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To: **Emily Bulman**
Head of Transport Economics, ORR
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Cc: Freight Train Operators;
Vehicle and bogie manufacturers;
Transport Scotland; and
Department for Transport

16 August 2012

Dear Emily

Calculating suspension factors – Network Rail’s final proposal

1. *Purpose of this letter*

This letter sets out Network Rail’s proposal to use the ‘RFC approach’ to determine the suspension factors¹ to be applied to variable usage charges for all new freight vehicles and for existing vehicles (should operators choose to use this approach within the allowed timescales) from the start of CP5².

2. *Background*

As part of the 2008 Periodic Review, we committed to revisit the suspension band discount table used in CP4³, to make it less descriptive and more quantitative. In November 2010, we consulted on the use of the Ride Force Count (RFC) as a way to allocate freight vehicles to suspension bands, which would use the relevant suspension factor (see Table 1.1 below). There was general agreement on the use of RFC for this purpose.

¹ Suspension factors reflect the discount or premium paid to reflect the ‘track friendliness’ of the suspension type used by that vehicle

² Control Period 5; this is the regulatory period from 1 April 2014 – 31 March 2019.

³ Control Period 4; this is the regulatory period from 1 April 2009 – 31 March 2014.



Table 1.1: Current freight wagon suspension factors

Suspension band	Wagon type description	Suspension factor
1	Four wheel wagon with pedestal type suspension	1.098
2	Four wheel wagon having leaf springs, friction damped	1.058
3	Bogie wagon with three piece bogie	1.018
4	Bogie wagon with enhanced three piece bogie; e.g. 'swing motion' and Parabolic four wheel wagon	0.978
5	Basic bogie wagon with primary swings, e.g. Y25	0.938
6	Bogie wagon with enhanced primary springs – Low Track Force bogies, TF25, 'axle motion' (like HV primary sprung bogies)	0.898
7	Bogie wagon with enhanced primary springs and steering	0.858

In June 2011, we consulted on the use of the RFC approach to allocating vehicles to suspension bands, including the process for calculating the RFC, but some concerns were raised about this process. To address these concerns, we asked our consultants at the Rail Technology Unit at Manchester Metropolitan University⁴ (MMU) to develop a 'revised approach' to make the process easier to use. In March 2012, we consulted on:

- introducing the 'revised approach' to calculate RFC;
- introducing the RFC approach, for new freight vehicles, from the start of CP5;
- not retrospectively⁵ applying the RFC approach for old bogie types;
- resetting all suspension factors to 1.00 from the start of CP6⁶ (1 April 2019), unless they have been assessed using the RFC approach; and
- retaining the current level of discount / premia⁷ associated with different suspension bands.

⁴ The Rail Technology Unit at Manchester Metropolitan University is now known as the Institute of Railway Research which is now based at the University of Huddersfield.

⁵ This means that we do not propose to 'backdate' any Suspension Factors applied prior to the new approach being introduced.

⁶ Control Period 6; we expect this to be the period from 1 April 2019 – 31 March 2024.

⁷ Currently there is a +9.8 to -14.2% spread across the Suspension Factors.



3. *Results of consultation*

We received six responses to our consultation. A summary of the responses received and Network Rail's responses to the issues raised, concerning our consultation questions, are set out in Appendix A. The full responses are available on our website⁸.

In summary, Freightliner had significant concerns about the proposed approach, and considered that much more work needed to be done before the RFC approach could be introduced. Its concerns were around the proposal to retain the current discounts and premia associated with the suspension bands. It also had specific comments on the RFC metric itself. However, we remain of the view that the proposed approach is generally fit for purpose, our specific responses to these concerns are set out in appendix A.

