PR19 supplementary document: charging and incentives

ORR Periodic Review of HS1 Ltd 2019 (PR19) draft determination

30 September 2019

Contents

Introduction

Background

A key aspect of the final Five Year Asset Management Statement (5YAMS) is the regulated access charges HS1 Ltd proposes to levy on passenger and freight operators for operating on its network during Control Period 3 (CP3), which runs from 1 April 2020 to 31 March 2025. In general terms infrastructure charges are usually designed to reflect the costs that they are intended to recover. In this way charges can significantly influence the provision and use of the infrastructure. This in turn should drive efficient use of resources both in terms of existing infrastructure and the provision of new capacity, and provide incentives to reduce costs where possible.

In considering whether the final 5YAMS is consistent with HS1 Ltd's General Duty we have assessed whether the proposed charging structure is consistent with the relevant legislation and regulations. We also reviewed HS1 Ltd's proposals for the capacity reservation charge; carbon costs; performance and possessions regimes and the traffic forecast and volume re-opener provisions.

Structure of this document

In this document, we explain our assessment of HS1 Ltd's charging structure, its performance and possessions regimes, a number of other charging related issues, HS1 Ltd's traffic forecasts and volume re-openers. We also summarise HS1 Ltd's proposed charges and the effect on the charges of our proposed adjustments. We also consider the impact of the changes in charges on operators.

Charging structure

In reviewing HS1 Ltd's charging structure, we have considered whether it complies with relevant charging legislation and the charging framework, set out in the Concession Agreement. We also consider how HS1 Ltd calculates and allocates costs to operators in setting the operator charges, as set out in its final 5YAMS.

We set out estimates of the operating, maintenance and renewals charges (OMRCs) for passenger and freight operators, adjusted to take account of our asset management and financial framework assessments, in particular our review of HS1 Ltd's renewals annuity. We also consider the impact on operators of the proposed increases in OMRCs.

Performance and possessions regimes

Our review of HS1 Ltd's performance and possessions regimes involves ensuring both regimes adequately compensate operators for disruption to services due to poor performance or possessions to undertake engineering work. And that they incentivise both HS1 Ltd and operators to minimise disruption to services. We also consider the performance regime recalibration submitted by HS1 Ltd.

Other issues

Finally, we consider HS1 Ltd's other proposals relating to charges, its traffic forecasts and the volume re-openers.

1. Legal framework

1.1. The charging principles are set out in the Railways (Access, Management and Licensing of Railway Undertakings) Regulations 2016 (the Regulations).

1.2. The track access charges that each operator pays are calculated in accordance with the Regulations, the charging framework for the HS1 network[1] and the specific charging rules established by HS1 Ltd. The overarching charging principle is set out in paragraph 1(4) of Schedule 3 to the Regulations and requires charges to be set at the cost that is directly incurred as a result of operating the train service (the direct cost).

1.3. In order for an infrastructure manager to recover its full costs, that is, costs above direct costs, the Regulations allow for two exceptions to the charging principles:

(a) The first exception[2] allows an infrastructure manager to levy mark-ups on the basis of efficient, transparent and non-discriminatory principles. However, the effect of the mark-up must not be to exclude the use of infrastructure by market segments which can pay at least the cost that is directly incurred as a result of operating the railway service, plus a rate of return which the market can bear.

(b) The second exception[3] allows the infrastructure manager to set, or continue to set, higher charges on the basis of the long-term costs of the project provided that the project has been completed since 1988 or following the coming into force of the Regulations, and that the following two conditions are met:

(i) the project must increase efficiency or cost-effectiveness; and

(ii) the project must be one that could not otherwise have been undertaken without the prospect of such higher charges.

1.4. Since Periodic Review 2014 (PR14), the legal framework has changed. Commission Implementing Regulation (EU) 2015/909 of 12 June 2015[4] *on the modalities for the calculation of the cost that is directly incurred as a result of operating the train service* (the Implementing Regulation) sets out in detail how infrastructure managers should calculate direct costs. The coming into force of the Implementing Regulation has

[1] Established by the Secretary of State and set out in Schedule 4 to the Concession Agreement

[2] Set out in paragraph 2 of Schedule 3 to the Regulations

[3] Set out in paragraph 3 of Schedule 3 to the Regulations

[4] The Implementing Regulation

necessitated changes to HS1 Ltd’s charging structure. This is discussed in the next chapter.

2. HS1 Ltd's charging structure

2.1. HS1 Ltd's charging framework was established in 2009 by the Secretary of State, in the Concession Agreement. HS1 Ltd is responsible for establishing the specific charging rules governing the determination of the fees to be charged in accordance with that charging framework, and the Regulations. HS1 Ltd's operating, maintenance and renewals charges (OMRCs) seek to recover HS1 Ltd's full operating, maintenance and renewals costs. In PR14, HS1 Ltd classified categories "OMRCA1" and "OMRCA2" as direct costs, and recovered non-direct costs through "OMRCB" and "OMRCC" using the long-term cost exception. HS1 Ltd levies a separate pass-through charge for traction electricity.

2.2. The OMRCs consists of the following categories:

a. OMRCA1: the variable costs, mainly track costs, reflecting wear and tear of additional trains on the common track;

b. OMRCA2: the avoidable costs on a long-run incremental cost basis where the costs of infrastructure specific to a class of operator would be avoided (that is not required) in the event that a specific class of operator ceased operating services. An example is the section of infrastructure from Ashford International to the Channel Tunnel, which is used only by international passenger operators;

c. OMRCB: common costs, which include head office costs and infrastructure costs that vary with the length of track but not the volume of traffic; and

d. OMRCC: 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 forecast and actual costs[5].

