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By email only

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Network Rail Infrastructure
Limited By email only

27 May 2022

Dear

Application for directions: proposed track access contract between Network Rail Infrastructure Limited and Grand Union Trains Limited

This letter provides the representations of Network Rail regarding the application for directions for a proposed track access contract between Network Rail Infrastructure Limited (we) and Grand Union Trains Limited (Grand Union). In this application, Grand Union proposed to run four trains per day in each direction between London Euston and Stirling from December 2022 to December 2032.

Unfortunately, we are not able to support this application on this occasion due to our performance concern on the West Coast Mainline (WCML) South and the current power supply constraints in the North West & Central region (NW&C) at Acton Lane in London. Additionally, work is ongoing in the Scotland's Railway region to understand power supply constraints at Gowkthrapple in Wishaw.

Introduction

The WCML runs between London Euston and the Scottish border and is the busiest mixed-use railway in Europe. It supports major British cities outside of London and it is central to the business of many UK and international passenger and freight operators.

The southern section of the WCML plays a crucial role in providing commuter rail services into London, whilst the North West section provides vital connections between major cities and towns such as Manchester, Liverpool, Preston and further beyond. Over the coming years, HS2 works at Euston and in other places will be a major factor on the WCML.

In early 2020, our analysis demonstrated that there was no available capacity on the WCML fast lines without impacting performance and reducing the resilience of our timetable. In May 2020, we declared

the WCML fast lines between Camden Junction and Ledburn Junction as Congested Infrastructure.

Following the declaration of Congested Infrastructure, we set up an Industry Planning Group (IPG) to explore whether a timetable recast would have the potential to deliver further capacity and/or improved performance and also an Event Steering Group (ESG) to rewrite the December 2022 WCML timetable.

We have worked with Grand Union within the IPG and ESG frameworks to identify capacity for potential paths and evaluate their performance impact across the WCML. The current Grand Union application, for four return services, includes the same number of train slots requested in previous submissions.

We completed a comprehensive range of analyses (attached to this letter) to evaluate this application and support our decision, including:

- Grand Union Trains Euston Stirling Autumn 2021 Path Analysis
- Grand Union Class 93 Analysis
- Simulation Modelling for Dec 22 WCML ESG, Performance Subgroup of Dec 22 WCML ESG
- Simulation Modelling for Dec 22 WCML Timetable Re-write – Carlisle to Stirling
- Bushey PSU Neutral Section – Traction Power Modelling Report
- Rolling Programme of Decarbonisation – Scotland, West & South 2022 Memorandum

The Application

Grand Union submitted an amended Section 17 track access application for four services between London Euston and Stirling. The initial services would commence on the Principal Change Date 2022 (December) and would expire on the Principal Change Date 2032 (December).

The application seeks to secure quantum rights (table 2.1 PART A and PART B of Schedule 5) as described in the draft Track Access Contract (TAC) and which appears to be based on the Passenger (Non-Franchise) Model TAC.

Proposed Track Access Contract

Form of Contract

The draft contract is based on the Passenger (Non-Franchise) Model TAC, with Open Access modifications.

Model Contract

The application is based on the Passenger (Non-Franchise) Model TAC.

Investment Conditions

We note the draft TAC proposed by Grand Union does not include any investment conditions, which we might expect to accompany an Open Access application seeking rights for a longer duration than five years. We would be interested in understanding the specific investments being proposed by Grand Union, as there are no references to the investment conditions in the draft TAC. However, it is important to consider that the Form P submitted by Grand Union references investments at Larbert, Greenfaulds,

Whifflet and Lockerbie to upgrade the stations and local facilities.

The Specified Equipment

In the amended Form P, Grand Union stated they intend to operate a Class 93 locomotive, 9 Mark 4 coaches and a Driving Van Trailer. Should this application be progressed, we understand that Grand Union might use a Class 90 locomotive until they will be able to confirm receipt of the Class 93 locomotives. Our *Grand Union Class 93* analysis established that a Class 93 locomotive will keep pace with Class 90 timings, but a Class 90 will not with timings specifically calculated for Class 93s. Our analysis was also based on seven Mark 4 coaches and one Driving Van Trailer, therefore a longer train formation would need further work as it could not fit in platform 10 at Stirling. We would require Grand Union to engage with us on commissioning works to deliver the required capability and to undertake the Route Clearance processes.

