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cc: Emily Bulman & Rob Mills, ORR

11 February 2013

Dear Ben

Periodic Review 2013 – Consultation on the allocation of Variable Usage Charge December 2012

This is the response of Freightliner Group on behalf of Freightliner Limited and Freightliner Heavy Haul Limited.

Executive summary

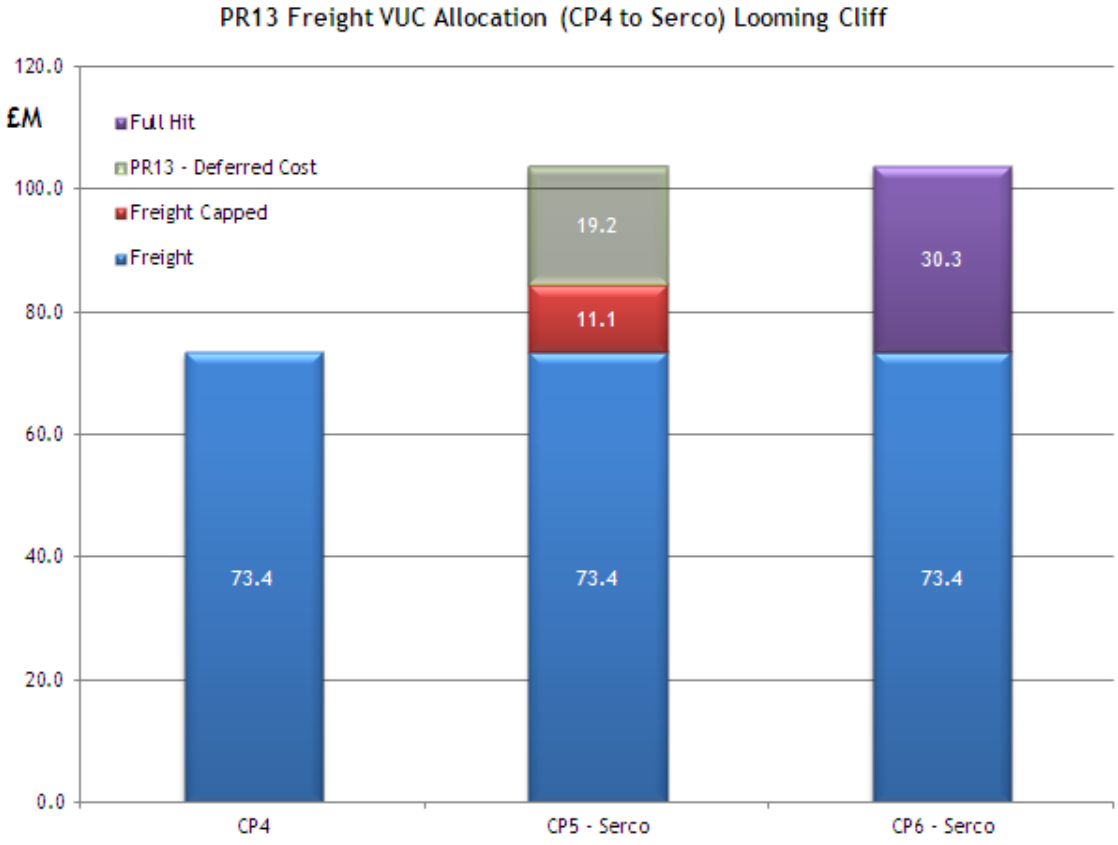
- Freightliner advocates delay in the implementation of the Serco and Network Rail work on vertical and lateral forces until further work can be undertaken during Control Period 5 (CP5) for potential implementation in Control Period 6 (CP6).
- The Serco Ltd. (Serco) report uses the industry established and recognised VTISM model but we contend that their work to date is not sufficiently robust to draw the conclusions reached. More evidence is needed before a fundamental change to the allocation of charges is made.
- Transportation Technology Center Incorporated (TTCI) has identified several areas in the Serco report that warrant further investigation.
- Freightliner is very concerned that the Office of Rail Regulation (ORR) has not engaged independent consultants to review the Serco work when the output suggests such a fundamental shift in what causes track damage[1] and where the impact of adopting the change would be so significant on the economic viability of rail freight.
- If the emerging results were implemented in CP5 it would result in a very considerable step change in Variable Usage Charges (VUC) and a consequential reduction in freight moved by rail, which is not planned to be consulted upon.
- Insufficient time has been allowed in the process for the rail freight industry to properly respond to the consultation given both its importance and technical nature.
- Freightliner proposes that the Periodic Review 2008 (PR08) determined allocation method of variable costs between freight and passenger vehicles is retained in light of the concerns over the technical and timing aspects highlighted.