2.3. Passenger operators are charged all four categories of OMRC, whereas freight operators are charged only the elements of the charge related to costs incurred as a result of operating freight services (OMRCA1 and OMRCA2).

2.4. HS1 Ltd consulted on proposed changes to its charging structure in May 2019[6], including more detail of how each cost category had been restructured to meet the requirements of the Implementing Regulation, which came into force on 2 August 2019. In particular, it proposed to reclassify category OMRCA2 as non-direct costs, to

[5] Traction electricity is charged separately.

[6] HS1: Track Access Charges Framework in PR19 - Consultation May 2019

be recovered using the long-term cost exception. This change is reflected in the proposed amendments to the track access contract documentation, annexed to our draft determination.

2.5. In order to reduce the administrative burden of amending track access contracts ahead of the periodic review process (which will result in further amendments), HS1 Ltd proposed that it would not make changes to existing contracts and charges until the start of CP3. It would then adjust for any under or overpayment of charges compared to the revised charges structure through a wash-up mechanism.

2.6. HS1 Ltd also provided more detail in its structure of charges consultation about how it considered it met the criteria of the long-term cost exception in order to recover non-direct costs.

2.7. Most operators agreed with HS1 Ltd's new structure in respect of direct costs and its proposal to delay revising charge rates until the start of CP3. However, Eurostar International Limited (EIL) and Deutsche Bahn Cargo UK, known as DB Cargo (UK), objected to HS1 Ltd's use of the long-term cost exception.

2.8. Further to consultee responses, HS1 Ltd published the conclusions of its consultation on 30 July 2019[7]. That document also set out the next steps in setting charges for CP3. This included details of further work it had undertaken to consider how the operation, maintenance and renewals costs of certain assets vary with traffic.

[7] HS1 Track Access Charges Framework in PR19 - Conclusions July 2019

3. Legal assessment

Costs directly incurred

3.1. In its final 5YAMS, HS1 Ltd set out how it proposed to change its charging structure in order to comply with the Implementing Regulation. Currently, HS1 Ltd recovers both OMRCA1 and OMRCA2 as direct costs. In order to comply with the Implementing Regulation, which sets out a list of costs which cannot be recovered as direct costs, HS1 Ltd has proposed that only OMRCA1 costs are classified as direct cost and that OMRCA2 costs should instead be classified as non-direct costs and recovered under the long-term cost exception.

3.2. HS1 Ltd also reclassified some costs currently charged as direct costs to non-direct costs, such as finance costs associated with renewals, in order to meet the requirements of the Implementing Regulation[8].

3.3. The Implementing Regulation sets out how an infrastructure manager should calculate costs directly incurred and set a direct unit cost[9] (that is, a charge rate). Article 5(1) provides that:

"The infrastructure manager shall calculate average direct unit costs for the entire network by dividing the direct costs on a network-wide basis by the total number of vehicle kilometres, train kilometres or gross tonne kilometres forecasted for or actually operated."

3.4. This provision requires the calculation of direct unit costs (the track access charge rate) to be based on one of the following: vehicle kilometres, train kilometres or gross tonne kilometres.

3.5. HS1 Ltd currently levies passenger OMRCs on a per train-minute basis. HS1 Ltd told us that its direct costs, OMRCA1, were calculated on a gross equivalent tonne basis and then converted to a per train-minute charge based on the modelled number of minutes each type of train took to cross the network. As such the total cost recovered from existing passenger operators under a charge per train-minute equates to its total direct costs.

---

[8] Full details of HS1 Ltd's changes to cost categories can be found in [HS1 Track Access Charges Framework in PR19 - Conclusions July 2019]

[9] A direct unit cost is defined in the Implementing Regulation as "*the direct cost per train kilometre, vehicle kilometre, gross tonne kilometre of a train, or a combination of those*".

3.6. For freight operators, OMRC is allocated on a per train-km basis. Freight operators did not comment on the charge rate for direct costs.

3.7. In its May 2019 structure of charges consultation, HS1 Ltd stated that per-train minute charges remain valid on the basis of *'the exception in Article 6… because it is a robust modelling approach.'* Article 6 states that:

"By derogation to…the first sentence of Article 5(1), the infrastructure manager may calculate direct unit costs by means of robustly evidenced econometric or engineering cost modelling, provided it can demonstrate to the regulatory body that the direct unit costs include only direct costs incurred by the operation of the train service and, in particular, do not include any of the costs referred to in Article 4."

3.8. In its final 5YAMS, HS1 Ltd stated that there is some uncertainty about whether per train-minute charges are permitted under the Implementing Regulation, which refers to train-km, vehicle-km and gross tonne-km. It relied on Article 5(2) of the Implementing Regulation and stated that per train-minute charges are "'*a cost related parameter' which is 'objectively justified and recorded*' *as required by the Regulations*".

3.9. HS1 Ltd also told us that the purpose of the per train-minute charge is to act as an incentive on operators to run faster trains on the network given that it was constructed as a high speed network. It considers that charging on a per-minute basis makes best use of the infrastructure and helps optimise capacity on the network – key drivers of the construction and establishment of the HS1 concession.

3.10. EIL supported the use of a per-train minute charge rate for these reasons. EIL also considers that the per-train minute charge rate fulfils the derogation in Article 6 of the Implementing Regulation as HS1 Ltd is applying a direct costs model.

3.11. London & South Eastern Railway Limited, known as Southeastern, has said that it would be supportive of switching to charging per train-km as this would bring the charging mechanism more closely in line with the Network Rail Infrastructure Limited system and is a more appropriate cost-reflective metric.