All consultees expressed significant concerns about the proposal to reset all suspension factors to 1.00 in CP6. Many respondents were concerned that this approach could result in perverse incentives for owners of wagons with poor suspension types, who may receive a more favourable suspension factor from the start of CP6, for doing nothing. We understand these concerns, and we have amended our proposal to reflect them, where appropriate. GBf suggested that those suspension types which are not assessed using the RFC approach, should all move to band 1 (i.e. the highest suspension factor of 1.098). We do not support this suggestion as it would not be practicable, or would be prohibitively expensive, to obtain the information required to calculate the RFC for some existing vehicle types, and it would therefore, unfairly penalise the operators of those vehicles.

4. *Industry workshop and subsequent discussion*

In June 2012, we held a workshop to discuss the 'revised approach' and the CP5 proposal in more detail. We were pleased that there was a good level of engagement, and a very useful discussion. While many of the issues discussed were also raised during consultation, some additional points were also made. Our responses to the detailed points discussed at the workshop are also set out in Appendix A.

As a result of one of the suggestions made at the workshop, we are proposing to replace the original seven discrete suspension bands / factors with a 'continuous approach' which would result in suspension factors reflecting any incremental changes in RFC. There was unanimous agreement, at the workshop, for this new 'continuous approach' (this is set out in more detail in Appendix A). We propose that the upper and lower limits of the suspension factors under the 'continuous approach' will remain at 1.098 and 0.858 respectively. This new approach would, in effect, lead to any value within the above discount / premia range being incorporated into the CP5 variable usage cost model, rather than the seven discrete factors under the existing approach. The current suspension banding table will still be valid for existing vehicles' suspension factors which remain allocated on this basis.

⁸ Please see the following link:

<http://www.networkrail.co.uk/browsedirectory.aspx?root=%5Cregulatory%20documents%5Caccess%20charges%20reviews&dir=%5Cregulatory%20documents%5Caccess%20charges%20reviews%5Ccp4%20charges%5CH%20-%20CP4%20suspension%20banding%20review>



ORR was keen that the proposal reflected paragraph 19.41 of its final determination which stated that *“Once Network Rail has developed a new approach that is sufficiently robust, hopefully early in CP4, investors in existing vehicles will be informed of the likely application of the banding to all vehicles in CP5.”*

While we are not proposing that all existing vehicles must recalculate their suspension factors using the new RFC approach, we will be giving operators of existing freight vehicles the option to calculate their suspension factors using the RFC methodology for the start of CP5. Subject to ORR’s approval, our consultants at the University of Huddersfield (formerly based at Manchester Metropolitan University) will develop the RFC software over the next two months, after which time operators will have the option to calculate their suspension factors up until February 2013. This will allow time to reflect any updated suspension factors in the draft CP5 pricelist which is due to be submitted to ORR in March 2013. The next opportunity to recalculate suspension factors for existing vehicles will be for the start of CP6. Any subsequent change to the suspension factor, as a result of using the RFC methodology, will apply from the start of CP5. Unless the suspension factor has been calculated for a specific bogie / wagon combination, the suspension factor will apply to the relevant price on the pricelist, and therefore any operator which operates this vehicle will be charged based on the updated price for that vehicle. Consistent with our original proposal, we will not apply the change retrospectively; i.e. we will not adjust previous charges to reflect the new suspension factor.

In addition, further to discussions at the workshop and with ORR, during CP5, we will undertake further research to link suspension factors to costs associated with levels of track damage. This work will inform any possible implementation in CP6.