[1] Vertical only

Context in Periodic review process

Freightliner notes that on 11th January 2013 the Office of Rail Regulation (ORR) announced its decision to cap the increase on average freight Variable Usage Charges (VUC) to a 23% increase. We understand that this cap is applied to the average charge and therefore individual charges for different wagon types could increase by considerably more than 23%. In the absence of specific wagon data we have estimated for bulk traffic wagons the increase could be as high as 60%[2].

Network Rail indicated in a meeting on 11th January that without the ORR cap the likely result of this work is that total average freight Variable Usage Charges would increase by more than 30%. We have calculated that the increase is over 40% (£73.4M to £103.7M). **However, even if the VUC is capped in CP53 there are longer term implications that further increases in charges will be flow through in CP6**, as illustrated in the graph below (VUC only, i.e. excludes Freight Only Lines, Coal Spillage and Capacity Charges).



This looming expectation of increased cost will strangle investment in rail freight assets, which have typical lifespans of 30-35 years, and undermine customer confidence in using rail in their logistics chains.

This consultation has been presented at a very late stage in the Period Review 2013 (PR13) process and notably not in time to input to the ORR's conclusions on the freight cap of Variable Usage

[2] Possibly higher (80%) depending on the vertical / horizontal cost allocation
[3] £73.4M +15% = £84.4M

Charges. Our customers will already be concerned by the ORR's conclusions for CP5 but are unlikely to understand the full impacts because this consultation covers only the technical aspects of the work.

The consultation does not give any indication of the actual increases by individual wagon types. It appears there will be no opportunity for a consultation on the outputs prior to the ORR draft determination in June. We believe this is inappropriate. The process whereby Network Rail is required to issue their conclusions and the draft price list seems odd. Surely the principles should be approved by the ORR before a draft price-list is drawn up?

Our interpretation of the Serco report is that all bulk freight haulage by rail would be adversely impacted, not just ESI coal but crucially the movements of aggregates, cement, oil and steel by rail. The impact on commodity groups and wagon types is required before an assessment of the impacts of implementation can be undertaken. Although we understand that VUC does not constitute a "mark-up" in terms of the EU directive[4], the market and the business impacts are the same and the industry expects a clear and transparent consultation process on the implications.

We remain unclear on how the cap is applied given that different methodologies would result in different charges for different wagon types and customers. For instance, if applied pre or post the allocation of VUC to commodities or indeed vehicles? We welcome clarification from Network Rail or ORR as to how the cap will be applied.

These potential increases in rail freight VUC must be taken in the context of the ORR's decision on the implementation of the Freight Specific Charge as well as increases that are being considered on the Capacity Charge, Coal Spillage Charge and the Freight Only Charge. We estimate that in total the proposed changes to these charges will result in overall freight charges increasing by 75-80%.

Impacts and Consequences

This consultation on VUC is extremely important as it will impact on the future level of freight carried by rail in Great Britain and the associated economic and environmental benefits that moving freight traffic by rail brings to the UK.

