

22 June 2007

Dear Consultee

Periodic review 2008: Charge to recover the costs of freight-only lines

1. We are reviewing freight charges as part of our 2008 periodic review (PR08). PR08 will decide Network Rail's outputs, revenue requirement and access charges for control period 4 (CP4), from 1 April 2009 to 31 March 2014. In February 2007, in our 'Advice to Ministers and framework for setting access charges' (Advice to Ministers) document¹, we published our decision on capping freight-track access charges² for control period 4³. The document set out cost ranges and caps for two freight-track access charges, as follows.

- The freight variable usage charge, which reflects the wear and tear costs of operating freight traffic on the railway network.
- A new charge to recover the costs of freight-only lines⁴.

2. While the 'Advice to Ministers' document set out our caps for the charge to recover the costs of freight-only lines, it did not give a final decision on the systems to use for allocating costs and charges. These systems are important as they can have an effect on the final level of charges for freight-only lines, and ultimately end customers and limit the incentives that freight operators face.

¹ 'Advice to Ministers and framework for setting access charges', Office of Rail Regulation, February 2007. You can access this document at www.rail-reg.gov.uk/upload/pdf/316.pdf

² Track access charges are the charges that freight operators pay for access to the railway network.

³ A control period is a period of time, usually five years, over which the conclusions of a periodic review come into force. Control period 4 is the fourth control period.

⁴ Freight-only lines are railway lines used by freight traffic only. The full definition of freight-only lines is given in Annex C of Periodic Review 2008: 'Consultation on caps on freight track access charges', Office of Rail Regulation, December 2006. You can access this document at www.rail-reg.gov.uk/upload/pdf/310.pdf

3. We are using this letter to consult you on our proposal for a system to allocate costs and set charges for freight-only lines. We welcome your views on any issues we raise in this letter and, in particular, on:

- whether our proposed system for allocating the costs of freight-only lines across market segments would be appropriate, and what effect this system would have; and
- whether our proposed charging system for recovering the costs of freight-only lines would be appropriate, and what effect this system would have.

4. You should send your responses in electronic form (or if not possible, in hard-copy format) by **Monday 20 August 2007** to:

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5. You should also contact Tim Griffiths if you want to discuss any points we have raised in this letter.

6. In your response, you should make it clear if you want us to keep all or part of your response confidential. Otherwise we will make it available in our library and on our website and may quote from it. If you want us to keep your response confidential, please provide a statement summarising your response (leaving out the confidential information) that we can treat as a non-confidential response. We may also publish your name in future documents or on our website, unless you tell us that you do not want us to do so.

7. You can find copies of this document in our library and on our website (www.rail-reg.gov.uk).

Yours faithfully



Paul McMahon

Charge to recover the costs of freight-only lines

Background

Current structure of charges

8. The current structure of freight track access charges was established by the 2001 freight charges review (FCR2001)⁵. Freight operators currently have to pay a range of variable charges⁶ to reflect the costs they cause Network Rail. These charges are set out below.

- The variable usage charge. This charge reflects Network Rail's wear and tear costs from the operation of train services on the network.
- The traction electricity charge. This charge reflects Network Rail's costs of buying electricity supply on behalf of train operators (and is paid by operators running electrically powered vehicles). The costs for maintaining and renewing the electricity supply and related equipment as a result of operators using electrically powered traffic are currently added to the traction electricity charge.
- The capacity charge. This charge reflects the performance regime (Schedule 8) costs of operating extra services as a result of extra traffic.

9. Freight operators do not currently contribute to fixed costs (costs that do not vary with traffic) or common (shared) costs. The Government currently pays freight operators' contributions to these costs as part of the network grant it pays to Network Rail.

Our caps on freight charges

10. Our 'Advice to Ministers' document set out the range of costs and caps in two areas.

- The freight variable usage charge, which reflects the wear and tear costs of operating freight traffic on the railway network.
- A new charge to recover the costs of freight-only lines (for certain freight traffic). The fixed costs of freight-only lines are those costs that we do not recover

⁵ 'Review of freight charging policy: final conclusions', Office of the Rail Regulator, October 2001. You can access this document at www.rail-reg.gov.uk/upload/pdf/136-fchargfincon.pdf.

