Delay Attribution Board
Floor 1, Mimet House
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Guidance No: DAB53

Attribution of Responsibility for delays caused by an alleged wagon defect causing a broken rail resulting in a Track Circuit Failure.

1. Introduction

The Delay Attribution Board (the Board) received a Request for Guidance in connection with the attribution of TRUST incident 623468 involving an alleged wagon defect causing a broken rail resulting in a Track Circuit Failure

1.1. The Board received the Joint Request for Guidance from DB Cargo and Network Rail on the 24th September 2020.

1.2. Summary of the submission:

1.2.1. Guidance from the Board is sought for the resolution of an issue which has been progressed through the relevant process but for which no resolution has been achieved.

1.2.2 To provide guidance from the Board in relation to delays caused by an alleged wagon defect causing a broken rail resulting in a Track Circuit Failure.

1.2.3 For the Board to provide guidance on whether the responsibility for the incident should be allocated to Network Rail as a broken rail or to DB Cargo as a wagon defect.

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2 Factual Background to the Incidents

2.1 The TRUST Incident that forms this Request for Guidance is 623468 which occurred on the 28th October 2016.

2.2 At 03:04 on the morning of 28th October 2016, track circuit EY1 showed occupied when clear (SOWC) after the passage of 6M39 (21:44 Moreton-on-Lugg to Elstow) on the down Kidderminster Line at Hartlebury.

2.3 Earlier in its journey (23:38 on 27/10/16), the Signaller at Little Mill reported that sparks were seen coming from the 3rd wagon from the rear of 6M39 and that the train was to be signalled into Panteg Down Loop for the Driver to examine the train.

2.4 At 00:29, the Driver reported that he had checked the train and no fault was found. DB Cargo confirmed that it had asked the Shunter at East Usk to visually check the service as it passed by the Yard.

2.5 At 02:21, 6M39 passes the Wheelchex monitor at Eckington. DB Cargo was recently informed by Network Rail during the production of this Request for Guidance that Anomalous readings were generated by the equipment, but an alarm was not raised.

2.6 Following EY1 track circuit SOWC at 03:04, the Driver of another freight service (6M94) was asked to examine the line and at 03:25 the Signaller reported that nothing untoward was seen but the track circuit continued to SOWC.

2.7 At 04:45, S&T staff arrived on site but were unable to resolve and at 05:45 had to return to base for shift handover.

2.8 At 06:27, the station staff at Coleshill Parkway reported hearing bad wheel flats on 6M39 as it passed through the station area. 6M39 was brought to a stand at NW4250 signal on the Up Arley Line for the Driver to examine the wheels.

2.9 At 06:56, the Driver advised that the wheels had been examined and there was nothing amiss.

2.10 At 09:07, the Driver of 2S20 reported hearing a “klonk” 150-200 yards Kidderminster side of Hartlebury Crossing. The Driver of 1S39 was requested to examine the line and at 09:20 also reported a “bump”.

2.11 At 09:25, S&T found a broken rail on the Down Kidderminster Line at approximately 132 milepost, 200 yards beyond Hartlebury Crossing.

2.12 At 09:47, a block was put on all traffic going towards Hartlebury.

2.13 At 10:00, 6M39 came to a stand on the Up Slow on the Midland Main Line at Harrowden with wheel flats on 3rd wagon from rear (300414) and a piston

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leaking. DB Cargo reported that the wagon was not fit to continue and was later removed from the train and stabled at Wellingborough.

2.14 At 10:28, Permanent Way staff authorised movements at 5mph and block was then removed at 10:34.

2.1 At 10:35, the MMIC reinstated the block on all traffic because the break "is out of square" and required clamping.

2.16 At 10:52, the broken rail at Hartlebury was clamped and a 20mph speed restriction imposed.

2.17 At 11:02, a further rail break was discovered on the Down Kidderminster Line approximately 80 yards from the site of the original break and at 11:04 the line was again blocked to all traffic.

2.18 At 12:27, the second rail defect was confirmed as having been clamped and the line reopened with a 20 mph ESR to cover both rail breaks.

3. Requirement of the Board

3.1 The Delay Attribution Board was requested to provide guidance on the responsibility of this incident as to whether the incident should be attributed to DB Cargo for the alleged wagon defect or Network Rail as a broken rail.