Our draft findings

3.12. HS1 Ltd proposes to charge its direct costs in full. We agree that operators should be charged the direct costs of running train services on the HS1 network, in line with the charging principles set out in the Regulations.

3.13. We consider HS1 Ltd's proposal to reclassify the costs in category OMRCA2 as non-direct costs to be consistent with the requirements of the Implementing Regulation.

3.14. We have considered whether HS1 Ltd's use of a per train-minute charge rate for direct costs is consistent with the Implementing Regulation and economic principles. The wear and tear to track caused by a train is a function of speed and weight[10], therefore calculating direct costs and setting a direct unit cost should reflect this relationship.

3.15. We note that HS1 Ltd has sought to rely on both Articles 5(2) and 6 of the Implementing Regulation as part of its justification for charging direct costs on a per train minute basis.

3.16. Both Articles 5(1) and 6 of the Implementing Regulation require the calculation of direct unit costs, defined as "*direct cost per train kilometre, vehicle kilometre, gross tonne kilometre of a train, or a combination of those*". The Implementing Regulation requires the calculation (and by implication charging) of direct costs to be in those units. The exception in Article 6 applies to the method of calculating average direct unit costs set out in Article 5(1). It is not an exception to the direct unit costs used in that calculation. In light of this, charging per-train minute does not appear to be consistent with the definition of direct unit costs in either of those provisions.

3.17. The exception in Article 5(2) permits Member States to authorise HS1 Ltd to differentiate between types of trains on different parameters. This is an exception to the first sentence of Article 5(1). However, this is only permitted to take into account different levels of wear and tear caused to the infrastructure. We do not consider HS1 Ltd has demonstrated that charging on a per train minute basis is a cost-related parameter for the purposes of Article 5(2) reflecting different levels of wear and tear to the HS1 network.

3.18. We note EIL's support for retaining the charge on a per train-minute basis and its position that this methodology for apportioning costs is the most appropriate as it prioritises journey time. However, direct costs must reflect the wear and tear an operator imposes on the network, as a result of operating a train service.

3.19. As HS1 Ltd has identified in its final 5YAMS, there is some uncertainty about whether per train-minute charges are permitted under the Implementing Regulations. However, we are not persuaded that HS1 Ltd's justification for continuing to charge direct costs on its existing per train-minute basis is consistent with the Implementing Regulation, which refers exclusively to train-km, vehicle-km and gross tonne-km.

[10] In that heavier, faster trains cause more damage to the infrastructure.

3.20. In our view, the better interpretation of the Implementing Regulation requires an infrastructure manager to not only calculate the direct cost on a per train-km[11] basis, but also to charge on that basis. This is because of the relationship between calculating and charging direct costs. We are not persuaded that the Implementing Regulation permits an infrastructure manager to calculate its direct unit costs on one basis and to charge those costs on a different basis. As identified by HS1 Ltd and EIL, there are exceptions to using the method set out in Article 5(1) of the Implementing Regulation, however the justification provided by HS1 Ltd to apply either of those exceptions is not, in our view, sufficient, for the reasons set out above.

3.21. In light of this, we consider that direct costs for passenger operators should be levied on a per train-km basis[12], as they are for freight operators. HS1 Ltd has confirmed that this change would have no effect on the overall level of charges paid by existing passenger operators in relation to direct costs. However, in making our final determination, we will take into account any further representations from stakeholders on this issue[13].

Non-direct costs

3.22. HS1 Ltd also allocates its non-direct costs in proportion to the amount of time an operator is on the network. This means that faster trains are allocated a lower proportion of non-direct costs and therefore a lower charge rate than slower trains.

Our draft findings

3.23. The Implementing Regulation only applies to the calculation of direct costs. Charging operators on a per-train minute basis means that operators of faster trains pay a lower proportion of non-direct costs than operators of slower trains, even though generally faster trains cause more damage[14]. Both HS1 Ltd and EIL have argued that this method of apportioning costs acts as an incentive to run faster trains and therefore aligns with the purpose of the network as set out in the Concession Agreement, i.e. to provide high speed rail transportation.

[11] Or on a vehicle-km or gross tonne-km of a train basis.

[12] Or on a vehicle-km or gross tonne-km of a train basis.

[13] Including the further representations received from EIL on this issue on 18 September 2019.

[14] A proportion of HS1 Ltd's non-direct costs are related to the impact of different types of operator, whereas other non-direct costs are common to all operators. However, it is not always straightforward to distinguish between these two types of cost.

3.24. Although it is for HS1 Ltd to determine how non-direct costs are allocated to operators, apportioning non-direct costs in this way does not appear to satisfy the economic principle that charges should be cost reflective. This is because it results in operators who cause higher costs (that is, those that run heavier and faster trains) paying a lower proportion of total non-direct costs than those that run lighter and slower trains. The effect of increased capacity is also marginal when there is already surplus capacity, as there is on its network.

3.25. It is for HS1 Ltd to determine how non-direct costs are allocated to operators. HS1 Ltd recognises that making changes could have an impact on operators and it has said that it will review its structure of charges in CP3. Our view is that the basis on which it charges passenger operators for non-direct costs should form part of its structure of charges review in CP3.

Long-term cost exception

3.26. HS1 Ltd currently recovers all of its non-direct costs under the long-term cost exception, set out in paragraph 3 of Schedule 3 to the Regulations. This exception requires an infrastructure manager to demonstrate, among other things, that, '*the project could not otherwise have been undertaken without the prospect of such higher charges*'.

