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Dear Dan and Shivani

ORR determination - proposal to supplement the track usage price list: Class 357/3 vehicles

Introduction

1. We have today made a determination regarding a proposal, submitted on 9 December 2016, by Trenitalia c2c limited (c2c) to supplement the track usage price list under paragraph 9 of Part 2 of Schedule 7 to its track access contract with Network Rail. c2c requested a determination from ORR after failing to reach agreement with Network Rail regarding the appropriate basis for calculating the new rate. As set out in paragraph 9.3, no supplement to the track usage price list shall have effect unless it has been:(a) agreed between the parties and ORR has consented to it; or(b) determined by ORR.
2. The purpose of c2c's proposal was to amend the Passenger Variable Usage Charge (VUC) Rates section of the track usage price list to include a new rate for modified Class 357/3 Motor and Trailer vehicle types. The modification of these vehicles, reducing the number of seats in order to allow more passenger standing room, was completed in February 2016.

Background

3. c2c, as part of its franchise obligations, has modified the seating configuration of 17 (20%) of its fleet of Class 357 vehicles, resulting in a reduced seating capacity and, consequently, a reduced vehicle weight. This modification provided space for 150 – 160 additional passengers per train. c2c said during its exchanges with Network Rail that the modified Class 357/3 units would have lower operational speed than the 357/1 and 357/2

units due to the different routes on which they operated. The maximum operating speed of the 357/3 units has not been physically modified or restricted.

4. The current VUC rate for the Class 357 is 6.43 p/vm (motor vehicles) 6.34p/vm (trailer vehicles), based on a higher tare weight and the units' maximum operating speed of 100 mph. c2c is the only operator that uses this vehicle class.

The process for calculating a new VUC rate during Control Period 5 (CP5)

5. As part of the 2013 Periodic Review (PR13) the VUC was recalibrated for CP5 to take account of new vehicle information and Network Rail's latest understanding of the drivers of wear and tear on the network. The CP5 VUC rates were determined following significant industry consultation, which would have included c2c.

6. ORR's final determination¹, published on 19 October 2013, set out our overall package of decisions for PR13, including the access charges (such as the VUC) Network Rail could levy on train operators.

7. Network Rail's VUC Guidance, published in April 2013, as part of PR13, sets out the process for calculating and approving a new VUC rate. There was a minor revision to this guidance in May 2016. The only way a new VUC rate can be calculated is:

- *"Where a vehicle type due to begin operation on the network is not on the CP5 Track Usage Price List;*
- *Where a vehicle type is already operating on the network but is not on the CP5 Track Usage Price List;*
- *Where a vehicle type has been modified following the publication of the CP5 Track Usage Price List on 20 December 2013 and as a result the vehicle characteristics have changed"*²

8. In order to calculate VUC rates for vehicle types not initially on the CP5 price list Network Rail developed a CP5 VUC calculator - a spreadsheet tool which, when input with the relevant vehicle characteristic information, will calculate a new VUC rate using the same engineering methodology that underpins the published price list. This rate can then be submitted to ORR for approval. As set out above, an operator and Network Rail can propose a new rate if a unit has been modified.

¹ [Final determination of Network Rail's outputs and funding for 2014-19](#)

² [CP5 VUC guidance document \(page 4\)](#)

9. Three vehicle characteristics are relevant to c2c's proposal:

- Vehicle weight – This should be the tare weight of the vehicle, in tonnes, in serviceable condition (i.e. the weight of the vehicle with no passengers).
- Total number of seats – the total number of seats in the vehicle should be entered into the calculator, which will calculate the weight of the vehicle with 50% of seats full, assuming 75kg per passenger. This weight will then be added to the tare weight to determine the total vehicle weight.
- User calculated operating speed- if an operator considers that the standard formula used to estimate a vehicle's operating speed, based on its maximum speed, gives rise to a result that is not a reasonable estimate of the vehicle's true operational speed it has the option to calculate an operating speed based on the published timetable.

c2c's calculation of a new VUC rate

10. When c2c calculated the new VUC rate, in addition to inputting the updated tare weight and number of seats into Network Rail's VUC calculator, c2c also entered a user defined operating speed, which was lower than that used in the original calculation for Class 357. This resulted in an updated VUC for the motor vehicle of 5.53p/vm and 5.34p/vm for the trailer vehicle. c2c submitted a proposal to supplement the track usage price list for this new rate to Network Rail on 3 October 2016.

11. After discussion, the two parties were not able reach agreement on the method for calculating the new rate for the modified units. Network Rail said that c2c should only be able to update the characteristics that had changed as a result of the vehicle modification (i.e. the number of seats and the tare weight) and not the speed.

12. c2c referred its proposal to ORR on 9 December 2016, confirming that it had failed to reach agreement with Network Rail and was referring it to us for a determination. c2c provided details of exchanges with Network Rail which included the technical document it had submitted, explaining the change in seating configuration, the subsequent change in weight and the method for recalculating the user defined operating speed.