3.2 DB Cargo request that the incident be attributed to Network Rail as a rail defect and coded to Delay Code IR.

3.3 Network Rail request the incident remains as currently attributed to DB Cargo as a wagon defect with Delay Code MN.

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4. DB Cargo's View

4.1 DB Cargo considers that the TIN 623468 should be re-coded as IR (Broken Rail) and not, as Network Rail proposes, to MN (Wheel Flats).

4.2 DB Cargo accepts that a wagon (300414) on 6M39 was detached at Wellingborough. However, this was almost 7 hours after 6M39 had passed over the route through Hartlebury where the two broken rails were subsequently discovered. 6M39 had in fact travelled over 236 miles between Moreton-on-Lugg and Harrowden Junction without any faults being found with the service and without any track defects being identified over the routes concerned, other than the two found at Hartlebury around 6-8 hours after 6M39 had passed. Network Rail had previously re-coded this incident to IR (Broken Rail) at 09:58 on 28th October 2016 (almost 7 hours after the passing of 6M39) and only changed it again to DD once it had found out that 6M39 had been subsequently stopped at Harrowden Junction with a wagon problem.

4.3 DB Cargo also accepts that the Little Mill Signaller reported sparks coming from 6M39 early in its journey. However, the Driver could not find any problem with the train when it was stopped in Panteg Loop. The Shunter at East Usk also did not see any problems when asked to observe the train when it subsequently passed by the Yard.

4.4 Crucially, there were also no anomalous readings reported to DB Cargo from the Eckington Wheelchex monitoring equipment as 6M39 passed at 02:21 (just 40 minutes before Hartlebury). Had there been wheel flats of enough severity to break rails, DB Cargo submits that these would surely have been picked up by this track side monitoring equipment which is installed specifically for detecting wheel problems.

4.5 DB Cargo was recently informed by Network Rail during the production of this Request for Guidance that apparently anomalous readings had been detected but no alarm had been raised at the time. This new evidence provided by Network Rail, if verified, would appear to indicate that the Eckington Wheelchex was faulty as DB Cargo would have thought that a maximum reading would still have been registered by the equipment (even if the forces were above that maximum) and an alarm triggered rather than it merely giving no alarm at all and therefore false security. If this belief is correct, and if 6M39 had had wheel flats at that point (which DB Cargo considers has not been proven), the train would have been stopped before reaching Hartlebury.

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4.6 DB Cargo also accepts that 6M39 was stopped near Coleshill Parkway over 3 hours after passing Hartlebury following reports from the Station Staff of them hearing wheel flats. Again, the driver, a different one to the Driver who carried out the inspection at Panteg Loop, examined the train and found no fault. Incidentally, this was the first time any reports of hearing wheel flats had been made. Although the Little Mill Signaller had reported sparks coming from 6M39 earlier in its journey, there were no reports of the Signaller also hearing wheel flats.

4.7 It is also worth noting that 6M39 passed many other manual signal boxes before reaching Coleshill Parkway (i.e. Norton Junction, Worcester Shrub Hill, Worcester Tunnel Junction, Droitwich, Hartlebury, Kidderminster, Blakedown and Stourbridge Junction) without there being reports from any Signallers of hearing wheel flats. If the wheel flats were as bad as Network Rail submits, then DB Cargo would have expected a Signaller in a lineside signal box at the dead of night to have heard something as the train went by, even if the train was not being positively observed.

4.8 Although the track circuit failure occurred after the passing of 6M39, the broken rails were not discovered until many hours later (i.e. at 09:25 and 11:02) after many other trains had also passed over the route. In fact, the first report from a driver of hearing/feeling a “bump/klonk”, thereby suggesting the presence of a broken rail, was not made until after 09:00, some six hours after the passing of 6M39. There are no other reports of any trains reporting “bumps or klonks” before 09:00 and the second broken rail was not discovered until around 11:00.

4.9 Consequently, DB Cargo submits that Network Rail’s evidence that wheel flats on 6M39 caused the rail to break in two places at Hartlebury is purely circumstantial and ignores the fact that the train passed Eckington Wheelchex, just 40 minutes before Hartlebury, with no anomalous readings being reported. The first report of anyone hearing wheel flats on 6M39 was from the Station Staff at Coleshill Parkway over 3 hours after 6M39 passed Hartlebury and even then, the Driver found no fault after inspecting the train.