3.27. In its final 5YAMS, HS1 Ltd set out its intention to continue to recover all non-direct costs under this exception, including those costs in category OMRCA2 (included as a result of the changes to its direct costs necessitated by the Implementing Regulations). In order to levy charges under this exception, HS1 Ltd must meet the two conditions[15] set out below. HS1 Ltd explained how it considered it met these conditions in its charges consultation.

3.28. The first condition states "*the project must increase efficiency or cost-effectiveness*". HS1 Ltd stated that this condition was satisfied because 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 International 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.

3.29. HS1 Ltd considers that the second condition is satisfied because:

[15] The HS1 network was constructed after 1988 and therefore meets the first criterion in the Regulations.

"…the nature of the construction of HS1 and the private risk that was taken was possible only with the prospect that the full costs of running the railway would be recovered. This applies to both the construction phase and the current phase with HS1 as the concession-granted operator[16]."

3.30. It noted that HS1 Ltd applied the second exception to recover all costs other than direct costs in Control Period 2 (CP2, (which runs from 1 April 2015 to 31 March 2020)[17] and it is HS1 Ltd's position that the same approach remains valid for CP3. It considers there is no reason to depart from the use of the second exception to recover the total costs of HS1, less the cost directly incurred.

3.31. Operators challenged HS1 Ltd's use of this exception, arguing that it should instead rely on the first exception to the charging principles, which allows an infrastructure manager to levy a mark-up. This would require HS1 Ltd to assess the ability of each market segment to bear a mark-up (that is, undertake a 'market can bear test').

3.32. EIL also challenged whether the second exception allows HS1 Ltd to recover ongoing operating, maintenance and renewals costs. It set out its understanding "*that the long-term costs for HS1 are related to the financing incurred by Her Majesty's Government that the sale of the HS1 Concession was used to offset*".

3.33. Freight operators said in their responses that HS1 Ltd should assess higher charges for freight services under the first exception requiring a 'market can bear test', before higher charges can be levied. DB Cargo (UK) contended that the long-term cost exception cannot be applicable to conventional rail freight as it has seen no evidence to suggest that the construction of the HS1 network would not have been undertaken if HS1 Ltd was not allowed to levy higher charges on the very small number of conventional speed rail freight services that have operated on the line.

3.34. In its conclusions on charges[18], HS1 Ltd responded to operators' comments saying that it is incorrect to assert that the long-term costs exception applies only to the financing or capital costs associated with the construction of High Speed 1. It points to the Charging Framework set out in Schedule 4 to the Concession Agreement which expressly provides that HS1 Ltd may levy charges in respect of both: Long-Term Construction Costs – the "*costs relating to the initial construction of HS1…*" and operating, maintenance and renewals costs: "*the costs relating to the operation, maintenance and renewal of HS1, including stations, over the life of the HS1 Concession, which costs include long-term costs of the operational phase of the*

[16] HS1 Ltd 5YAMS, July 2019, page 133.

[17] HS1 Ltd has recovered all costs other than direct costs under the second exception since the beginning of Control Period 1 (CP1).

[18] HS1 Track Access Charges Framework in PR19 - Conclusions July 2019

project incurred in order to meet the performance standards, asset condition and handback condition of HS1 required by this Agreement"[19].

3.35. HS1 Ltd states that the Concession Agreement also acknowledges that charges relating to operating, maintenance and renewals costs are levied "*on the basis of the long-term project costs pursuant to paragraph 3 of Schedule 3 of the Railway Regulations…*". HS1 Ltd contends that the ongoing maintenance and renewal costs of HS1 are part of operating, maintenance and renewals costs, and these are included in access charges on the basis of the second charging exception.

Our draft findings

3.36. We considered HS1 Ltd's use of the long-term cost exception as part of PR14 where we found that it was permissible for it to recover all of its non-direct costs under this exception. However, in light of HS1 Ltd's proposed changes to its charging structure, as a result of the Implementing Regulation, and in view of the objections raised by stakeholders, we have considered further HS1 Ltd's use of this exception.

3.37. We recognise that the legislation is not explicit about what costs may be included as the long-term costs of the project. However, the Regulations make no reference to any restriction on long-term costs (such as limiting such costs to 'capital costs' only), and therefore our view is that an infrastructure manager is also permitted to recover operational costs under this exception. This interpretation is supported by the Charging Framework set out in Schedule 4 to the Concession Agreement, which explicitly permits HS1 Ltd to recover charges relating to operating, maintenance and renewals costs on the basis of long-term project costs. Therefore, we remain of the view that it is possible for HS1 Ltd to recover both the capital costs of constructing the project and its ongoing operational costs under this exception.

3.38. Further, we have considered whether HS1 Ltd is required to demonstrate that the project could not have been undertaken without the prospect of higher charges being levied on a particular class of user, such as freight. We do not consider this interpretation to be supported by the wording in the exception – instead, once the conditions have been met, we consider the exception permits higher charges to be levied on rail users in general with no requirement for HS1 Ltd to consider charges to individual operators or undertake a market can bear test for those charges.

3.39. Notwithstanding the above, we will consider any further representations from stakeholders on this issue in reaching our final determination.

[19] Concession Agreement, Schedule 4 Paragraph 3.1.3.

HS1 Ltd's charging model quality assurance

3.40. In order to convert HS1 Ltd's full costs into OMRCA1, OMRCA2, OMRCB and ORMCC charges, HS1 Ltd used an access charging model, developed in 2009 for the purpose of setting CP1 charges. The model was further updated for CP2.

3.41. The model calculates the cost components related to each of the four charges above on a gross-tonne kilometre basis. It then 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 charges for passenger services per train minute using chargeable journey time and for freight services per train-km using distance.