If the Serco and Network Rail conclusions in these reports are implemented in CP5 as proposed it would result in a very considerable step change in freight VUC and a consequential reduction in freight moved by rail. Consequently before implementing, Network Rail and ORR must be sure that it is accurate. We would highlight the swings in VUC allocation between freight and passenger vehicles in the past two Periodic Reviews as examples of the developing engineering understanding of what causes damage[5] but that these swings also indicate a continuing uncertainty which could shift again at the next review.

The income that would accrue to Network Rail from the increase in VUC for freight would be very small in comparison to the lost economic and environmental benefits that would accrue from the resultant transfer of the movement of freight traffic from rail to road. The benefits of rail freight

[4] We remain uncertainty as to balancing definitions of marginal and average cost in this context
[5] The balance between speed, axle weight and unsprung mass

that fall outside the railway balance sheet but benefit the road network and the economy have a value of far in excess of £1 billion per annum and include:

- £772 million per annum in congestion costs[6];
- £133 million per annum in road infrastructure costs[7];
- £68 million per annum in CO2 costs[8]; and,
- Pro-rata 42 road deaths at a value of £78.8 million[9].

Total = £1BN

If the outcome from implementing these conclusions was a 5% reduction in rail freight, the benefits lost to the UK would be in excess of £50 million compared to the estimated maximum additional income to Network Rail of £14.5 million per annum. Additionally, the benefits from the £580 million of Strategic Freight Network (SFN) funding already spent or committed would not materialise and the infrastructure would be under-utilised.

There are further implications of these decisions that could work against the direction of travel in terms of encouraging heavier and longer trains, rather than more trains. We would suggest that a framework that encouraged lighter wagons would encourage more trains.

The research commissioned by the Office of Rail Regulation (ORR) and undertaken by MDS Transmodal (MDS) (http://www.rail-reg.gov.uk/pr13/PDF/mdst-freight-tac-changes-feb2012.pdf) indicated that a 20% rise in track access charges would result in a 2.2% reduction in maritime containers moved by rail and a 50% rise in track access charges would result in a 6% reduction in maritime containers moved by rail. The same research indicated that a 20% rise in track access charges would result in a 4.3% reduction in construction materials moved by rail and a 50% rise in track access charges would result in a 16.1% reduction in construction materials moved by rail.

From our experience, we believe rail freight commodities have a higher elasticity than the MDS work has suggested meaning the fall in traffic on rail would be greater. Notably a customer may withdraw a portfolio of business from rail rather than one discreet piece and that it is difficult in a highly fixed cost industry to match reductions in costs to reductions in demand, so the costs to the remaining customers increase.

Any resulting modal shift to road caused by the change in Variable Usage Charges would appear to be in contradiction to the Department of Transport's (DfT) advice to the ORR published on 12th July 2012, below:

"The Government recognises the important role that rail freight plays in the nation's logistics and in the achievement of the Government's sustainable distribution objectives. The Government wishes to facilitate the continuing development of a competitive, efficient and dynamic private sector rail

[6] Analysis based on data contained in Mode Shift Benefit Values: Technical Report April 2009, DfT – 2015 values expressed in 2010 prices
[7] DfT's freight Mode shift Benefits Values April 2009 x lorry journeys (ORR national rail trends) by average mileage
[8] Delivering a sustainable Transport System: The Logistics Perspective, DfT (December 2008). Please note that this figure probably under-estimates the real value of CO_2 following the publication of the Stern report in 2007 which has not been taken account of in these calculations
[9] DfT's Unit 3.4 The Safety Objective values one fatality at an average of £1.876m on all road types and times of day multiplied by the 284 road deaths in 2009 involving HGVs

freight industry and is committed to ensuring that policies and regulations should work to this end and should not create unnecessary transactional costs or other obstacles to the achievement of these objectives and future growth."

Consultation and change process

This work is being consulted with the industry very late in the periodic review process with the charges being implemented in just 14 months' time. Given the potential serious impacts from this study we are strongly of the view that freight operators have been given insufficient time to respond to the consultation. Six (6) weeks, including the Christmas holiday (in effect 4 weeks), is not a reasonable response period for such an important consultation.