5. Our final proposal

A summary of the results of the March 2012 consultation and our final proposal are set out in Table 1.2 below:

Table 1.2 – Summary of results

Proposal consulted on	Consultation response	Final proposal
Introduction of a ‘revised approach’ to calculate RFC	General support from all consultees, apart from Freightliner.	No change (Operators will have the option to use the original approach too i.e. bespoke assessment for that particular bogie / wagon combination)
Introduction of the RFC approach, for new freight vehicles, from the start of CP5	General support from all consultees.	No change (RFC approach will apply only where it is necessary to calculate a new VUC rate)
RFC approach not to be applied retrospectively for old bogie types	General support from all consultees.	No change
Resetting all suspension	Consultees expressed	Existing vehicles to remain in



Table 1.2 – Summary of results

Proposal consulted on	Consultation response	Final proposal
factors to 1.00 from the start of CP6.	their concerns and objected to this approach.	current suspension bands i.e. suspension factors will not be reset.
Retaining the current level of discount / premia associated with the suspension factors	General support from all consultees, apart from Freightliner.	No change (Research will be carried out, to review the relationship between suspension factors and track damage, in the future).
n/a	n/a	To remove the 7 discrete suspension bands, and replace with a 'continuous approach'.
n/a	n/a	To allow designers to tune their bogie designs to generic wagon body parameters.
n/a	n/a	Operators of existing vehicles will have the option to calculate their suspension factor using the RFC methodology for application from the start of CP5, if they wish. The next opportunity to do this will be for the start of CP6.

We will also allow operators/manufacturers to use the more bespoke option to calculate their RFC; this involves using detailed wagon body data, to calculate an RFC for a specific bogie and wagon combination. This requires advance knowledge of the wagon type early in the procurement cycle

We are aware that there may be situations where an operator calculates an RFC under the generic wagon body approach for that bogie, but then opts to use the more bespoke approach if / when further information (i.e. the full wagon body details) becomes available. Should the RFC change from doing this, we will be happy to accommodate this change in suspension factor used for that vehicle price going forward, however we do not propose backdating any charges to reflect this change.

On balance, we consider that our final proposal provides a fairer and more quantitative approach to determining the correct suspension factor for new freight vehicles in CP5, or existing vehicles should operators wish to use this approach, whilst being mindful about the timing of implementation and the difficulties of applying the RFC approach to older vehicles.

This project was 'rolled over' from PR08, and as such we have been working on this project since early 2010. Some stakeholders have expressed their concerns with the ongoing



engagement with the process and are keen to conclude this work as soon as possible. We have addressed the concerns raised in response to our three consultations and workshops on this approach, this has taken longer than we had hoped, however it is important that we get this right. We feel that this proposal is a robust one and we are keen to bring the project to a conclusion soon so as to provide some certainty to the industry. We are satisfied that we have moved from a largely judgement-based approach, to an approach which is relatively straightforward and much more objective. We consider that we have made good progress in a complex area, and this view was strongly supported by stakeholders at our final consultation.

6. *Next steps*

If you would like to discuss this proposal in more detail, please contact Ben Worley (Ben.Worley@networkrail.co.uk) or myself. A copy of this letter will be placed on our website.

Yours sincerely,

Ekta Sareen

Senior Regulatory Economist, Network Rail



Appendix A – detailed responses

Summary of responses to our May 2012 consultation

Following our consultation in March 2012 on the revised approach to allocating freight vehicles to suspension bands, we received six responses. These were from DB Schenker (DBS); Direct Rail Services (DRS); Freightliner; GB Railfreight (GBRf); Private Wagon Federation (PWF); and WH Davis. We also received comments from Colas Rail more recently. Overall, with the exception of Freightliner, the responses were broadly supportive. A summary of the responses to our questions and our view is set out below.

1. Do you agree that the revised approach (to allocating freight vehicles to suspension bands) addresses the issues raised in responses to the June 2011 consultation?

DBS, DRS, PWF and WH Davis agreed that the revised approach addressed the issues raised in responses to the June 2011 consultation. Although DRS said that it had no major objection(s) to the original proposal. DBS stated that it wishes to see the proposed process in further detail to enable it to understand and evaluate the resources required to apply the new methodology. WH Davis said that the revised approach will now enable purchaser, wagon and bogie manufacturers to enter into contract.

Freightliner suggested that further work needs to be undertaken in relation to quantifying the suspension bands and the accuracy of cost impacts to Network Rail relative to the measured vertical forces of the bogies.