3.42. The model was audited for HS1 Ltd by independent consultants FCP Consulting in May 2019[20]. In summary its audit found the model consistent with both the rules and assumptions set out in HS1's Ltd model and the relevant charges legislation.

3.43. Given that HS1 Ltd has had its model externally audited and that it also shared it with us and operators, we are satisfied HS1 Ltd has put in place a reasonable quality assurance process for its charging model.

HS1 Ltd's proposed charges review

3.44. In its final 5YAMS, HS1 Ltd said it would be beneficial to undertake a more in-depth review of its charges in CP3. We welcome this. but also consider this should include a thorough overhaul of its charging model which was developed around 20 years ago. HS1 Ltd should develop a charging model that reflects best practice in calculating the engineering relationship between the vehicle type and wear and tear costs imposed on different types of asset and that it allocates costs appropriately to those operators that cause them.

[20] HS1 Ltd's model audit is available here.

4. HS1 Ltd's charges proposals for passenger operators

4.1. HS1 Ltd's final 5YAMS Base Case proposals for passenger operator charges are summarised in Table 4.1 below, which also compares them with existing CP2 charges. The charges would represent a significant increase on CP2 levels. EIL's charges would increase by 43% and Southeastern's by 25%. The increase is predominantly driven by HS1 Ltd's proposed renewals annuity over a 40-year time horizon.

Table 4.1 HS1 Ltd's CP3 OMRC proposals (HS1 Ltd Base Case) for passenger operators[21]

OMRCs per train-minute (Feb 2018 prices)	International passenger services			Domestic passenger services		
	CP2	**CP3**	**% change**	**CP2**	**CP3**	**% change**
Operations & maintenance	£36.31	£34.28	-6%	£26.50	£25.79	-3%
Renewals	£9.09	£32.77	+261%	£5.61	£14.95	+166%
Pass-through	£8.68	£10.14	+17%	£8.68	£10.14	+17%
Total OMRCs	**£54.07**	**£77.18**	**+43%**	**£40.79**	**£50.88**	**+25%**

4.2. An increase of this scale could have a significant impact on passenger operators, particularly EIL, as it is not held harmless to increases in charges. The impact of these increases in charges was acknowledged by HS1 Ltd and in its final 5YAMS it proposed different options[22] for the renewals annuity that would result in lower charges, see our supplementary document on the financial framework for further details of our views on the renewals annuity. This included consideration of what the renewals annuity would be if the European Train Control System (ETCS) was treated as a Specified Upgrade, rather than a renewal, and other changes, e.g. to the contingency and risk assumptions.

4.3. As discussed above, in its conclusions to its May 2019 charges structure consultation[23], HS1 Ltd also included changes to its assumptions about how the operating, maintenance and renewal costs of sleepers and aspects of overhead line equipment vary with traffic. This reduced the proportion of renewals costs recovered as direct costs but increased the proportion recovered as non-direct costs. The net effect of this change is to reduce total operating, maintenance and renewals charges

[21] HS1 Ltd 5YAMS, Table 62.

[22] HS1 Ltd 5YAMS, pages 113-14

[23] HS1 Track Access Charges Framework in PR19 - Conclusions July 2019

(OMRCs) for both EIL and DB Cargo (UK) but increase them slightly for Southeastern.

4.4. Operators did not object to HS1 Ltd's changes to the assumed level of direct cost variability for certain asset types and we are satisfied that HS1 Ltd's assessment of how its operation, maintenance and renewal costs vary with traffic is reasonable.

4.5. The impact of these revised costs on passenger operator charges are summarised in Table 4.2.

Table 4.2 HS1 Ltd's July 2019 OMRCs proposals for passenger operators in CP3 (Base Case and alternatives)[24]

Option (Feb 2018 prices)	International (per train-minute)		Domestic (per train-minute)	
	Final 5YAMS	Revision	Final 5YAMS	Revision
HS1 Ltd Base Case	£77.18	**£70.38**	£50.88	**£51.24**
'20-year' approach[25]	£71.93	**£63.02**	£48.48	**£46.90**
'Buffer' approach[26]	£67.63	**£61.80**	£46.83	**£46.18**

4.6. As set out above, and further detailed in our supplementary document on the financial framework, we reviewed HS1 Ltd's plans for renewals funding and expenditure, including its efficiency assumptions. Our assessment has the overall effect of proposing to reduce HS1 Ltd's renewals annuity to £26.1m per year, which in turn would reduce the level of OMRCs. Our estimate of the cumulative impact of our revised renewals annuity assumptions and HS1 Ltd's changes to its proposed CP3 OMR passenger charging methodology (as described above) is summarised in Table 4.3 below for passenger operators and for freight operators in Table 7.1 in the next section.

4.7. This is our estimate for illustrative purposes, the precise impact will need to be fully modelled by HS1 Ltd[27] in its revised final 5YAMS (required to be submitted to us by 30 November 2019).

[24] HS1 Track Access Charges Framework in PR19 - Conclusions July 2019, Section 3.3.

[25] The '20-year' approach (this is also called Option 1 by HS1 Ltd) considers all costs but only over the next 20 years.

[26] The 'Buffer' approach (this is also called Option 2 by HS1 Ltd) uses direct costs over the 40-year period but non-direct costs (e.g. risk and contingency) are not funded after CP6.

[27] Our estimate is based on changing the renewals annual annuity in HS1 Ltd's charges model. However, HS1 Ltd advised that while this may provide a reasonable estimate, to model the impact accurately other inputs in the model may also need to be changed, for example, the renewals programme work bank.