4.10 Having subsequently received and considered a copy of a SERCO report which was commissioned by Network Rail some 2 years after the incident took place (“the Report”), DB Cargo considers that the broken rails at Hartlebury were in fact ‘events that were waiting to happen’ as at both points of fracture there were already present underlying rail flaws caused by 7 incidences of tamper damage. The Report, which was undertaken by Serco concluded that this tamper damage and associated cracks had remained benign in the rails under normal stresses and would have needed abnormal stresses to cause the failures.

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4.11 The Report [provided but not replicated in this Guidance Note] concludes that the most likely cause was the freight train (6M39) with 'severe' wheel flats, as the track circuit failure occurred after the passage of the train. This conclusion appears to have been made from the fact that Serco understood, from what it had been told by Network Rail, that 6M39 had 'severe wheel flats' when it passed Hartlebury and was the only possible cause of the 'abnormal stresses'. Serco was therefore asked to give its view only on whether the rail flaws (tamper damage) or the freight train with severe wheel flats was the most likely cause of the broken rails.

4.12 However, it is far from proven that 6M39 had 'severe' wheel flats when it passed by Hartlebury. No anomalous readings were reported when 6M39 passed Eckington Wheelchex, a mere 40 minutes before Hartlebury, nor had there even been any reports at all of possible wheel flats on 6M39 until over 3 hours after it had passed Hartlebury. Furthermore, even when 6M39 had been subsequently stopped at Harrowden Junction with an actual wagon fault there was only one axle affected on one wagon of the train. Even if this wheel flat was evident when 6M39 passed Hartlebury (which DB Cargo considers has not been proven) and of a sufficient magnitude to cause 'abnormal stresses' at the two points where the tamper damage had remained undetected, the chances of one wheel flat on one wheel striking those exact points in the rail must be astronomical.

4.13 Instead, DB Cargo believes that the inherent rail flaws caused by the tamper damage had gradually become worse from the abnormal stresses placed on them over time by a multitude of additional trains (including many heavy freight trains) that were required to be diverted via Hartlebury because of a blockade on the normal route via Bromsgrove. This blockade commenced at 21:45 on 25th October 2016 and was in place until 05:15 Monday 7th November 2016 (NR PPS Ref: P2016/2154637). This information does not appear to have been provided to Serco as it is not considered anywhere in the Report.

4.14 DB Cargo would have expected Network Rail, in the knowledge that the route via Hartlebury was expecting to see vastly increased traffic levels from the two-week Bromsgrove Blockade diversions, would have picked up these rail flaws and rectified them in advance when carrying out route inspections aimed at ensuring that the track was in a fit condition to accommodate those additional tonnages. Had this been done it is unlikely that the rail breaks would have occurred in DB Cargo's view.

3.15. DB Cargo therefore submits that the abnormal stresses caused by the significant increase in tonnage over the route as a result of diversions occasioned by the two-week blockade on the Bromsgrove Line meant that it was only a matter of time before the rail flaws, triggered by the tamper damage, worsened to such a state that eventually caused the rails to break at those two points.

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4.16 DB Cargo argues that the abnormal stresses required to hasten the rail flaws into becoming rail breaks would not have been caused by 6M39 even if the wheel flats had been evident when the train passed Hartlebury (which DB Cargo considers has not been proven) as the chances of one wheel flat striking the rail exactly at the two places where the rail flaws existed are astronomical. Furthermore, had 6M39 generated enough abnormal forces to cause the rails to break at Hartlebury, DB Cargo submits that anomalous readings would have been reported when the train passed Eckington Wheelchex before even reaching Hartlebury.

4.17 In addition, the broken rails at Hartlebury were not discovered until six and eight hours after the passing of 6M39 and after many other trains had passed over the route (the first reported “clunk” being after 09:00). This, combined with the fact that there were no other rail flaws alleged to have been caused by 6M39 over the entire route that it had traversed, not even on the Midland Main Line around the point at which the wheel flats on wagon 300414 were detected, also suggests that the cause of this incident lay elsewhere.

4.18 As a result of the above representations, DB Cargo considers that this incident (TIN 623468) was caused by a broken rail(s) and should accordingly be re-coded IR (Broken Rail).

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5 Network Rail's View

5.1 Network Rail believes that this incident should be recoded to MN as it was the wheel flats on 6M39 that caused the rail to break. The rails were found to be within standard, but the train was found to have a fault (wheel flats). The track circuit (which indicated the rail break) SOWC immediately after the passage of 6M39.