⁶ Variable charges are charges that vary with the amount of traffic using the network. Variable charges are made according to the use of the railway.

through variable charges and which are currently paid by the Government as part of the network grant it pays to Network Rail. This new charge reflects the Government's statement in the 'Future of Rail' White Paper⁷ that: "Where lines carry only freight, and no passenger services, the freight operators will pay its full costs". To be consistent with relevant legislation (discussed in more detail below), the costs of freight-only lines can only be charged where the freight market can bear this cost⁸.

11. A brief summary of our decisions in our 'Advice to Ministers' document is set out below. More detail is provided in chapter 10 of the 'Advice to Ministers' document.

The range of freight variable usage charges and caps

12. In our 'Advice to Ministers' document, we set out a likely cost range of the freight variable usage charge. This came to between £41 million and £99 million a year (at 2005-06 price and traffic levels⁹), depending on the estimated level of Network Rail's costs and our estimate of Network Rail's efficiency. We capped freight variable usage charges at £99 million a year over CP4 (2005-06 prices and traffic levels), 12.6% above current variable usage charges. Any increase in charges would be introduced in phases over CP4. However, we said that there is a strong possibility that the final level of freight variable usage charges will be below the current level. Table 1 gives the caps on freight variable usage charges over CP4.

⁷ 'The Future of Rail CM6233', July 2004, Department for Transport. You can access this document at www.dft.gov.uk/about/strategy/whitepapers/rail/thefutureofrailwhitepapercm6233.

⁸ This is consistent with the Railways Infrastructure (Access and Management) Regulations 2005. You can access the text of the regulations at www.opsi.gov.uk/si/si2005/20053049.htm - 1. The regulations put into practice Directive 2001/14/EC of the European Parliament and the Council of 26 February 2001 on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification. You can access the text of the Directive at www.rail-reg.gov.uk/upload/pdf/directive-2001-14-ec.pdf.

⁹ All figures quoted in this letter relate to 2005-06 price levels and, unless mentioned otherwise, are for 2005-06 traffic levels.

Table 1: Caps on freight variable usage charges (increasing in stages over current charges)

	2009-10	2010-11	2011-12	2012-13	2013-14
Cap on the average variable usage charge per gross tonne a kilometre	RPI +2.4%	RPI +4.9%	RPI +7.4%	RPI +10.0%	RPI +12.6%

Note: intermodal traffic would be introduced in phases from 2010-11.

Charge to recover the costs of freight-only lines

13. In our ‘Advice to Ministers’ document we said that terminal freight-only lines¹⁰ had a cost range of £13 million to £28 million a year. We consider that the final level of freight-only line costs could be significantly below the upper end of that cost range. The cost range reflects Network Rail’s estimates of freight-only line costs and the uncertainty surrounding these estimates, our adjustments to these costs, and our view of Network Rail’s efficiency over CP4. Our cost range does not take account of the possible consequences of the work English, Welsh and Scottish Railway (EWS) carried out on the levels of freight-only line costs and Network Rail’s efficiency¹¹, which suggests that costs could be even lower than the bottom end of our range. Network Rail is carrying out further work on freight costs as part of its strategic business plan, which will include the company’s response to the EWS studies.

14. We concluded that only two market segments had the ability to bear the costs of freight-only lines, electricity supply coal (ESI) and spent nuclear fuel. We also concluded that these market segments should only pay the costs that they are responsible for (in other words, we would not expect them to contribute to the costs of freight-only lines that should be the responsibility of other freight traffic). We set a cap of £13.9 million a year on the ESI coal charge and £1.4 million a year on spent nuclear fuel. Both charges would be introduced in phases over CP4. The Government agreed to fund the remaining cost of freight-only lines. Table 2 shows the maximum charges to recover the costs of freight-only lines for ESI coal and spent nuclear fuel over CP4.

¹⁰ In paragraph 10.22 of our ‘Advice to Ministers’ document we said that we only intended to charge to recover the costs of terminal freight-only lines. The Government agreed to this. Annex C of our consultation on caps on freight-track access charges gives our definition of terminal freight-only lines.

¹¹ More details of the EWS work are included in the EWS response to Periodic review 2008: ‘Consultation on caps on freight traffic access charges’. You can access this document at www.rail-reg.gov.uk/upload/pdf/310-EWS-290107.pdf.