Timetable Capacity & Performance

Capacity

We are proposing to implement a December 2022 quantum limit of 13 fast line London Euston departures per hour. This will facilitate a phased reintroduction of existing and new services that reflects the performance and power supply issues on the network, including constrained platform capacity at London Euston. A Restriction of Use will apply to Platform 15 at London Euston from December 2023 and it is expected that this will be reintroduced back into service in May 2024; platform 16 will come out use in May 2023 and reintroduced in May 2025. Therefore, London Euston station will operate as a 15-platform station from May 2023 to May 2025, with a reduction to 14 platforms from December 2023 to May 2024.

One of the 13 trains per hour must be diesel in the Acton Lane feeder area, until the Bushey Power Supply Upgrade is delivered (expected in spring 2024). This quantum limit is anticipated to bring the following benefits:

- Improved performance in accordance with our modelling
- Headroom to account for days of severe disruption, which impact our overall performance metrics
- Traction power system resilience at Acton Lane

The December 2022 timetable is designed to be scalable, so that whilst paths have been identified, some services could potentially be introduced at a later date if necessary. The selection of services to include and/or exclude from the timetable will follow the Network Code and the standard timetable production processes. We intend to review our position regularly with the delivery of the Bushey Power Supply Upgrade and the return of platform 16 at London Euston.

Performance

Our network performance levels in NW&C have been on a downward trend since 2014. We reached a low point in December 2019, where our existing train operators suffered significantly to deliver high levels of consistent performance on the WCML South. We accept that our performance levels in December 2019 were inadequate. In fact, performance is still poor and a phased reintroduction of services will give the best chance of reversing the performance trend and allow operators to improve performance for passengers.

There is a predicted incremental improvement in network performance for December 2022 when compared to the December 2019 timetable, with our Concept Train Plan overall *On Time* (T-1) figures increasing by 5.3% at all stations, despite additional services operating and fewer available platforms at London Euston in December 2022 (Table 1). This is a significant achievement for the industry and reflects the strong focus on performance embedded in the timetable development process.

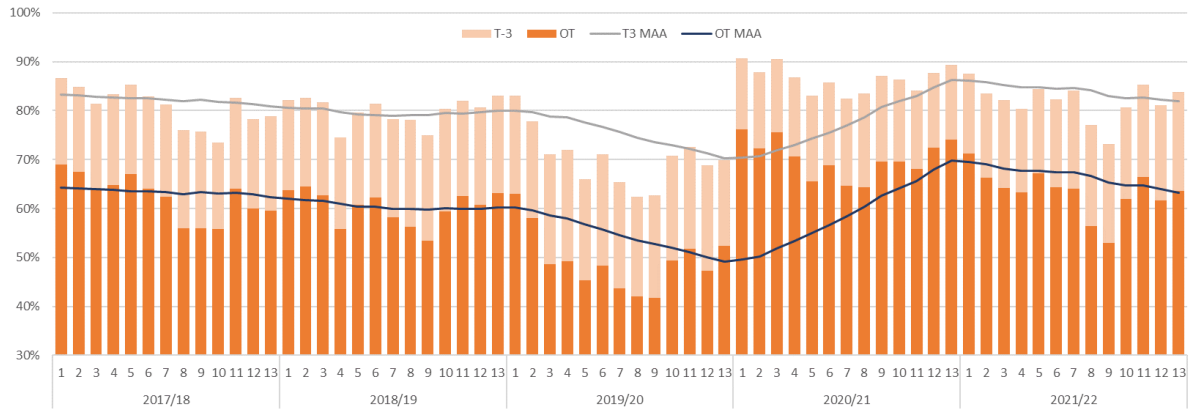
The NW&C regional *On Time* target for 2022/23 is 70%. The overall performance analysis for December 2022 suggests an *On Time* figure of 81.3% with all services operating. However, it is important to note the modelling only models performance on a 'good day' and does not include days of significant disruption, which impact our overall performance metrics. Further analysis shows that nearly half of the days in 20/21 cannot be deemed as 'above average'. There are also some specific challenges with the WCML South in the Up direction, for which the analysis suggests an *On Time* figure of 67.6%.