Table 4.3 ORR's illustrative passenger operator OMRCs for CP3

OMRCs per train-minute (Feb 2018 prices)	International passenger services			Domestic passenger services		
	CP2[28]	**CP3**	**% change**	**CP2[29]**	**CP3**	**% change**
OMRC1	£8.52	£13.78	62%	£2.97	£4.26	44%
OMRC2	£14.89	£11.82	-21%	£3.59	£2.41	-33%
OMRCA	£23.10	£28.15	22%	£26.35	£30.59	16%
OMRCC	£7.73	£10.14	31%	£7.73	£10.14	31%
Total OMRCs	**£54.24**	**£63.90**	**18%**	**£40.64**	**£47.42**	**17%**

[28] ORR estimate of OMRC breakdown.

[29] ORR estimate of OMRC breakdown.

5. HS1 Ltd's charges proposals for freight operators

5.1. The freight OMRCs represented by HS1's final 5YAMS Base Case are summarised in Table 5.1 below, which also compares them with existing CP2 charges. The proposed charges would represent a significant increase on CP2 levels. DB Cargo (UK)'s charges would increase by 74%. The increase was predominantly driven by HS1 Ltd's proposed renewals annuity over a 40-year time horizon.

Table 5.1 HS1 Ltd's CP3 OMRC proposals (Base Case) for freight operators[30]

OMRCs (Feb 2018 prices)	Freight (per train-km)		
	CP2[31]	CP3	% change
OMRC1	£3.11	£9.38	202%
OMRC2	£4.43	£3.72	-16%
Total OMRCs	**£7.54**	**£13.10**	**74%**

5.2. As explained previously, HS1 Ltd also proposed different options for the level of renewals annuity that resulted in lower charges. The impact of these revised charges on freight charges is summarised in Table 5.2 below.

Table 5.2 HS1 Ltd's revised CP3 OMRC proposals (Base Case and alternatives) for freight operators[32]

Option (Feb 2018 prices)	Freight (per train-km)	
	Final 5YAMS	Revision
Base Case	£13.10	**£9.52**
'20-year' approach	£11.78	**£8.19**
'Buffer' approach	£10.55	**£7.97**

30 HS1 Ltd 5YAMS, July 2019, Table 64.

31 ORR estimate of OMRC breakdown.

32 HS1 Track Access Charges Framework in PR19 - Conclusions July 2019, Section 3.3.

5.3. As set out above, and further detailed in our supplementary document on the financial framework, we reviewed HS1 Ltd's plans for renewals funding and expenditure, including its efficiency assumptions.

5.4. Our assessment would have the overall effect of reducing HS1 Ltd's renewals annuity to £26.1m per year, which in turn reduces the level of OMRCs. Our estimate of the cumulative impact of our revised renewals annuity assumptions and HS1 Ltd's changes to its methodology for calculating its proposed CP3 OMR freight charges as described above, are summarised in Table 5.3 below.

Table 5.3 ORR illustrative freight OMRCs for CP3

OMRCs per train-km (Feb 2018 prices)	Freight (per train-km)		
	CP2[33]	**CP3**	**% change**
OMRCA1	£3.11	£4.57	47%
OMRCA2	£4.43	£3.78	-15%
Total OMRCs	**£7.54**	**£8.35**	**11%**

5.5. As a result of the Implementing Regulation, HS1 Ltd has proposed to recover category OMRCA2 under the long-term cost exception. It proposes that freight operators will continue to pay the freight specific costs included in this category.

[33] ORR estimate of OMRC breakdown.

6. Impact on operators

6.1. As part of our review, we considered the impact of HS1 Ltd's proposals on operators. To inform our assessment, we invited operators, both passenger and freight, to provide evidence of the impact that HS1 Ltd's proposed increase in charges would have on their businesses (see note of our PR19 stakeholder workshop of 10 June 2019, published alongside our draft determination).

Passenger operators' responses

6.2. Southeastern noted that it is held harmless to increases in charges through its franchise agreement. While the company did not raise specific concerns about the impact of the proposed changes in charges, it emphasised the need for HS1 Ltd to ensure its charges are as low as possible to reduce the call on funding from its passengers and/or the tax payer.

6.3. EIL presented us with information about the impact of the proposed increase in charges from HS1 Ltd's Base Case, on its business, within the context of the competitive environment in which it operates, in particular from airline competition. For reasons of commercial confidentiality we are unable to provide details of this discussion.

Our draft findings

6.4. We carefully considered the information supplied by EIL and although any increase in costs will clearly impact on a business, it is not clear that the new charges will impact significantly on its commercial viability. This is particularly evident when the increase in charges is considered as a percentage of the total costs across EIL's whole routes, which we think is the appropriate framework for assessment. For example, based on EIL's average operating costs over the financial years 2014-15 to 2016-17, the increase in charges, after our adjustments to HS1 Ltd's proposed charges, is around 1% of EIL's total annual operating costs.

6.5. In reaching our draft decision, we have carefully balanced our statutory duties under the Railways Act 1993[34], in particular taking into account the impact of charges on operators against a range of other outputs of the periodic review, such as the need to ensure HS1 Ltd can recover its efficient costs and meet its asset stewardship commitments under the Concession Agreement.

[34] Railways Act 1993

Freight

6.6. DB Cargo (UK) raised significant concerns about the impact of the increase in charges, which it thinks threatens the viability of its freight services. We discussed this issue with the company but for reasons of commercial confidentiality we cannot discuss the details. We recognise DB Cargo (UK) operates the UK leg of these services only. We consider that any impact assessment should be across the whole route, which further complicates any analysis.