Table 2: Maximum charges to recover the costs of freight-only lines for ESI coal and spent nuclear fuel

2005-06 prices (in £millions)	2009-10	2010-11	2011-12	2012-13	2013-14
Cap on the ESI coal freight-only line charge	2.8	5.6	8.4	11.2	13.9
Cap on the spent nuclear fuel freight-only line charge	0.3	0.6	0.8	1.1	1.4

Deciding on the final level of freight charges

15. As well as the work on the new charge to cover the costs of freight-only lines, we will continue our work on freight charges through the wider structure of charges review as part of PR08. This includes:

- Network Rail putting forward their proposals for charges and vehicle price lists (including freight) in October 2007;
- our work on efficiency and Network Rail's costs throughout PR08; and
- deciding on specific access charges (for example, vehicle price lists) in December 2008, after Network Rail's proposals have been audited and approved. This follows our draft determination in June 2008 and final determination in October 2008.

Criteria for assessing systems for allocating costs and setting charges for freight-only lines

16. The new charge to recover the costs of freight-only lines needs to be consistent with our charging aims. Our charging aims are:

- to promote the aims of our duties under section 4 of the Railways Act 1993 and be consistent with the wider aims and guidance from funders;
- to provide incentives for Network Rail, train operators, train manufacturers, rolling-stock companies and funders to make sure the network is used and developed efficiently;
- not to discriminate between users of the network;

- to be practical, cost-effective and fair;
- to be consistent with relevant laws, including the EU Directive 2001/14/EC;
- to reflect the efficient costs caused of using the infrastructure (both to Network Rail or otherwise); and
- to make sure charges allow Network Rail to recover (but not over-recover) it's allowed revenue requirement.

Systems for allocating costs for freight-only lines

17. The costs of freight-only lines need to be allocated to ESI coal and spent nuclear fuel traffic, the two market segments that we have decided should pay the new charge.

18. There are a number of alternative approaches to allocating the costs of freight-only lines, including the following:

- modelled 'line-by-line' costs – where the costs of each individual freight-only line are taken directly from the Network Rail infrastructure cost model (ICM) or other Network Rail estimate of control period 4 costs. These costs would then be allocated to a market segment using gross tonnage (train per kilometre is a potential alternative to gross tonnage);
- aggregate level gross tonnage based allocation – where the total costs of all freight-only lines are allocated across market segments based on gross tonnage (or train per kilometre);
- track length based allocation – where the costs of freight-only lines are allocated across freight-only lines based on the track length, with these costs then allocated to a market segment level using gross tonnage (or train per kilometre); and
- bespoke allocation metric – where a bespoke allocation metric is developed to allocate costs across each freight-only line (this could include both track length and gross tonnage), with costs then allocated to a market segment using gross tonnage (or train per kilometre).

19. We carried out some initial consultation on the allocation system for freight-only line costs in our consultation on caps on freight track access charges in December 2007¹². The

¹² Periodic review 2008: 'Consultation on caps on freight track access charges', ORR, December 2006. You can access this document at www.rail-reg.gov.uk/upload/pdf/310.pdf.

people we consulted were divided between support for an aggregate level allocation (because it is a simple system) and a more disaggregate level allocation (such as track length, modelled or bespoke), which would be more effective in reflecting costs. We did not come to a final decision in our 'Advice to Ministers' document on which system to use, saying that we would carry out further work and consultation on which system was the most appropriate.

Main issues

20. Although it is fairly easy to calculate, an **aggregate gross tonnage based allocation** system would not be particularly effective at reflecting costs. The fixed costs of freight-only lines are not determined by the total amount of traffic but by the length and capability (for example, the ability to carry heavier axle loads) and other physical characteristics of the line, such as the number and type of structures (which can be costly to maintain and replace).

21. A **track length based allocation system** could be used to allocate costs across freight-only lines. This would be fairly simple but, as with the gross tonnage allocation system, would not, for example, reflect differences across lines in the level of capability or the number and type of structures.

22. A more complex **bespoke allocation system** using track length and other important cost determinants could be used to allocate costs across freight only lines. At its simplest level this could include track length (track and signalling costs vary broadly in line with track length) and route length (civils and telecoms costs vary broadly in line with route length). It may be possible to develop a more complex bespoke system, although there would be a compromise between the benefits of an accurate system and the extra costs in terms of complexity and further research into costs and collecting data.