5.2 Whilst it is not always the duty of the signaller to observe passing trains (unless the Special Instructions stipulate), the signaller at Little Mill reported 6M39 as having sparks coming from the third wagon to the rear of the train earlier in its journey (at 2338 the previous evening) and the station staff at Coleshill Parkway also reported bad wheel flats on 6M39 as it passed through the station at 0627 (after it had passed through Hartlebury at 0304).

5.3 Further investigations undertaken by the Wheelchex supplier, Voestalphine, have revealed that 6M39 passed over Eckington Wheelchex at 02:21hrs (c.40mins before reaching Hartlebury) and recorded a total force of 1385kN on the left side, and 1074kN on the right side, on the 75th axle. The 75th axle is consistent with the eyewitness reports at Little Mill of sparks coming from the third wagon to the rear of the train.

5.4 Under normal circumstances, a train registering more than 350 kN (combined static and dynamic forces) would raise an alarm. At the time of the incident, the Wheelchex system was not capable of reporting forces above 1000 kN, and as such it did not raise an alarm during the passage of 6M39.

5.5 For the purpose of context, the current operational standard NR-SP-TRK-0133 has the highest alarm level 4 at anything over 500 kN. Any train found to exceed this limit would be stopped immediately for examination and withdrawn from service at the earliest opportunity.

5.6 As an explanation in response to 3.5, when train passage data is received from the Gotcha (formerly Wheelchex) system, it is sent directly to a central server at Voestalpine. Network Rail use an application from Ricardo Rail to access part of that server called 'measurement data'. In the case of Eckington, the 'measurement data' was set to zero because the dynamic part exceeded the 1000kN limit. Therefore, the measurement data was at zero and no alarm was generated. The equipment was not faulty, it was just that the 'measurement data' values were set to below the reported force and so did not raise an alarm. Since this instance, the force limit has been increased to recognise such large wheel faults.

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5.7 Despite both drivers reporting they could not find a fault on two separate occasions, and the train being allowed to continue on its journey, the fact that the track circuit EY1 failed immediately after the passage of the train, in conjunction with these reports, would indicate that the severe wheel flats fault that was subsequently found on the third wagon from the rear of the train was in fact the cause of the incident.

5.8 Finally, Network Rail would draw reference to the Elstree Tunnel Determination (ADP30) particularly as it is similar in principle. In that case, it was determined that an external object striking the train originating from the track bed was the likely cause of the damage to the train, and all delays should be attributed to Network Rail as a result. In reversing that principle for the current case, the broken rail which caused the Track Circuit Failure only occurred immediately after the passage of 6M39 which had previously been reported as having sparks seen coming from the 3rd wagon from the rear of the train and was subsequently found to have wheel flats. Prior to the passage of 6M39, there was no incident. As such, all delays should be attributed to the Train Operator (DB Cargo).

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6. Locus of the Board

6.1 The Board reviewed its locus in respect of providing guidance on this issue. The Board's locus to provide guidance is set out in the Network Code Conditions B2.4.3 and B6.1.3.

6.2 The Board noted that while it could offer guidance to the Parties regarding how incidents of this nature should be attributed, this guidance was not binding on either Party involved. If either of the Access Parties were dissatisfied with the guidance provided, they could refer the matter to Access Dispute Adjudication (ADA).

6.3 If the issue was referred to ADA, then an Access Dispute Adjudication Panel (ADA Panel) would be formed to consider the dispute. In doing so, the ADA Panel would take account of the guidance provided by the Board but would not be bound by it. The ADA Panel would then make a determination that was binding on the Parties concerned. This document is therefore being prepared as the vehicle for providing the guidance and the reasons for how the Board arrived at its position both to the Parties and, if necessary, to the relevant ADA Panel.

6.4 The Board agreed that it should seek to provide guidance that meets with the delay attribution vision:

"For all parties to work together to achieve the prime objective of delay attribution – to accurately identify the Prime Cause of delay to train services for improvement purposes".

6.5 The Board would need to consider if, in providing guidance, an amendment to the Delay Attribution Principles and Rules should be proposed to improve clarity.

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7 Consideration of the Issues

7.1 The Board considered the Request for Guidance at its meeting on 22nd September 2020 and took account of the following:

7.1.1 The facts provided by DB Cargo and Network Rail in connection with the disputed incident and the Joint Request for Guidance submission paper.