Metric	Operator	Dec-19		Dec-22 Difference to Dec 19			
				Full Timetable		Without Additional Identified Flows	
		T-1	T-3	T-1	T-3	T-1	T-3
All Stations	Overall	76.0%	91.1%	5.3%	1.2%	7.7%	2.4%
	Avanti West Coast	66.2%	84.7%	3.6%	0.5%	11.6%	5.6%
	West Midlands Trains	75.2%	92.3%	9.5%	2.1%	10.6%	2.7%
	Cross Country	66.2%	88.1%	10.3%	2.3%	13.7%	2.3%
Up Euston Arrival	Overall	67.2%	85.9%	0.4%	0.5%	8.9%	3.6%
	Avanti West Coast	66.8%	81.6%	-5.2%	-0.1%	6.3%	3.6%
	West Midlands Trains	68.9%	90.1%	6.0%	-1.7%	8.9%	0.3%
	Arriva Rail London	66.7%	88.6%	14.4%	4.1%	14.6%	4.1%

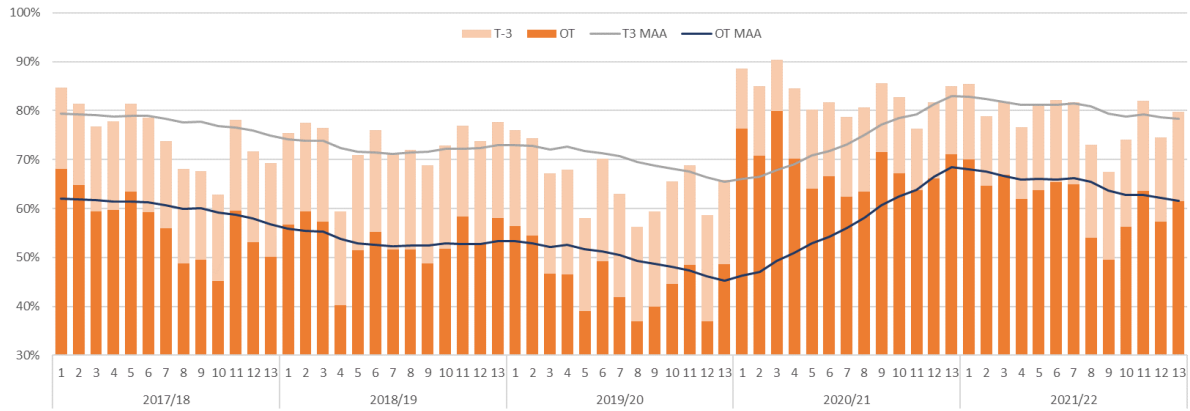
Table 1 – Punctuality Impacts on December 2022 Timetable Options

As a sensitivity test, the analysis was also conducted without the Grand Union services and the Avanti second train per hour to Liverpool. This led to a modelled *On Time* figure of 76.1% between Rugby and London Euston. The analysis shows that this could deliver an overall *On Time* (T-1) performance of around 83% and 75% between Euston and Rugby. Factoring in that our modelling does not take into account significant disruptions, the actual performance is likely to be far lower due to the large number of incidents and events that take place on the network on a daily basis.