This is frustrating given that the freight operators made a proposal to Network Rail with regard to the Capacity Charge in August 2012 in response to a consultation on the performance regime and were told that we had raised this issue too late in the process. Put in context of the December 2012 consultation on what could be a radical step change to VUC, which would result in loss of business for freight operators, it appears one-sided.

The periodic review process was shortened following the McNulty review and subsequently several decisions and consultations have placed the review further behind schedule. It appears to us that the response times for industry are squeezed whilst ORR retain a period of many months (7) for their consideration and decisions.

The Serco report is very technical and can only be understood by specialists in that area. Freightliner and other freight operators have found it very difficult to employ consultants who are prepared to comment on the Serco report as they are understandably worried about their relationship as a supplier to Network Rail, who as a nationwide monopoly are vital to their respective businesses. We are at a considerable disadvantage in employing resources to challenge Network Rail as Network Rail dominates the landscape in this regard.

With respect, we do not believe that ORR has the specialist skill set to review such a technical report internally. We are concerned that ORR has not chosen to employ a consultant to review Network Rail's work. It appears that short term savings on consultants are being prioritised over ensuring that a piece of work with such serious implications is appropriately reviewed.

As a consequence of each of the last 2 periodic review processes there have been material changes in the engineering assumptions which drive cost assumptions. It undermines our confidence in Network Rail's modelling that such material changes are still being identified rather than refinements in modelling. How can we be sure that this latest view is more robust and will not radically change again in the future?

Before implementing such a step change in charges we would expect Network Rail to produce empirical evidence to back up the modelled conclusions. We are not aware of this evidence having been provided to date.

Similarly, the work on lateral forces has been formally presented for the first time in this document giving freight operators a very limited window to understand and / or challenge. It is clearly incomplete with regard to freight and we therefore believe there is a clear case for this work to be excluded from the calculation of CP5 charges and further considered for the CP6 review.

Methodology

There has been no calculation of bottom up costs as a cross-check of the top down calculations of total variable costs. The proposed methodology instead allocates costs out of a total variable usage cost calculated using VTISM. We understand that VTISM is now a well-established industry model but we do not have clarity of the specific cost assumptions and consequently are unable to agree it. There is little transparency to us regarding the assumptions and inputs into the model and we are reliant on the ORR to challenge its validity.

VTISM is a work bank model with Network Rail unit costs applied to the outputs to generate a total cost. The balance of variable and fixed costs relies to a significant degree on the definitions of the modeller and Network Rail accounting policy towards assets. Furthermore, there is no review as to whether the activities related to the repair or renewal of the infrastructure are valid and accurate and the damage mechanisms caused by traffic volume (i.e. variable charging) represent good value for money or an appropriate split of the costs between the time–based degradation mechanisms (fixed charges). We are therefore doubtful whether the resulting charges really do reflect the actual costs caused and would expect extreme caution to be used before the cost allocation assumptions are used in anger by way of conversion to VUC.

The work that has been undertaken and commissioned by Network Rail assumes that the rail network is maintained to passenger standards and then freight trains are operated over those high standard routes. If a different assumption was made that assumed tracks only had to be maintained to a standard suitable for freight traffic then the resultant answer may be a much lower freight VUC.

The work on lateral forces, presented for the first time in this document is clearly incomplete with regard to freight and we therefore believe there is a clear case for this work to be excluded from the calculation of CP5 charges. As we hope is clear from this response, whilst the Serco work on vertical impacts is more developed we have some fundamental concerns with regard to it.

Finally, Network Rail's cost modelling expects the full costs of the maintenance and renewal of the network to be paid for by operators during the respective control period, without considering whether renewal activity has an asset life beyond the control period. In consequence, high renewal costs in any particular control period lead to disproportionately high costs for the industry that may be reduced through a better capitalisation policy for the renewals undertaken.