23. **Modelled line-by-line costs** could also be used. Network Rail has a large amount of data on individual freight-only lines, including the number and type of civils assets, and the type and age of track. Line-by-line costs could be estimated within the ICM¹³ or through a separate modelling exercise. Estimating costs on this basis would be the most accurate although most complex approach. We consider it would be most appropriate to allocate costs initially on a line-by-line basis before allocating them across market segments.

24. After allocating costs across freight-only lines, these costs can then be allocated across market segments based on gross tonnage, train per kilometre or other appropriate

¹³ The ICM will need development, as the current version only includes around two-thirds of freight-only lines and estimates costs at the strategic route section level. Each strategic route section can include a number of individual freight-only lines.

metric system. While it is appropriate to relate variable usage charges to gross tonnage because of its relationship with damage costs, gross tonnage becomes less relevant when allocating what is essentially a fixed cost. We consider that the most appropriate way to allocate freight-only line costs across market segments would be based on use – ideally by vehicle kilometres which is the method used to allocate the passenger fixed charge across operators. However, vehicle kilometres are not available for freight traffic and so the best available measure is to allocate costs according to train kilometres.

25. Our preferred option is to allocate costs across freight-only lines using modelled line-by-line costs and then allocate these costs across market segments using train per kilometre (a bespoke system could be developed if line-by-line costs are not available). Table 3 shows the costs allocated to ESI coal and spent nuclear fuel under some of the different systems that could be used to cap charges. The current variable charge for ESI coal is £34.9 million per year and £0.2 million per year for spent nuclear fuel. Our caps on the freight-only line charge are set at £13.9 million for ESI coal and £1.4 million for spent nuclear fuel.

Table 3: Freight-only line costs under different allocation systems

	ESI coal		Spent nuclear fuel	
	Low	High	Low	High
Gross tonnage	6.2	13.9	0.01	0.01
Track length then gross tonnage	3.9	8.8	0.6	1.4
Track length then train kilometre	3.7	8.3	0.6	1.4

Note: Cap is shown in bold.

Charging system for freight-only line costs

26. There are a number of ways that the costs of freight only lines can be charged to those market segments that can bear these costs. Our ‘Advice to Ministers’ document identified three alternative systems, which were:

- a fixed charge on freight-only lines – where operators pay a fixed charge for freight-only line they use;

- a variable charge applied on freight-only lines – costs could be added to variable charges on freight-only lines; or
- a variable charge across the network – costs could be added to variable charges across the network as a whole.

27. A **fixed charge** could be made to reflect the costs of each freight-only line. This approach is supported by EWS and Freightliner. The charge would be specific to each line and would reflect the costs of that line allocated to ESI coal or spent nuclear fuel. These costs could then be allocated across the operators that use the line based on current or predicted traffic (current traffic would probably be preferable given the difficulty of predicting traffic on a line-by-line basis). For example, say that the costs of a freight-only line were £50,000 per year, with half this cost allocated to ESI coal, 10% to spent nuclear fuel and the rest to other traffic. The ESI coal fixed charge for the line would be £25,000 a year, shared across operators and based on the current share of ESI coal traffic on that line. The spent nuclear fuel fixed charge would be £5,000 a year, shared across operators and based on the share of current spent nuclear fuel traffic on that line, with the other £20,000 a year funded through the network grant the Government pays to Network Rail.

28. The advantages of a fixed charge are that it could reflect costs and would not negatively affect economic price signals at the margin, as traffic at the margin would be paying marginal costs. A fixed charge also means that operators would know about their future charges and Network Rail about their future revenues.

29. The disadvantages of a fixed charge are that it may be difficult to administer. Costs would need to be shared across operators using a freight-only line and a system would be needed to reflect contract transfers or large changes in traffic. The charge would have different effects across customers and traffic flows, with the potential for short-distance movements to transfer to road (for example, between Trent Valley power stations and local coal pits). A fixed charge could also affect incentives as operators and customers look to avoid using freight-only lines (for example, by extending the conveyor system to reach the national network). However, effects on incentives may be limited as freight-only lines are used by a number of different flows and customers and it may be difficult to attribute costs to a particular flow or line. On balance we consider that these disadvantages outweigh the advantages of having a fixed charge.

30. The costs of freight-only lines could be charged based on a **variable charge on freight-only lines**. We could do this by adding a flat-rate amount to the existing variable charge for traffic on freight-only lines.