On the basis of these responses, with the exception of Freightliner, we are satisfied that the revised approach addresses the majority of the issues raised in responses to the June 2011 consultation. We respond to Freightliners point below.

2. Do you consider the revised approach to be generally fit for purpose?

Colas Rail, DBS, DRS, PWF and WH Davis considered that the revised approach is generally fit for purpose. DRS suggested leaving the original vehicle RFC method available to operators / wagon builders / bogie manufacturers who wish to tune their wagon bodies and bogies to achieve the lowest RFC.

Freightliner did not support the overall proposal made by Network Rail because it believes that further work is needed to quantify the impacts on the cost of track damage of different bogie types.

On the basis of these responses, with the exception of Freightliner, we are satisfied that the revised approach is generally fit for purpose. We respond to Freightliner's points later in this Annex. We agree with DRS, that it would be helpful to also offer the original approach, in our letter, we explain that we would accept bespoke applications to provide more specific information to a calculate a more accurate RFC value using the original approach proposed in June 2011.



3. Do you have any comments to make on Manchester Metropolitan University's (MMU) report?

DBS, DRS, PWF and WH Davis had no comments to make on MMU's report.

GBRf questioned the use of vertical input only, we respond to this point later in this Annex.

Freightliner raised some detailed questions, comments and suggestions about the RFC methodology, a summary of the issues and our responses are set out below:

- Freightliner requested that Network Rail confirm that the intention of the proposal was that each new bogie type is modelled using a range of generic body types and then the results are used to calculate an average Ride Force Count (RFC) from which a suspension factor is derived. This suspension factor is then applied to all wagons with that bogie type, whether they are an existing design or not, unless an operator or wagon manufacturer chooses to model a particular wagon combination.

We can confirm that our intention is that this approach will apply to new freight vehicle types introduced on or after 1 April 2014 (the start of CP5), or existing vehicles should operators wish to use the new RFC methodology. We define a new vehicle type as one for which it is necessary to calculate a new variable usage charge rate. If a vehicle type is already on the CP5 variable usage charge price list and, therefore, has already been allocated a suspension factor, we envisage that the published rate would continue to apply to that vehicle, unless operators wish to use the new RFC methodology.

- Freightliner suggested that bogie models should not be applied to generic wagon types but should be separately modelled under a generic intermodal wagon and a generic bulk wagon, using the average weight and speed of those generic wagon types rather than the maximum weight and speed.

Following careful consideration of consultation responses received in June 2011, the revised approach sought to adopt a more pragmatic approach to implementing the RFC methodology. The original approach, which calculated the suspension factor for a specific wagon and suspension type combination, will also be available to those who choose to use it. This will require more information from wagon / bogie manufacturers and / or freight operators, and the suspension factor will be set for that specific combination only.

- Freightliner suggested that the average track type used in the model should be calculated separately for intermodal and bulk wagons. Whilst even this would still be very simplistic it would recognise that intermodal wagons primarily use major trunk routes of presumably higher quality than the average route whilst bulk services use a broad mix of routes. It considered that the "one type fits all" approach suggested by Network Rail does not reflect these fundamental differences and will not encourage the design of the most efficient bogie for 2 fundamentally different traffic types.

In calculating the RFC metric, we suggested the use of average track types for all wagons to reduce complexity whilst still broadly reflecting the 'average' freight route. We continue to



consider that our proposed approach is appropriate and that the cost of reflecting different track types for different freight commodities is likely to incur undue additional costs that could outweigh the benefits for the industry as a whole.

- Freightliner did not understand why having measured the RFC by use of a model that any adjustment factor in charges did not directly relate to the RFC but was then forced into suspension bands. Why not directly relate the impacts to the ride force count i.e. each digit reduction has a small impact? This would reduce arguments with bogie manufacturers who may be close to the margins of a particular suspension banding.