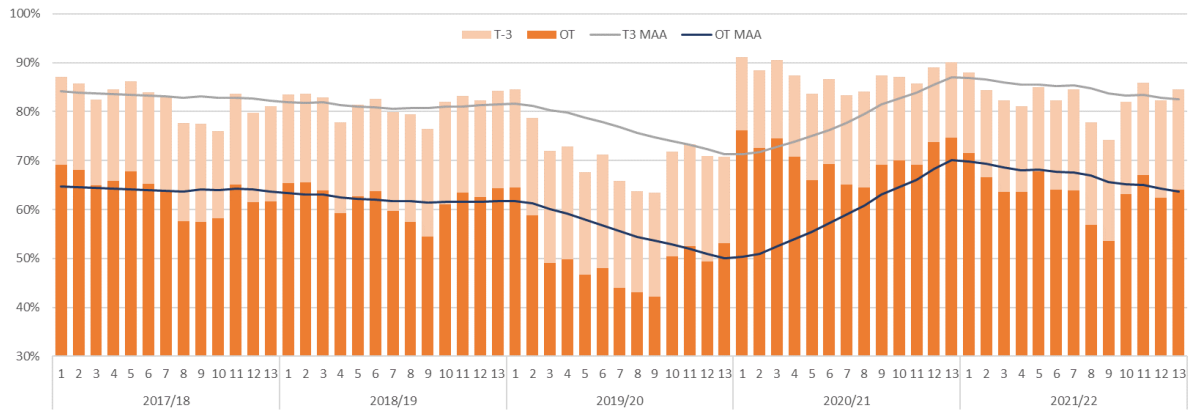
Below are three graphs that show performance across the WCML South for Avanti West Coast (AWC) and West Midlands Trains (WMT):



Graph 1 - WCML South Performance for Avanti West Coast and West Midlands Trains



Graph 2 - WCML South Performance for Avanti West Coast



Graph 3 - WCML South Performance for West Midlands Trains

The graphs show that the *On Time* and Time-3 for both operators on the WCML South were on the decline prior to December 2019 timetable implementation. This was exacerbated by the timetable change in 2019, where both struggled significantly to deliver high levels of consistent performance.

Period 1 in 2020/21 was the first full period of the COVID-19 lockdown where we noted a significant improvement for both *On Time* and Time-3 for AWC and WMT. This was due to minimal passengers on the network and the reduction in quantum of train services. The reduction in quantum and the slow recovery in passenger numbers has seen the high performance being maintained since then, albeit with a slight decrease but not back to the poor performance of 2019/20. This is to be expected, as passengers return and the quantum of trains increase. The moving annual average has also seen a significant climb and is currently maintaining our position from 2017/18.

Most services within the WCML South originate or terminate at London Euston. This makes London Euston the key location during times of perturbation for managing service recovery through the cancellation of services. As a terminus location, platform capacity is vital when managing perturbation as services must depart before arriving services can terminate. Moreover, not having the flexibility to move stock in either direction reduces the ability to free up capacity, resulting in the station becoming congested quickly. Reducing the number of services in the base timetable increases the ability to recover the service offering to passengers faster, as there is more capacity operationally to absorb perturbation.

Unfortunately, performance on the WCML remains poor with many significant disruptions impacting our network. Based on performance, 45% of the days on the WCML were 'below average' in 2021/2022. This figure is obtained from a sample that combines all the AWC service groups and the London-Northampton and Trent Valley WMT service groups, to look at performance for each day in 2021/22 for *On Time*.

It is vital for us to balance performance with the expected rise in passenger demand. It is also important that an emphasis remains on performance improvement to ensure we get the best economic use of the railway and give passengers and users the best value for money.

With the introduction of a new timetable structure, it often takes a period of time for the actual performance figures to level. Therefore, we intend to have a phased incremental reintroduction of services to build back better. Performance is of critical importance and has been emphasised through DfT meetings and is a key focus of the Williams-Shapps Review.

Once the new timetable structure is established and actual performance is recorded, we will revisit this position and consider whether the actual performance has been able to both consistently achieve, and better, the projected performance. We may then be able to consider whether an increase in the limit of fast line departures per hour is acceptable. Furthermore, from May 2025 we expect the reinstatement of platform 16 at London Euston to enable further performance or capacity opportunities.

Additional Considerations

<u>Power Supply</u>

Additional traction power demand is predicted to increase as a result of proposed December 2022 changes, which include the new four electric services proposed by Grand Union between London Euston and Stirling.

Traction power analysis undertaken by Navitas Engineering for Acton Lane (attached) in NW&C shows that increased demand will have a detrimental impact on the resilience of the existing traction supply system. Overload failures are experienced now at a rate of around 6 per annum, normally with a duration

of less than 10 minutes. It is estimated that the full train service specification would increase this frequency up to 30 per annum, representing an unacceptable risk to service delivery. A summary of the concerns can be found under *Bushey Traction Power – Modelling Results*. This also highlights the number of overload failures which have occurred during reduced COVID timetables.

