for a discounted rate of £4.00 per train km and HS1 Ltd stated in its 5YAMS that it will continue to support discussions between its freight customers and DfT on funding options for freight. This may mean that ultimately some freight services will be subject to discounted charges in CP2, but the 5YAMS submission does not detail any proposal in this regard.

Table 7.7: Our conclusion on HS1 Ltd's CP2 freight OMR charges (February 2013 prices)

Service group	800 Trains per annum
	Charge per train km
ORMCA1 (variable)	£2.77
ORMCA2 (avoidable)	£2.59
Total	**£5.36**
Charge per train	£472.75

Source: As explained in this chapter. Note: numbers may not reconcile due to rounding.

7.94 We note HS1 Ltd's proposal that the remaining proportion of the Ripple Lane costs (£132,000 p.a.) will be recovered from the freight trains accessing Ripple Lane via NRIL. We recognise that, as this charge is not currently levied on those freight services, it is appropriate for HS1 Ltd to consult and work with freight operators and other stakeholders in order to explore the appropriate mechanism for recovery of these costs, in accordance with the Regulations. We note HS1 Ltd intends the revised charging structure for freight traffic accessing Ripple Lane via NRIL to be formalised prior to the commencement of CP2. In accordance with the Access Terms, our draft conclusions and any proposed changes to the track access contracts will be consulted on, prior to implementation. We note that, in the short term, any shortfall in charges brought about by the reallocation of Ripple Lane costs will be borne by HS1 Ltd.

Annex A: Stakeholder engagement programme

This annex sets out the engagement we have carried out with stakeholders during PR14. For background, some significant milestones are also included. In addition to the more significant events set out below, ORR and HS1 Ltd have held fortnightly meetings throughout the PR14 process. There have also been regular working level meetings between ORR, HS1 Ltd and the principle TOCs to discuss specific issues related to PR14 and its constituent workstreams. High-level meetings have also taken place between ORR and HS1 Ltd at quarterly intervals, to discuss PR14 and HS1 Ltd regulation more generally. For reasons of brevity, these fortnightly and quarterly meetings are not listed here. Ad hoc high level meetings have also taken place between ORR and TOC managing directors.

Event / publication	Purpose
PR14 stakeholder workshop, 23 February 2012	Initial stakeholder meeting to discuss roles and responsibilities.
PR14 stakeholder workshop, 16 May 2012	Update meeting on progress of review to date, and to advise on stakeholder involvement.
ORR/DfT stations review meeting, 25 June 2012	Initial meeting to discuss the parallel DfT-led review of the HS1 stations, and to ensure a joined-up approach across the route.
PR14 stakeholder workshop, 14 August 2012	Update meeting on progress of review to date, and to advise on stakeholder involvement.
ORR/DfT/HS1 Ltd trilateral, 21 September 2012	Regular update meeting to ensure continued joined-up approach across PR14 and DfT stations review processes.
ORR/DfT/HS1 Ltd trilateral, 3 October 2012	Regular update meeting to ensure continued joined-up approach across PR14 and DfT stations review processes.
PR14 stakeholder workshop, 31 October 2012	Update meeting on progress of review to date, and to advise on stakeholder involvement.
ORR/DfT/HS1 Ltd trilateral, 18 December 2012	Regular update meeting to ensure continued joined-up approach across PR14 and DfT stations review processes.

Publication of ORR's PR14 initial consultation, 19 February 2013	Consultation on ORR's proposed approach to PR14, and on the major workstreams which make up PR14.
Industry workshop – ORR's initial consultation document, 13 March 2013	To give stakeholders an opportunity to share ideas on ORR's consultation document, and to discuss relevant issues.
Closure of ORR's PR14 initial consultation, 16 April 2013	For information.
ORR/DfT/HS1 Ltd trilateral, 14 May 2013	Regular update meeting to ensure continued joined-up approach across PR14 and DfT stations review processes.
PR14 stakeholder workshop, 26 June 2013	Update meeting on progress of review to date, and to advise on stakeholder involvement.
ORR/DfT/HS1 Ltd trilateral, 24 July 2013	Regular update meeting to ensure continued joined-up approach across PR14 and DfT stations review processes.
ORR/DfT/HS1 Ltd trilateral, 19 September 2013	Regular update meeting to ensure continued joined-up approach across PR14 and DfT stations review processes.
HS1 Ltd consultation on 5YAMS, 18 October 2013	*As required by the Concession Agreement.*
PR14 stakeholder workshop,11 November 2013	Stakeholder meeting to discuss the 5YAMS consultation and inform thinking and responses before the consultation deadline.
Closure of HS1 Ltd consultation on 5YAMS, 18 October 2013	*As required by the Concession Agreement.*
Submission of 5YAMS to ORR for approval, 31 December 2013	*As required by the Concession Agreement.*
Consultation with operators on ORR's determination, 27 February 2014	As required by the Passenger and Freight Access Terms, ORR must consult operators on its PR14 determination.
PR14 stakeholder workshop, *date tbc*	Stakeholder meeting to discuss ORR's PR14 draft determination and inform thinking and responses before the consultation deadline.
Closure of consultation on ORR's determination, 4 April 2014	For information
Publication of ORR's determination, date tbc	Having taken account of consultation comments, this formally closes the PR14 process in advance of CP2.