This point was discussed at the June 2012 industry workshop. Some stakeholders queried why we were considering continuing to use the existing suspension bands. An alternative 'continuous approach' was discussed, under this approach there would be a continuous relationship between RFC and the suspension factors. Such an approach should, it was argued, more accurately allocate costs between vehicles and avoid vehicles narrowly missing out on qualifying for a more favourable band.

The original remit from ORR was to revisit the banding table itself, and for this reason, we had proposed retaining the original suspension banding table and associated suspension factors.

However, at the June 2012 workshop there was unanimous agreement that we should remove the existing seven discrete suspension bands. Because of this welcome industry unanimity, we are now pleased to propose removing the existing seven suspension bands and replacing them with suspension factors under a 'continuous approach'. This would mean that when the RFC is calculated it will provide a specific suspension factor for that level of RFC, thereby ensuring that even small changes in RFC value are reflected in the final suspension factor. The upper and lower limits of the suspension factors will remain at 1.098 and 0.858 respectively, as will the upper and lower limits of each band. Therefore there will be a continuous relationship between the suspension factor and RFC within each band. The current suspension banding table will be retained for reference purposes, and to aid understanding relative to the 'old' system.

- Freightliner suggested that an industry meeting with operators and bogie manufacturers was set up by Network Rail to discuss how much the bogie manufacturers envisage the proposal costing as it will inevitably be the freight operators or freight customers who will end up paying for these costs.

We regret that Freightliner was not able to attend the previous workshop held in June 2011, we arranged another industry workshop, that took place on 18 June 2012.

4. Do you agree with our proposal to introduce the revised approach (to allocating freight vehicles to suspension bands) from the beginning of CP5?

Colas Rail, DBS, DRS, Freightliner and PWF supported this proposal. DRS said that it should apply to new or substantially modified vehicles only.



On the basis of these responses, we are satisfied that it is appropriate for the new approach to be introduced from the beginning of CP5.

5. Do you agree that the revised approach (to allocating freight vehicles to suspension bands) should not be applied retrospectively for old bogie types in CP4 and CP5?

DBS, DRS, Freightliner and PWF agreed with this proposal.

On the basis of these responses, we are satisfied that it is not appropriate to automatically retrospectively apply the revised approach to old bogie types in CP4 and CP5.

6. Do you agree that it is reasonable to reset all suspension factors to 1.00 from the beginning of CP6?

DBS had a number of concerns regarding this proposal. It is opposed to unilateral and general changes to suspension bands which are not based on engineering logic and fact. DBS suggested that interested parties should work together to identify those existing vehicles that can be easily assessed using the new methodology (i.e. the input information required is readily available) and that these vehicles should be taken through the process before CP6. Any existing (mainly older) vehicles remaining which do not have the necessary information available (e.g. original design drawings, validated bogie or vehicle model) should remain in their existing bands. DRS also disagreed with this proposal as they see it being costly and time consuming to create dynamic models of all freight bogies currently operating on the UK rail network to allow bogies / vehicles to be banded according to suspension performance. This should only be considered if the process can demonstrate a cost / benefit. GBRf also disagreed with this proposal. It said that re-setting the suspension factors to 1.0, at the beginning of CP6, would be counterproductive regarding the overall objective of incentivising the introduction of new, more track friendly suspension technology. It recommended that suspension bands should be set to band 1 (suspension factor of 1.098) at the start of CP6 if they have not been analysed using the RFC method. Freightliner also disagreed with this proposal, as it considered that it would result in the wrong incentives for owners of wagons with poor suspension. It suggested we allow existing wagons to continue using their existing suspension factors. PWF understood the logic for this proposal, but considered it to be unreasonable to do this for known 'track friendly' suspensions. Colas Rail also disagreed with this suggestion, as they felt operators would have lost the benefit of previous investments in the purchase and maintenance of existing track friendly bogies, whilst giving the wrong incentives to owners of wagons with poor suspensions.