Our draft findings

6.7. We asked DB Cargo (UK) for additional information about revenue and costs across the whole route but it was unable to provide this, as the information is not held by DB Cargo (UK). We are therefore unable to make a fuller assessment of the impact on its business. However, we consider the proposed impact on DB Cargo (UK)'s finances from HS1 Ltd's Base Case, is significantly reduced as a result of our adjustments to HS1 Ltd's proposed charges. Should DB Cargo (UK) provide additional information in response to our draft determination, we will take it into account in reaching our final determination.

7. Our draft determination of OMRCs

7.1. In this chapter, for illustrative purposes, we set out our draft determination of HS1 Ltd's operator OMRCs for CP3. The precise charges will need to be fully modelled by HS1 Ltd[35] in its revised final 5YAMS (required to be submitted to us by 30 November 2019).

Charges for passenger operators

7.2. We consider that HS1 Ltd's charges (after our adjustments) reflect a reasonable estimate of the efficient costs of passenger services operating on the network in CP3, taking into account both our assessment of the impact on passenger operators and stakeholders' responses.

7.3. Our preliminary view on the appropriate levels of HS1 Ltd's OMRCs for passenger operators in CP3 is set out in Table 7.1 below.

Table 7.1 ORR illustrative passenger OMRCs for CP3

OMRC per train-minute (Feb 2018 prices)	International services	Domestic services
Total OMRC	**£63.90**	**£47.42**

Charges for freight operators

7.4. We consider that HS1 Ltd's charges (after our adjustments) reflect a reasonable estimate of the efficient costs of freight services operating on the network in CP3, taking into account both our assessment of the impact on freight operators and stakeholders' responses. Our preliminary view on the appropriate level of HS1 Ltd's CP3 freight OMRC is set out in Table 7.2 below.

Table 7.2 ORR illustrative freight OMRC for CP3

OMRC per train-km (Feb 2018 prices)	Freight services
Total OMRC	**£8.35**

[35] Our estimate is based on changing the renewals annual annuity in HS1 Ltd's charges model. However, HS1 Ltd advised that while this may provide a reasonable estimate, to model the impact accurately other inputs in the model may also need to be changed, for example, the renewals programme work bank.

Overall Charges

7.5. Table 7.3 below shows the estimated total charges to be paid by each type of operator over CP3, based on our illustrative OMRC rates set out above.

Table 7.3 HS1 Ltd's CP3 total income from charges (based on ORR's illustrative operator OMRCs for CP3) [36]

Total OMRC income (Feb 2018 prices)	2020-21	2021-22	2022-23	2023-24	2024-25	CP3 Total
International services	£35.1m	£35.1m	£35.16m	£35.1m	£35.1m	**£175.3m**
Domestic services	£63.1m	£63.1m	£63.1m	£63.1m	£63.1m	**£315.6m**
Freight	£0.3m	£0.3m	£0.3m	£0.3m	£0.3m	**£1.5m**
Total	**£98.5m**	**£98.50m**	**£98.5m**	**£98.5m**	**£98.5m**	**£492.4m**
Traction electricity charge	£20.8m	£20.2m	£20.1m	£20.1m	£20.0m	£101.2m
Total charges income	**£119m**	**£119m**	**£119m**	**£119m**	**£119m**	**£593.6m**

[36] Our estimate of HS1 Ltd's charges income is £593.6m, which is £0.6m lower than the £594.2m shown in Table 6.3 of our financial framework supplementary document. The difference between the two numbers relates to the costs for Ripple Lane, which HS1 Ltd partially recovers through a separate Ripple Lane charge. This charge is not regulated by the ORR and so has not been included in the table above.

8. Other charges

Capacity reservation charge

8.1. HS1 Ltd has proposed suspending the capacity reservation charge which acts as a disincentive on an operator to apply for more capacity than it realistically intends to use. This proposal reflects the fact that there is currently spare capacity on the network and responds to operators' concerns about the charge. HS1 Ltd has also set out the circumstances which may trigger the re-activation of the charge, namely:

(i) a potential new entrant planning to operate train services on its network;

(ii) any material change in capacity usage; or

(iii) a material increase in capacity reservation in comparison with current levels.

8.2. As HS1 Ltd and operators are in agreement with the suspension on the basis set out above, we consider that in the circumstances a suspension of this charge is appropriate. This change is reflected in the proposed amendments to the track access contract documentation, annexed to our draft determination.

Carbon Costs

8.3. HS1 Ltd can recover costs incurred in relation to the Carbon Reduction Commitment (CRC) energy efficiency scheme. The CRC payment related to track access charges is around £10,000 per annum. HS1 Ltd proposes to leave this provision unchanged.

Our draft findings

8.4. We are minded to accept HS1 Ltd's proposals on both the capacity reservation charge and the recovery of carbon costs.

9. Performance and possessions regimes

Performance regime

9.1. The performance regime is part of the charges and incentives framework, which is designed to encourage all parties to minimise disruption and improve the performance of the HS1 network. Through the regime, operators and HS1 Ltd bear the financial impact of the unplanned service delays and cancellations. The regime is designed to incentivise all parties to minimise performance-disrupting incidents, and to contain their impact when they occur. The regime includes:

(i) payment thresholds (the point at which performance is sufficiently good or bad to trigger payments from operators to HS1 Ltd, or from HS1 Ltd to operators); and

(ii) payment rates (the amount, per minute delay, that one organisation pays another where its performance is above/ below threshold performance).

9.2. In response to our Initial Consultation on PR19, operators told us that they were broadly content with the way the regime was operating with no need for major changes beyond recalibration.

9.3. HS1 Ltd led the recalibration and commissioned consultants Oxera to undertake the performance regime recalibration for CP3. Oxera broadly followed the same methodology as used for CP2. Subsequently, HS1 Ltd proposed moving from, a five-year to a two-year, recalibration period for setting performance thresholds, due to volatility in the five-year data. Operators agreed with this change and were also broadly content with the methodology for recalibrating payment rates.