7.1.2 The additional information provided by DB Cargo and Network Rail in response to questions raised by the Board prior to the Hearing (set out in Appendix A).

7.1.3 The additional information provided by DB Cargo and Network Rail in response to questions raised by the Board at the Hearing (set out in Appendix B).

7.1.4 The guidance provided within the Delay Attribution Guide (as was in place at the time of the incident occurring) and any other related DAB Guidance documentation.

7.2 The Board regarded the following points as particularly relevant during discussion of the incidents:

7.2.1 That the Eckington Wheelchex reading may have been erroneous, with 6M39 not being stopped and checked it cannot be demonstrated whether the reading provided is correct, or not.

7.2.2 That the reports of sparks and wheel flats made against 6M39 were, respectively, around three and a half hours prior to and after the train passed Hartlebury.

7.2.3 That 6M39 passed eight manual signal boxes between Worcester and Stourbridge Junction (including Hartlebury) where none of the Signallers reported hearing bad wheel flats ().

7.2.4 That the wheel flats on 6M39 were found seven hours after the train passed Hartlebury

7.2.5 That 6M39 travelled over 236 miles on the Network Rail network without any further reported damage to infrastructure other than at Hartlebury.

7.2.6 That there were, by admission, existing defects in the rails at Hartlebury caused by previous tamper damage and those rail flaws were not addressed by Network Rail prior to the increased traffic levels through Hartlebury as a result of the planned diversions, because of engineering work taking place on the Bromsgrove route.

7.2.7 That wheel flats are a very small parts of the circumference of the wheel. The majority of the wheel remains properly ‘round’ so the chances of a wheel flat striking the rail exactly in the two places at Hartlebury with rail flaws would be very unlikely.

7.2.8 That whilst the initial Track Circuit Failure did occur at the time of 6M39 passing Hartlebury the two broken rails were not discovered until 6½ and 8 hours later.

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7.2.9 That the trains immediately following 6M39 did not report any issues. The first train to report any concern was the 19th train – so it may have been the 18th train that actually broke the rail. The amount of damage to the rails caused specifically by 6M39 or by any of the subsequent trains is impossible to ascertain.

7.2.10 That the wheel flat found hours later on 6M39 may or may not have been prevalent, or severe enough at Hartlebury to cause the rail break alone. The link between the two events could be considered as circumstantial.

7.2.11 That the principles of 'likelihood' set out in ADP30 should be considered but individual incidents still need to be considered on their own merits

8 Guidance of the Board

8.1 Based on the information presented, the Board agreed, by majority (9 in favour, 1 against), the following: -

8.1.1 Network Rail is responsible for the incident raised as part of this submission.

8.1.2 That the Delay Code applied to the incident in this submission should be IR reflecting the cause of the incident being a defective / broken rail.

8.2 In reaching its conclusion the Board also noted the following points:

8.2.1 That the DAPR does not currently specify that trains causing infrastructure damage or faults are attributed to the train. Whilst the principles are accepted and applied the DAPR should be clarified in this respect.

8.2.2 Similarly, a further addition is required in the DAPR to clarify that a train causing a Delay Incident does not necessarily have to incur a delay to itself at the time of that incident occurring.

8.2.3 That attribution should not be based on supposition of what may or may not have occurred if the events leading up to a Delay Incident were different. Attribution should be made to the Delay Incident that ultimately occurred.

This Guidance Note was approved by the Delay Attribution Board on 20th October 2020	Richard Morris (Chair)
Signature:	

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APPENDIX A

Additional information provided by DB Cargo and Network Rail in response to questions by Board members prior to the 22nd September 2020 Hearing.

Questions for Network Rail

NR1 - Is an Operational Control Centre (CCIL) log item available?

NR Response - Yes. Ref – 1487367 [provided but not replicated in this Guidance Note].

NR2 - It is not clear for the supplied diary of events if a Network Rail Mobile Operations Manager (MOM) had been in attendance when the Driver checked the train. Was a MOM used at any point to assist the Driver in checking 6M39 at any time before the wagon was detached?

NR Response - Separate TIN 623107 recorded on the same day for a Train Stop & Examine of 6M39. CCIL entry (ref 1487309) [provided but not replicated in this Guidance Note] confirms MOM attendance at Harrowden where the train was stopped, and it was confirmed to have bad wheel flats and a leaking piston on the third wagon to the rear of the train (wagon 300414). The same CCIL entry suggests the MOM left the site before the wagons were detached. It should be noted that DBC accepted the incident for TIN613107.