13. The information c2c provided included its responses to Network Rail's concerns about the way it had calculated the new VUC rate. In summary, its position was:

- Network Rail had not challenged any of the calculations or data they had submitted;
- c2c had amended the characteristics referred to in the VUC guidance and none of them are referred to as limited based on initial CP5 values;
- The modified units would operate on lower speed "Metro" routes and, therefore, the lower operational speed was a relevant characteristic to be updated.

ORR's review

14. Para 9.9 of Part 2 of Schedule 7 to c2c's track access contract says that following a reference to ORR for a determination, "the parties shall... furnish ORR with such information and evidence as ORR shall reasonably require to determine the matter".

15. We were content with the information and evidence supplied by c2c. On 21 December 2016, we asked Network Rail for its comments on c2c's request for a determination. In its reply, Network Rail said that "*we consider that the revised rate should only reflect the characteristic that has changed as a result of the vehicle modification that c2c have carried out (i.e. the reduced vehicle weight from the new seating lay out), rather than other characteristics that were not affected by the modification (e.g. speed).*" Network Rail also quoted the parts of the VUC guidance and ORR's final determination which it felt supported their position.

16. Network Rail also said that, "*The vehicle characteristics underpinning VUC rates were consulted on extensively as part of PR13 and c2c did not comment on the speed assumption at the time. We made clear as part of this consultation process that our intention was not to re-open these characteristics following the extensive industry consultation...*".

17. ORR considers that the principles behind the VUC and the process for calculating a new rate are clear. The rates were set for existing vehicles at the start of CP5 after discussions between Network Rail and train operating companies about the details for each characteristic (e.g. weight, speed etc.) that would be used to calculate the rate. The rates would then be "locked down" for the rest of CP5. The only way, therefore, that a VUC rate already on the price list can be changed is as a result of a modification.

18. The disagreement between the parties in this case is over which characteristics are allowed to be changed or updated as a result of a modification. Network Rail's view is that only the characteristics that have been modified (i.e. the tare weight and number of seats) can be input into the VUC calculator to calculate a new rate. c2c's view is that, as the modified vehicles will only run on routes with a lower operating speed than the unmodified vehicles, the speed should be updated as well.

19. In our final determination (para 16.151)³ we said, "*Network Rail has concluded that, where a vehicle is modified mid-control period, an adjusted VUC rate should be calculated and applied to that vehicle, **reflecting its changed characteristics...***" (my emphasis).

20. The VUC guidance (para 1.11, second bullet point) also says "*To determine the VUC for an existing vehicle which has been modified it is possible to select the existing vehicle*

³ [Final determination of Network Rail's outputs and funding for 2014-19 \(Overall Incentives\)](#)

*from this list and then update the appropriate parameters that have changed **as a result of the modification.***” (my emphasis).

21. This sets out a general principle that, when recalculating a new VUC rate for a modified vehicle, the only revised characteristics that should be input into the VUC calculator are those that have changed as a direct result of the modification in this case, the seats and weight. It follows that any other characteristics, which have not been changed as a direct result of the modification, should remain as they are.

22. ORR therefore determines that c2c’s proposal to supplement the track usage price list should not be approved. C2c should submit a new proposal to Network Rail based on changed seat and tare weight characteristics only.

23. Network Rail should consider if the wording of its VUC guidance could be improved to make the process for calculating a new VUC rate arising from a modification clearer.

Other issues

The creation of sub-classes for modified vehicles

24. During our consideration of this proposal, we noted that the VUC guidance lacked clarity regarding the creation of a sub-class for modified vehicles. Although ORR had consented to a proposal in 2015 by West Coast Trains to supplement the track usage price list as a result of the creation of a new modified sub-class, this related to a significant external alteration. The c2c proposal is the first one that has involved the creation of a sub-class for a change to a vehicle interior.

25. On Page 11 of the VUC guidance, in the section relating to vehicle weight, it says, *“Where multiple variants of a vehicle type exist, and will be subject to the same new VUC rate, a weighted average of the vehicle weight should be calculated based on a typical train set formation.”* This could be interpreted as suggesting that a modification should result in a revised average vehicle weight being calculated, rather than creating a new sub-class.

26. However, our final determination (para 16.151) says, “Where vehicles are modified, the application of a new VUC rate should be carried out using the process in the track access contract to supplement the price list with a new rate for that train operator (**with the vehicle re-designated as a new sub-class**).” (my emphasis) This is clear. We would like Network Rail to consider if its VUC guidance could be made clearer regarding this issue and, also, what approach should to be taken in CP6.

Seats and vehicle weight

27. The reason c2c modified its vehicles was to create more room for standing passengers by removing seats. The method set out in the VUC guidance calculates the “weight” of passengers by multiplying the number of seats by 50% as a proxy. As a result of this modification, the calculation will assume fewer passengers, when in fact there will

be significantly more. This seems to us to be an anomaly and we would like Network Rail to consider if this is the case and, if so, what approach should to be taken in CP6.

Yours sincerely

A handwritten signature in black ink, appearing to be 'Jonathan Rodgers', is positioned below the text 'Yours sincerely'. The signature is fluid and cursive, starting with a large loop and ending with a long horizontal stroke.

Jonathan Rodgers