If funding is released for an enhancement, the Bushey Power Supply Upgrade would resolve the Acton Lane resilience problem. Subject to final funding approval in May 2022, the upgrade could be delivered in spring 2024. In the interim, our approach to minimising the risk to service delivery in December 2022 has been to verify the inputs and power supply analysis, identify operational contingency measures and consider limitations to the quantum of service.

The operational contingency would be reactive to perturbation events. It will likely take the form of instructions to drivers in the affected section to limit their power draw. Discussions with operators and regional operations colleagues have started on how this would work in practice and there are other examples of such measures in NW&C. This mitigation is needed now, irrespective of the timetable restructuring, owing to the current experience of power overloads. Even with a quantum limit in place, it is still expected that there will be a need for operational mitigations during times of perturbation, as there will be unplanned occasions to reduce potential overloads. We recognise that there is a balance between passenger demand and risk, therefore there will need to be a trade off between the two.

Running a reduced number of services than proposed in the full Concept Train Plan is expected to reduce the frequency of such events to the level experienced pre-COVID. This will also support a phased introduction of existing and new services that ensures performance improvements and value for money for our passengers and users.

We are also experiencing issues in the area supplied from the Gowkthrapple feeder station in Scotland, which the new Currie feeder station will help alleviate. Once the Currie feeder station will be commissioned – planned to take place in spring 2023 – we would need to consider the following conditions:

- That it is acknowledged that we are at marginal capacity limits in normal feeding arrangements south of Carstairs.

- That operational mitigations will be needed and agreed for the rare occasions when a planned or unplanned outage is required from SP Energy Networks or us and alternative feeding (N-1) arrangements are in place; these mitigations would involve spacing electric trains or applying ‘notch 3’ power draw restrictions on selected services or even service reductions (as required) to limit the risk of services affecting overhead line failure/trip incidents.

- That an agreed position is established between our Scotland and NW&C Electrification & Plant teams if the Harker feeder (which feeds both into NW&C and Scotland) is subject to any constraints/feeding limitation concerns. A discussion between the two Route Asset Management teams on this issue is ongoing to agree a joint position. Additional power supply modelling is being undertaken with regards to the Harker feeder, which may result in additional electric paths not being supported.

The *Rolling Programme of Decarbonisation – Scotland* highlights the results and area of concern. Conclusions on the impact of the Harker feeder issues are not yet clear. Results are expected shortly and will be shared as soon as known.

Ancillary Movements

We have received details from Grand Union on proposed ancilliary movements via their second December 2022 timetable bid on 14 April 2022. This is the first time we have seen such information, therefore we have been unable to assess the Grand Union plan as a whole. As such, we do not know whether the train services can be accomodated in the timetable when needing to take into account ancilliary movements. We are keen to continue working with Grand Union to agree dates, timescales and data requirements to support them with the timetable bidding process.

It should be noted that we raised this operational concern with Grand Union on several occasions during the development of the ESG analyses and have formally highlighted this to Grand Union in our letter of 10 September 2021. We have also reiterated our concern via email on 17 March 2022, after Grand Union submitted their first December 2022 timetable bid.

Conclusion

At this time, we do not support the services proposed in this track access application. The two key factors in our decision are the imperatives to keep improving our performance figures – especially south of Rugby – and alleviate power supply constraints on the network, particularly on the WMCL. This explains the need to implement the December 2022 timetable structure with an initial limit of 13 fast line Euston departures per hour.

As stated in the Williams-Shapps Review, pre-pandemic performance was disappointing and its improvement is a priority for our customers. We want our trains to run on time and we remain obliged to maintain the recent levels of improved performance to support the recovery of the railway.

Given the current power supply constraints at Acton Lane and Gowkthrapple and the predicted increase in power draw required by the December 2022 project, we also decided not to support any further applications for access rights resourced by electric traction in the affected areas until an agreement has been reached on suitable operational contingency measures.

We will continue to work with Grand Union and keep the ORR aware of any further conclusions reached.

Please do not hesitate to contact me if there is any further information you require.

Yours sincerely,

[Redacted]