Technical concerns

Vertical Forces Track Cost Methodology

Subject to our earlier comments regarding timescales and conflicted independent advice being available, Freightliner has managed to locate a consultant outside of the UK who has been prepared to review the Serco report on vertical forces. Transportation Technology Center Incorporated (TTCI) is the parent company of TTCI (UK) Ltd who undertook work on understanding track damage mechanisms and the pricing of such in CP4 on behalf of the Network Rail and can be considered experts in this area.

Of note is some preliminary investigation work undertaken by network Rail, which showed the possible impact on VUC. The choice of formula fitted to the data points by regression analysis shows large fluctuations in the VUC between the two methods proposed, particularly in respect of tare wagons. For instance, the quadratic method would result in an increase in cost for an empty FEAB wagon of over 180%, whilst the power formula suggests a decrease of 50% for exactly the same wagon.

TTCI's preliminary report is attached to this consultation response as Appendix 1. Due to the restricted timescales they have only been able to undertake an initial review. TTCI has identified several areas in the Serco report that warrant further investigation including the aforementioned regression analysis result. The report concludes that resolution of any of the queries raised could potentially have a large effect, particularly at the extremes of the factors considered, e.g. fast or slow operating speeds or at high or low unsprung masses. The report recommends that further analysis is undertaken in the following areas:

- The data sampling method to select the routes and their representation of the population of track in the network.
- The period used to calculate average traffic and tonnage.
- The values for each of these operating conditions selected.
- The correlation between the three vehicle factors - axle load, operating speed, and unsprung mass.
- Review accuracy of the model, particularly at extreme values of the factors.
- Further analyse the normality of the residuals and variation of the fits versus the residuals.
- Review of the underlying data to understand the best-fit lines on the charts.
- Review underlying data to understand the method and confidence levels of the extrapolation with regard to the unexpected results at operating speeds of 100mph under all axle loads and at 75mph under 25 tonne axle loads.

Freightliner suggests that as a next step TTCI undertakes a fuller investigation into the Serco report. TTCI estimate that this will take 4-6 weeks once they are in receipt of data. This would require Serco and Network Rail data to be shared and any delay to this would delay the TTCI report.

Freightliner accepts that VTISM has become an established model for establishing Network Rail's total variable costs. However, we understand that it has not been used before to calculate the bottom up variable usage costs. It is very difficult for a freight operator to understand the workings of the model but we are concerned that the use of the model has resulted in such drastically different cost assumptions to those made in CP4.

Given all of the above, we strongly contend that the allocation of CP5 variable cost remains under the CP4 methodology.

Lateral Track Costs Methodology

This piece of work as presented appears to be fundamentally incomplete in respect of freight vehicles. Only one model (the Y25) has been included in the work and the model is not validated, which casts some doubt over the reliability of the result.

The Y25 bogie is not representative of a significant number of more modern, track friendly bogies, and therefore it is not appropriate that this sole bogie is used to reach any conclusion on track access charges. Many of the wagons now being built and introduced in the UK have some steering ability which may reduce lateral forces.

The methodology proposed assumes that Vampire models are available for all freight wagons. This is not the case for most freight wagons and new wagon designs can be introduced through practical ride testing, which obviates the need for a Vampire simulation. Vampire models are very difficult to obtain as their intellectual property belongs to the wagon designer and they are very cautious about sharing the technical details of their designs in case these get into the wider domain and are used by competitors. Therefore Network Rail's request for more models is not easily satisfied and not in the control of the freight operators themselves.

Careful consideration is needed before compelling new wagons to obtain a Vampire Model. This would add costs to the rail freight industry that are not borne by the road freight industry. As ultimately the charge for individual wagons are an allocation of a top down total variable usage cost, having a Vampire Model or not makes no difference to the total charges that Network Rail receives.

Freightliner concludes that it would be inappropriate to change the charges for freight vehicles on the basis of this work. Extensive additional wagons would need to be added before this work could be credibly used. Given the limited time before decision on CP5 charges need to be finalised, delaying the implementation of this work until CP6 appears to be the only credible option.