9.4. HS1 Ltd presented draft CP3 performance thresholds in its final 5YAMS but was unable to present draft payment rates as HS1 Ltd and EIL were unable to agree terms for supplying EIL revenue data in time for publication in the final 5YAMS.

9.5. HS1 Ltd shared its recalibration results in September 2019 with operators. The proposals for thresholds and payment rates are set out in Table 9.1. Payment rates are confidential.

Table 9.1 HS1 Ltd's proposed CP3 performance regime thresholds

Operator	Poor performance threshold (minutes)		Good Performance Threshold (minutes)	
	CP2	CP3	CP2	CP3
Southeastern	0.22	0.29	0.03	0.01
EIL	0.31	0.22	0.13	0.04

9.6. Operators were content with the payment rates. However, Southeastern queried whether the performance threshold recalibration period should be over a calendar year (that is, calendar years 2017 and 2018) as done by Oxera, or the last two financial years of the control period, that is, 1 April 2017 to 30 March 2019 (as is the case when recalibrating Network Rail's performance regime).

9.7. HS1 Ltd agreed to re-run its recalibration exercise using financial years to determine if this had any material impact on the results. HS1 Ltd shared these results with operators and after further consultation all operators agreed to remain with HS1 Ltd's original proposals as set out above.

9.8. HS1 Ltd also proposed including UK Power Network Services (UKPNS), who supply traction electricity to HS1 Ltd, in the performance regime. Currently, delays caused by power supply problems result in a flat compensation rate outside the regime. However, HS1 Ltd and operators were not able to agree on how to incorporate UKPNS into the performance regime. As a result, HS1 Ltd has confirmed that the proposal is being withdrawn and that the current arrangements will continue to apply. This should be reflected in its revised final 5YAMS.

Possessions Regime

9.9. The possessions regime compensates operators for disruption to their services due to engineering works and also acts as an incentive on HS1 Ltd to plan possessions efficiently and minimise disruption.

9.10. In its final 5YAMS, HS1 Ltd proposed the retention of the existing regime saying that it worked well for the relatively small number of disruptive possessions expected in CP3. Operators also agreed to retain the existing system.

Our draft findings

9.11. Our review of the performance and possessions regimes has focused on whether the regimes adequately compensate operators for service disruption due to poor performance, or engineering possessions. We also considered whether both regimes incentivise HS1 Ltd and operators to minimise the incidence and duration of any disruption. Our draft view is that we consider both regimes meet these objectives.

9.12. HS1 Ltd’s recalibrated performance thresholds and payment rates have been agreed with operators; the payment rates reflect the revenue loss to operators; and the performance thresholds do not weaken the incentive on HS1 Ltd to avoid poor performance or deliver very good performance. For these reasons, we are minded to accept HS1 Ltd’s proposals in relation to the performance and possession regimes.

10. HS1 Ltd’s traffic forecasts and volume re-openers

Traffic forecasts

10.1. HS1 Ltd’s traffic forecasts are an important consideration in the final 5YAMS as they drive HS1 Ltd’s revenue and influence its asset management strategy and approach.

CP3 forecasts

10.2. For passenger services, HS1 Ltd forecast the number of train paths expected over CP3 following engagement with operators. Based on this HS1 Ltd assumed no increase in train paths over CP3 because passenger growth for both domestic and international services over the period is expected to be accommodated on existing service levels.

10.3. HS1 Ltd forecast no increase in freight services over CP3. Any significant change from this forecast, including introduction of services run by a new operator, would trigger the volume re-opener provisions discussed below.

Forecasts beyond CP3

10.4. HS1 Ltd’s traffic forecast over the long-term impacts on its renewals programme. HS1 Ltd adopted NR(HS)’s assumption (as referenced in its specific asset strategies) of a 1% per annum increase in traffic volumes.

10.5. Operators did not raise any objections to HS1 Ltd’s traffic forecasts, although EIL sought greater clarity from HS1 Ltd about an apparent contradiction between the long-term forecast in the final 5YAMS and the specific asset strategies which appeared to overstate passenger traffic growth. HS1 Ltd confirmed its long-term passenger traffic forecast of 1% p.a., which is broadly in line with EIL’s own expectations.

Volume re-openers

10.6. HS1 Ltd’s OMRCs income is based on traffic forecasts. To ensure HS1 Ltd does not over or under recover costs, its passenger access terms (PATs) and freight access terms (FATs) container re-opener provisions for when traffic differs significantly from the forecast.

10.7. The volume re-opener provision in the PATs is triggered where:

(i) the forecast number of total timetabled train services in a given year differs by at least +/-4% from the annualised forecast in the PR19 final determination; or

(ii) the forecast number of timetabled train services for an individual passenger service operator in a given year differs by at least +/-4% from the annualised forecast in the PR19 final determination.

10.8. The volume re-opener provision in the FATs is triggered where the forecast number of timetabled train services in a given year differs by at least +/-12.5% from the annualised forecast in the PR19 Final Determination.

10.9. HS1 Ltd proposed no changes to the current trigger events, however it has proposed changes to the PATs to update and clarify the drafting. The changes are set out in the proposed amendments to the track access contract documentation, annexed to the draft determination.

10.10. Operators raised no objections to not changing the volume re-opener provisions.

Our draft findings

10.11. We consider that HS1 Ltd's traffic forecasts and proposed volume re-opener provisions are reasonable, especially given the lack of objections from operators and therefore are minded to accept these proposals.

This publication is available at orr.gov.uk

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