Following careful consideration of these responses, we will withdraw this from our proposal. We understand consultees' concerns, and agree that this may cause perverse incentives. We can confirm that we will not propose resetting suspension factors in CP6. However, operators of existing vehicles will have the option to calculate their suspension factor using the RFC methodology for application from the start of CP5, if they wish. The next opportunity to do this will be for the start of CP6.



7. Do you agree that it is reasonable to retain the current spread between the highest and lowest suspension factors of +9.8% and -14.2% respectively?

DBS, DRS and PWF agreed that current spread of suspension factors was reasonable. Colas Rail and DRS said that NR should carry out further work to demonstrate a link between RFC and track damage to allow the spread of suspension factors to truly reflect the track friendliness / unfriendliness of different vehicle / bogie types. Freightliner had some substantial concerns about retaining these suspension factors. It urged Network Rail to undertake further work to understand the real costs of track damage associated with a vehicle's ride force count.

Although we did not consider this to be part of the remit for this piece of work (which was to replace the existing qualitative approach to allocating vehicles to suspension bands with a quantitative approach, within the existing range of discount factors), we did ask MMU to briefly look at this area. It looked at the extent to which the Vehicle Track Interaction Strategic Model (VTISM) was able to quantify the relative track damage associated with different suspension types. Unfortunately, it found that VTISM was not sufficiently developed in this respect to robustly quantify this. MMU's analysis of this issue was presented to, and discussed with the Vehicle / Track Systems Interface Committee (V/T SIC).

We will carry out work during CP5 to further validate the mapping of suspension factors to the level of discount for application in CP6. The early work carried out by MMU illustrated that there was no 'ready-made' model available to improve the relationship between suspension factors and track damage. To develop a new model would require a significant level of effort, and may include undertaking ride testing of vehicles, which one might consider disproportionately time-consuming, and complex. Because of time constraints in the lead up to PR13, it would not be feasible to do this for implementation from the start of CP5. Furthermore, it is not yet clear whether this process would represent an undue cost for a relatively small part of the variable usage charging model. Therefore, the scope of further work in this area would have to be carefully considered in order to ensure that it was proportionate and does not impose undue costs on the industry.

We are keen to conclude the methodology for allocating suspension factors to freight vehicles, and therefore we would like develop the RFC software as soon as possible. We are therefore proposing, notwithstanding the proposal above for further work, that we will retain the current spread between the highest and lowest suspension factors for CP5.

Lateral damage

Freightliner stated that the report did not consider the impacts of lateral forces and did not attempt to quantify any affect on track wear they may have, even though this was part of the remit from the ORR. Similarly, GBRf stated that limiting the RFC method only to vertical forces, does not permit those suspension types which can demonstrate good lateral behaviour from obtaining additional benefit.

In the current variable usage charging (VUC) model, the suspension factor only contributes to the apportionment of vertical damage costs. Lateral damage costs are apportioned



separately in the model using a discrete methodology. Therefore in its present form it would be inappropriate for the suspension factors to reflect lateral damage costs in the VUC model. The methodology for apportioning lateral damage costs will be reviewed as part of the workstream to develop variable usage charges for CP5.

Communication with stakeholders

Freightliner did not think that the consultation made the proposal very clear and it believed it would be helpful to have a further industry workshop with manufacturers so that all parties are clear what role they are expected to play. DBS noted that further work is required before the revised approach could be fully implemented and would wish to be kept advised of this further work as it progresses.

We note DBS's points, and we can confirm that we aim to keep all industry members informed of progress at each stage of the project. We understand Freightliner's concerns, and regret that Freightliner was not able to attend the previous workshop held in June 2011, which was organised to present the proposal and take specific questions. We understand that this is very complex area, and therefore we arranged another workshop to discuss our proposal ahead of submission, this took place on 18 June 2012.