31. To set a charge, Network Rail would need to identify ESI coal and spent nuclear fuel traffic on each individual freight-only line. This is likely to involve changing the existing billing system, which considers traffic at an aggregate rather than line-by-line basis. While

we consider this kind of charge should not be difficult to manage, there may be issues with putting it into practice (for example, all freight-only lines would need to be included separately in the billing system).

32. The main advantage of a variable charge is that it is based on how the lines are used. Because of this, it would reflect changes in demand and so avoid the need for a transfer system. However, a variable charge would not reflect costs, may be difficult to put into practice and may affect marginal incentives (although any effects would be minor as the charge would only be made on market segments that could pay it). Again, as with the fixed charge, there could be incentives to avoid using freight-only lines and there may be a potential for short-distance movements to transfer to road.

33. Alternatively, costs for freight-only lines could be recovered through adding an amount on the **variable charge across the whole network**. This approach would have some similarities to a variable charge on freight-only lines, but is likely to be simpler as the charge would be made across the whole network rather than on a line-by-line basis. There is also unlikely to be any traffic transferring to road as freight-only line costs would be spread across all traffic and so the cost increase in each flow would be fairly small¹⁴. However, this approach would be less effective at reflecting costs, with traffic paying the extra amount regardless of whether it had used a freight-only line.

34. Adding an amount to the variable charge is supported by Network Rail, DfT and Transport Scotland (but not other Scottish stakeholders such as the Scottish Resources Group¹⁵), mainly as they see a benefit to capacity utilisation. Since 2000-01 coal tonnage has increased by around 25%, but coal tonne per kilometre has increased by around 80%, largely from an increase in coal movements between England and Scotland (for example, between the port of Hunterston and Aire Valley power stations). Network Rail suggest that increasing ESI coal variable charges may discourage longer-distance movements by switching traffic from Hunterston to ports on the east coast.

35. Freight operators have suggested that adding an amount to the variable charge might be discriminating against some customers, but we are satisfied that this is not the case. As long as the allocation to each market segment broadly reflects costs, we consider that the charging system itself does not necessarily need to reflect costs at a customer

¹⁴ MDSTransmodal said that ESI coal and spent nuclear fuel traffic are unlikely to transfer to road if the variable charge is increased by up to 100%. 'Impact of a track access charge increase on rail freight traffic', MDS Transmodal, November 2006. You can access this at www.rail-reg.gov.uk/upload/pdf/mds-freight-nov06.pdf.

¹⁵ The Scottish Resources Group is the owner of Scottish Coal, the UK's second largest coal producer.

level, especially as the charge is recovering fixed rather than direct costs and the problems with other approaches.

36. Because it is a simple and low-cost approach, **we consider that adding an amount to the variable charge across the network is the best approach for recovering the costs of freight-only lines.**

37. All three charging systems may under- or over-recover the costs of freight-only lines from year to year or as traffic levels vary compared to those that were predicted. Adding an amount to the variable charge, the difference between costs and charges is likely to be fairly small and would reflect uncertainties in actual and predicted national demand (for example, the ESI coal forecasts in the freight route utilisation strategy range from an 8% decline to a 15% increase by 2014-15¹⁶). There is also uncertainty surrounding the future level of spent nuclear fuel traffic, with a number of power stations scheduled to be closed in CP4.

38. We do not plan to include a wash-up system¹⁷ for freight-only line costs as we consider that this could be too complicated to put into practice. While the sums involved in any under- or over-recovery would be fairly small to Network Rail, they could be significant to freight operators. As a result, we propose that Network Rail takes the risk of under-recovering their costs, with the amount added for ESI coal traffic based on the upper end of predicted future amounts of ESI coal (that is, a 15% increase by 2014-2015). We are not aware of any published industry forecasts for spent nuclear fuel. Because of this, we propose that the amount added for spent nuclear fuel is based on the latest available levels of traffic.

Next steps

39. We welcome views on our proposals for the system for allocating costs and making charges for freight-only line costs. The consultation period will end on **20 August 2007**.

40. We plan to set out our decisions on this system in September 2007. Network Rail will provide indicative charges as part of its strategic business plan in October 2007.

¹⁶ 'Freight route utilisation strategy', Network Rail, March 2007. You can access this document at www.networkrail.co.uk/browse_documents/rus_documents/route_utilisation_strategies/freight/freight_rus.pdf

¹⁷ A wash-up system ensures that Network Rail does not under or over recover its costs through charges