Civil engineering Assumptions

Freightliner has previously raised its concerns regarding the lack of evidence for civils costs, particularly with regard to change in assumptions regarding brick and masonry under-bridges. We note that the Arup reporters raised concerns that no evidence had been provided by Network Rail on variability regarding these costs and subsequently only awarded Network Rail a "yellow" rating because there were outstanding concerns on method, data or assumptions. Despite Network Rail's subsequent letters in December 2012 our concerns remain about the validity of Network Rail's assumptions and their robustness for use in setting access charges.

In particular, Network rail appear to introduce a revised track damage formula that includes the constant Ct, but Serco's work appears not to support this constant, which may have a material effect on the allocation of the charges.

Additionally, Network rail does not appear to have sound understanding of the degradation modes of brick and masonry under-bridges, embankments and culverts but wishes to change the track damage

calculation mechanisms for this. Freightliner believes no change should be implemented here until a validated methodology for Network rail to understand its cost base is required.

One area we still seek clarity is to how civil structures are dealt with in the VTISM model that is run over 35 years with costs based on activity arising. If for example cost is planned in the coming 10 years but not for the next 140 years how is this treated? Fundamentally, near term capex costs are being recovered as revenue expenditure via Track Access Charges (TAC) instead of on a depreciated basis over their useful life.

These concerns extend to the change proposed on signalling costs, specifically the minor points work element.

Split between variable costs for passenger and freight

Network Rail has already undertaken considerable work in calculating, using VTISM, the total variable costs for track maintenance and renewal for CP5. Network Rail has also confirmed that it is satisfied with this total cost base subject to a +/- 15% variance. This initial work which was consulted upon in November 2011 and concluded in March 2012 included a nominal split of costs in total between all freight and all passenger vehicles by way of Kgtm. We are unclear as to whether the intention of earlier consultations, including the ORR consultation in May 2012, was to have 2 separate "pots" for passenger and freight and then apply the Serco work? Freightliner understands that ATOC supports this approach.

As a default position, we maintain that the CP4 allocation method remains the way forward for CP5 in light of the concerns with the Serco proposed method.

The ORR proposal in May 2012 was that there was a 15% cap on the increase in Variable Usage Charges. This 15% was intended to reflect Network Rail's confidence interval of 15% in its cost model as per its March 2012 conclusions to the ORR. The 15% was never intended to be used to change the allocation of the costs between freight and passenger operators. This evolution in the use of the cap has not been consulted upon which we find disappointing.

Any other infrastructure costs should be split between passenger and freight sectors on the basis of vehicle miles.

Conclusions

There are serious and far reaching potential impacts from this consultation. The consultation process itself has been rushed with insufficient time for freight operators to respond and there is an imbalance in our ability to reasonably challenge the work.

We would urge that further technical assessment is undertaken before the Serco report on vertical forces and the Network Rail work on lateral forces were implemented. If they were implemented and traffic was lost to road and then some of the assumptions were found to be flawed or inaccurate the consequences would be very serious. In our experience, once traffic is lost from rail it takes years before (if ever) it is won back.

Before implementation we would expect an impact assessment at a commodity level to be undertaken by ORR and a subsequent industry consultation. Due to lack of information we are currently unable to assess the impacts at a commodity or wagon specific level.

Even with capped charges the longer term implications of this work will have an immediate impact on the confidence of customers and future investment in rail freight. This is in conflict with the government support of and investment in increasing rail freight.

Yours sincerely

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Freightliner Limited

APPENDIX 2: OTHER QUESTIONS NOT COVERED BY THE MAIN RESPONSE

Q1 *What is your view on the surface damage percentages estimated for each activity in Appendix 1 and our proposal that 78% and 22% track variable usage costs should be attributed to vertical and horizontal rail forces respectively?*

It appears to be a "finger in the air" judgement of the split between vertical and horizontal. This is not sufficient evidence to make what is a considerable change to the current allocation. Freightliner would expect more substantive evidence before any change was made given the financial impact (plus c. £6M) to freight VUC.