Additional costs of proposal

Freightliner was unhappy that the proposal will result in additional cost being imposed on the rail freight industry either directly or via wagon manufacturers.

It is our understanding that wagon manufacturers in general already have access to the dynamic bogie models required for this approach, as these are created for other purposes during wagon development and acceptance procedures. The proposals do not therefore require a large amount of additional modelling work other than combining the existing bogie model to the generic body types supplied for the assessment. The suspension factor itself will be established by entering data into a standalone computer program which we will provide free of charge. This assessment will be based on the output from the modelling work described in the RFC process, however given that this can be done once for each bogie (not bogie and wagon combination) we consider that the cost, spread over the life of the asset, would be minimal. WH Davis confirmed in its response to the March 2012 consultation that the revised approach will enable purchaser, wagon and bogie manufacturers to enter into contract, as the suspension band can be pre-determined.

Cost recovery

Freightliner stated it must be recognised that changing a suspension banding on a wagon only moves that wagon up or down the table of charges relative to other wagons. Freightliner mentioned that assuming the same methodology will be used in CP5 as CP4; the calculation of costs of certain wagon types is merely a relative allocation between wagons. The overall costs recovered by Network Rail would remain the same if all wagons have band 1 suspension or all wagons have band 7 suspensions. Therefore as it stands the proposal made by Network Rail adds costs to the rail freight industry without any overall cost savings



to the industry. It states that this is quite a fundamental point with regard to whether Network Rail's proposal offers overall industry value for money. Freightliner would be interested to understand whether there are any proposed changes to the model methodology proposed by Network Rail for CP5.

Freightliner correctly identify that the variable usage charging model is a cost allocation model. As such, total variable usage costs are identified through a combination of 'bottom up' and 'top down' analysis and these costs are then attributed to vehicles based on the relative 'track friendliness' of the different vehicle types. Although the total costs to be recovered would not be affected by the suspension band each vehicle is allocated to, we consider that it is important that variable usage charges reflect the relative 'track friendliness' of different vehicles types and send price signals that incentivise the development of 'track friendly' rolling stock. This approach should result in real cost savings 'on the ground' and an equitable distribution of variable usage costs between different vehicle types. We would aim to reflect these cost savings in future charges reviews.

Responsibilities

Freightliner stated it was unclear from the consultation who Network Rail expects to run the software and whether the software will be provided free of cost, how much training is needed and how it will be funded.

At present, depending on whether ORR's accepts our proposal. We will develop the software, and will provide support to users free of charge. We envisage that bogie manufacturers would run the software to form part of their business case when marketing their bogies to operators. However, consistent with the current approach to calculating new variable usage charge rates, the onus would be on the operator to work with its supplier to provide the necessary information to Network Rail.

New or substantially modified vehicles

In our earlier consultation, in June 2011, we discussed the definition of new or substantially modified vehicles. As noted above, we would like to confirm that wherever it is necessary to calculate a new variable usage charge rate for a vehicle the new RFC approach, to determine the suspension band, shall apply.

Tuning bogies to generic wagon parameters

At the June 2012 industry workshop, the option to allow bogie designers to tune their base bogie designs to the generic wagon body parameters, used for the RFC assessment, was debated. As a result, it was agreed that in step five⁹ of the revised RFC calculation process, bogie designers will be given the option to tune their bogies to each of the generic wagon body parameters. This will be limited to the choice of standard spring set and packings for that bogie family (e.g. Y25 derivatives). Changes made must be documented in the final RFC

⁹ The proposed steps to achieve a bogie based RFC assessment are set out in paragraph 3.3.3 of the supporting report by MMU – *Feasibility of an Alternative Application of the RFC Freight Banding Method*



submission. Tuning in this way will be optional and does not affect the rest of the process in the 'revised approach', and will still provide a single suspension factor for that bogie at the end of the process. Comprehensive guidance notes will be provided if the RFC method is adopted.