Annex B: ORR's statutory duties

Regulation 28(1) of the Regulations provides for ORR's statutory duties under section 4 of the Act to be applied to our regulation of HS1 Ltd and the HS1 network. For ease of reference, ORR's section 4 duties are set out below.

4 General duties of the Secretary of State and the Office of Rail Regulation

(1) The Office of Rail Regulation shall have a duty to exercise the functions assigned or transferred to it under or by virtue of this Part or the Railways Act 2005 that are not safety functions in the manner which it considers best calculated—

(zb) to promote improvements in railway service performance;

(a) otherwise to protect the interests of users of railway services;

(b) to promote the use of the railway network in Great Britain for the carriage of passengers and goods, and the development of that railway network, to the greatest extent that it considers economically practicable;

(ba) to contribute to the development of an integrated system of transport of passengers and goods;

(bb) to contribute to the achievement of sustainable development;

(c) to promote efficiency and economy on the part of persons providing railway services;

(d) to promote competition in the provision of railway services for the benefit of users of railway services;

(e) to promote measures designed to facilitate the making by passengers of journeys which involve use of the services of more than one passenger service operator;

(f) to impose on the operators of railway services the minimum restrictions which are consistent with the performance of its functions under this Part or the Railways Act 2005 that are not safety functions;

(g) to enable persons providing railway services to plan the future of their businesses with a reasonable degree of assurance.

(2) Without prejudice to the generality of subsection (1)(a) above, the Office of Rail Regulation shall have a duty, in particular, to exercise the functions assigned or transferred to it under or by virtue of this Part or the Railways Act 2005 that are not safety functions in the manner which it considers is best calculated to protect—

(a) the interests of users and potential users of services for the carriage of passengers by railway provided by a private sector operator otherwise than under a franchise agreement, in respect of—

(i) the prices charged for travel by means of those services, and

(ii) the quality of the service provided, . . .; and

(b) the interests of persons providing services for the carriage of passengers or goods by railway in their use of any railway facilities which are for the time being vested in a private sector operator, in respect of—

(i) the prices charged for such use; and

(ii) the quality of the service provided.

(3) The Office of Rail Regulation shall be under a duty in exercising the functions assigned or transferred to it under or by virtue of this Part or the Railways Act 2005 that are not safety functions—

(a) to take into account the need to protect all persons from dangers arising from the operation of railways, . . .; and

(b) to have regard to the effect on the environment of activities connected with the provision of railway services.

(3A) Subsections (1) to (3) above shall have effect in relation to the Secretary of State as in relation to the Office of Rail Regulation, except that in their application to the Secretary of State—

(a) . . .

(b) the references in each of the subsections to the functions transferred or assigned to the Secretary of State under or by virtue of this Part include only the functions transferred or assigned to him under or by virtue of sections 6 to 22 . . . below and

(c) the references in each of the subsections to the functions transferred or assigned under or by virtue of the Railways Act 2005 include only the functions transferred or assigned to the Secretary of State under or by virtue of the provisions of Part 4 of that Act other than section 39.

(3B) Subsections (1) to (3) above shall have effect in relation to the Scottish Ministers as in relation to the Office of Rail Regulation except that, in relation to those Ministers—

(a) the references in each of the subsections to functions transferred or assigned to those Ministers under or by virtue of Part 1 of this Act include only the functions transferred or assigned under or by virtue of sections 16A to 16G of this Act; and

(b) the references in each of the subsections to the functions transferred or assigned under or by virtue of the Railways Act 2005 include only the functions transferred or assigned to those Ministers under or by virtue of Part 4 of that Act.

(3C) Subsections (1) to (3) above shall have effect in relation to the National Assembly for Wales as in relation to the Office of Rail Regulation except that, in relation to that Assembly, the references in each of the subsections to functions transferred or assigned under or by virtue of Part 1 of this Act or the Railways Act 2005 include only the functions transferred or assigned to the Assembly under or by virtue of the provisions of Part 4 of that Act of 2005 other than section 39.

(4) The Secretary of State shall also be under a duty, in exercising the functions assigned or transferred to him under or by virtue of this Part or the Railways Act 2005, to promote the award of franchise agreements to companies in which qualifying railway employees have a substantial interest, “qualifying railway employees” meaning for this purpose persons who are or have been employed in an undertaking which provides or provided the services to which the franchise agreement in question relates at a time before those services begin to be provided under that franchise agreement.

(5) The Office of Rail Regulation shall also be under a duty in exercising the functions assigned or transferred to it under this Part or the Railways Act 2005 that are not safety functions—

(a) to have regard to any general guidance given to it by the Secretary of State about railway services or other matters relating to railways;

(aa) to have regard to any general guidance given to it by the Scottish Ministers about railway services wholly or partly in Scotland or about other matters in or as regards Scotland that relate to railways;

(ab) in having regard to any guidance falling within paragraph (aa), to give what appears to it to be appropriate weight to the extent (if any) to which the guidance relates to matters in respect of which expenditure is to be or has been incurred by the Scottish Ministers;

(b) to act in a manner which it considers will not render it unduly difficult for persons who are holders of network licences to finance any activities or proposed activities of theirs in relation to which the Office of Rail Regulation has functions under or by virtue of this Part or that Act (whether or not the activities in question are, or are to be, carried on by those persons in their capacity as holders of such licences); . . .