Q6*: What is your view on our proposal to retain the existing equivalent structures damage equation for apportioning metallic under bridge variable usage costs but using a modified axle load exponent of 4 rather than 4.83?*

This a judgement formed by Serco based on a literature search of similar formulae and understanding in other foreign rail networks. As such, there is limited knowledge and experience on this issue. The change in exponent purely picks up the mid-point of the ranges in use elsewhere. Given that the majority of freight is likely to benefit from this change, the temptation is to accept the proposal, but this appears to be on reasonably unjustifiable grounds.

Q7*: What is your view on our proposal to use the revised equivalent track damage equation for apportioning embankments, culverts and brick and masonry under bridge variable usage costs?*

Freightliner does not feel that sufficient work in understanding the cause of wear and damage has been done to give a reasonable opinion or judgement on changing this calculation method.

Q8*: What is your view on our proposal to apportion the 50% of signalling variable usage costs estimated to be load related using the equivalent track damage formula and the 50% of signalling variable usage costs estimated not be load related based on vehicle miles?*

Freightliner does not support this allocation as we do not understand how factors such as axle load, unsprung mass and speed effect the wear and tear of signalling assets. We do not think that Network Rail have provided sufficient evidence to justify this. We do not have expertise in this area but it seems to us that the signalling variable usage costs should be allocated wholly on train miles.

Q9*: What is your view on the draft list of vehicle characteristics contained in the spread sheet attached to the covering email accompanying this consultation? Do you consider that any of these should be amended (if so, please provide supporting evidence where possible)?*

We will respond with our detailed comments in the next couple of weeks. We have had so many consultation responses to deal with concurrently we have not had an opportunity to review this data yet.

***Q10**: What is your view on our proposal that for existing vehicles, not subject to vehicle modification, VUC rates should 'locked down' for CP5?*

We do not agree with this proposal, we think that if manifest errors are found in any vehicle characteristics that the rate should be amended appropriately. Not to do this could lead to discrimination between freight operators, which could impact on tenders won or lost. This would not be acceptable to Freightliner. With respect the amounts that would impact here are small and would have no real impact on Network Rail.

***Q11**: What is your view on our revised freight operating speed estimates and the methodology used to derive them? Would you like to provide any further information in relation to freight operating speeds?*

Freightliner has previously supplied data that we note has been taken on board in the revised figures. We will respond with any further comments when we respond on other vehicle characteristics.

***Q13**: What is your view on our proposal to retain a default rate for freight vehicles and introducing a default rate for passenger vehicles in CP5?*

Freightliner agrees in principle that it is sensible to set a default rate for all vehicles.

***Q14**: What is your view on our proposed default rate 'bands' and that the respective rate for each of these bands should be the highest relevant vehicle rate on the CP5 price list?*

Freightliner agrees in principle that it is sensible to set a default rate towards the higher end of the vehicle charges range. However, before this change is implemented Network Rail must issue clear guidelines on what information is required to calculate loco and wagon charges. Freightliner has experienced considerable difficulties in obtaining charges for new wagons and locos during CP4. This is primarily an issue with regard to the provision of a Vampire model. Network Rail are insisting this is provided even though there is no written down requirement for this and from a safety point of view a Vampire model is not required for new wagons and locomotives to enter service. By insisting on a Vampire model Network is importing costs into the industry as the models cost about £40k to create. As models are clearly not available for older wagons and locomotives we do not understand how charges can be calculated for these older models and not for the new ones.

***Q15**: What is your view on our proposal to adjust VUC rates during the control period in light of vehicle modifications?*

Freightliner agrees that rates should be adjusted during the control period if the vehicles are modified. This creates the right incentives to modify vehicles to reduce Network Rail's costs.