(c) to have regard to the funds available to the Secretary of State for the purposes of his functions in relation to railways and railway services;

(ca) to have regard to any notified strategies and policies of the National Assembly for Wales, so far as they relate to Welsh services or to any other matter in or as regards Wales that concerns railways or railway services;

(cb) to have regard to the ability of the National Assembly for Wales to carry out the functions conferred or imposed on it by or under any enactment;

(d) to have regard to the ability of the Mayor of London, . . . and Transport for London to carry out the functions conferred or imposed on them by or under any enactment.

(5A) Before giving any guidance for the purposes of subsection (5)(a) above the Secretary of State must consult the National Assembly for Wales.

(5B) In exercising its safety functions, other than its functions as an enforcing authority for the purposes of the Health and Safety at Work etc Act 1974, the Office of Rail Regulation shall be under a duty to have regard to any general guidance given to it by the Secretary of State.

(5C) In performing its duties under subsections (1) to (5A) above in relation to—

(a) any matter affecting the interests of users or potential users of railway services,

(b) any matter affecting the interests of persons providing railway services, or

(c) any matter not falling within paragraph (a) or (b) but falling within subsection (5D), the Office of Rail Regulation must have regard, in particular, to the interests, in securing value for money, of the persons mentioned in paragraphs (a) and (b) above, of the persons who make available the resources and other funds mentioned in that subsection and of the general public.

(5D) A matter falls within this subsection if the Office of Rail Regulation has been informed that—

(a) public financial resources (within the meaning of paragraph 1D of Schedule 4A to this Act), or

(b) funds that do not comprise such resources but are provided in whole or in part by Transport for London, the National Assembly for Wales, a Passenger Transport Executive or any other body in receipt of such resources, are or are likely to become available to be applied for purposes connected with that matter.

(6) In performing its duty under subsection (1)(a) above so far as relating to services for the carriage of passengers by railway or to station services, the Office of Rail Regulation shall have regard, in particular, to the interests of persons who are disabled.

(7) Without prejudice to the generality of paragraph (e) of subsection (1) above, any arrangements for the issue and use of through tickets shall be regarded as a measure falling within that paragraph.

(7ZA) Where any general guidance is given to the Office of Rail Regulation for the purposes of subsection (5)(a) or (aa) or (5B)—

(a) it may be varied or revoked by the person giving it at any time; and

(b) the guidance, and any variation or revocation of the guidance, must be published by that person in such manner as he considers appropriate.

(7A) Subsections (1) to (6) above do not apply in relation to anything done by the Office of Rail Regulation in the exercise of functions assigned to it by section 67(3) below ("Competition Act functions").

(7B) The Office of Rail Regulation may nevertheless, when exercising any Competition Act function, have regard to any matter in respect of which a duty is imposed by any of subsections (1) to (6) above, if it is a matter to which the Office of Fair Trading could have regard when exercising that function.

(8) . . .

(9) In this section—

"the environment" means all, or any, of the following media, namely, the air, water and land (and the medium of air includes the air within buildings and the air within other natural or man-made structures above or below ground);

"notified strategies and policies", in relation to the National Assembly for Wales, means the strategies and policies of that Assembly that have been notified by that Assembly for the purposes of this section to the Office of Rail Regulation;

"the passenger transport market" means the market for the supply of services for the carriage of passengers, whether by railway or any other means of transport;

"railway service performance" includes, in particular, performance in securing each of the following in relation to railway services—

(a) reliability (including punctuality);

(b) the avoidance or mitigation of passenger overcrowding; and

(c) that journey times are as short as possible;

"safety functions" means functions assigned or transferred to the Office of Rail Regulation—

(a) under this Part,

(b) under or by virtue of the Railways Act 2005, or

(c) under or by virtue of the Health and Safety at Work etc Act 1974, so far as they are being exercised for the railway safety purposes (within the meaning of Schedule 3 to the Railways Act 2005) or for purposes connected with those purposes.

Annex C: Revised Eurostar International Limited framework agreement

This annex contains the revised EIL framework agreement. The revised framework agreement takes effect from 1 April 2015, the start date of CP2.

Annex D: Revised London & South Eastern Railway Limited framework agreement

This annex contains the revised LSER framework agreement. The revised framework agreement takes effect from 1 April 2015, the start date of CP2.

Annex E: Revised Passenger Access Terms

This annex sets out the revisions to the passenger access terms, which apply to all passenger TOCs which access the HS1 network under a regulated framework agreement. These passenger access terms take effect from 1 April 2015, the start date of CP2.

Annex F: Revised Freight Access Terms

This annex sets out the revisions to the freight access terms, which apply to all FOCs which access the HS1 network under a regulated framework agreement. These freight access terms take effect from 1 April 2015, the start date of CP2.