NR3 - Following the first S&T team returning to base at 05:45 for shift change, what time did the second S&T team arrive on site to continue fault finding?

NR Response - Day turn S&T returned to site at 08:20.

NR4 - What length of track does track circuit EY1 cover (leads to why the S&T couldn't find a broken rail between 0304 and 0925, accepting a shift changeover accounts for some of the time)

NR Response - EY1 track circuit starts on the Down Kidderminster OWW 131m 75ch and ends at the centre feed set at OWW 132m 33ch. First shift (night) S&T returned to base at 05:45 and second shift (day) returned at 08:10, leaving a gap of 2hrs 25mins which contributes to the delay in finding the broken rail.

NR5 - What was the reported weather conditions during the journey of 6M39, particularly at train inspection sites? Also, the weather conditions at the site of the broken rail?

NR Response - The NR Infrastructure Maintenance Engineer reported when asked that the weather was mild and cloudy and that there was no cold or heat related weather at the time. This corresponds with the DBC driver report taken on 31 October 2016 (3 days following the incident), which suggested the weather was dry at 06:30 when the driver examined the train at Elstow.

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NR6 - How many trains passed over the site of the broken rails after the passage of 6M39 but prior to the broken rails being discovered? How many of these other trains were asked to be examined and what were the results of those examinations?

NR Response - A total of 19 trains passed over the section following the passage of 6M39, after the TCF but before the broken rails were identified between 03:04 and 09:25. Of those, 3 were Freight trains operated by DB Cargo and 16 were Passenger trains operated by Cross Country (2) and West Midlands Trains (14). Neither CCIL entry report any other trains being examined and no reports were made. However, DB Cargo service 6M94 did examine the line and found nothing amiss.

NR7 - Given the Serco report provided evidence of tamper damage caused to the track section some time before the incident, what track monitoring history / data is available that shows if the tamper damage had been identified prior to the broken rail incident and if found, what remedial action had been taken or planned?

NR Response - Impact damage to the foot of the rail was caused by tamping works and was monitored during visual inspections of the track. It was deemed acceptable and not unsafe as it had been there so long, and so there was no need to replace the rails to remove the damage. It is the view of the Head of Maintenance Delivery on NW&C Region that there were no contributing or possible mitigating factors due to the maintenance regime, and that the break would not have happened without the severe wheel flats on 6M39.

NR8 - If the wheel flats were so severe why did it result in only 2 broken rails especially when considering the distance that the train covered? Would you not have expected more damaged rails?

NR Response - It is our view that the tamper damage within the foot of the rail combined with the wheel flats on 6M39 caused the rail to break at the point it did due to the additional stresses placed on it.

NR9 - What did the system do if it was not capable of reporting forces above 1000kn? Surely it wouldn't just ignore them.

NR Response - The Gotcha WILD system had never recorded such a high dynamic measurement from a train wheel before and a suitably high dynamic limit was required in the analysis software. 1000kN was chosen at the time because this was felt to be sufficiently high enough to capture all dynamic readings. Unfortunately, on this occasion, the dynamic wheel recording exceeded this limit and as such was 'ignored' and 'zeroed' out by the analysis software as a sensor glitch or false recording. As a result, no train alarm was generated by the analysis software.

NR10 - When did it come to light that an anomalous reading had been detected? And when / how were DB Cargo advised of this?

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NR Response - In its Representations, DB Cargo highlighted there had been no anomalous readings at Eckington Wheelchex (3.4). Network Rail sought to clarify this in its Representations, so requested data covering Eckington Wheelchex from Network Rail's Engineers in June 2020. The results of which were shared with DB Cargo on 8 July 2020 in an updated version of the Request for Guidance paper, and explicitly highlighted in the context of the email.

NR11 - Given that the Wheelchex system has been recalibrated as a direct result of this incident, is that an admission that, had this calibration already been in place, any wheel flats would have triggered an alarm and 6M39 been stopped?

NR Response - Voestalphine advised that after they adjusted the configuration for the extreme value, they did not recalibrate the system. Further, there is no mail, database entry or ticket regarding the system being reset around that time.

NR12 - Does NR have any CCTV footage from level crossing en-route showing 6M39 passing?

NR Response - We have been unable to locate any CCTV footage of 6M39.

NR13 - Did 6M39 pass over any other Wheelchex / Gotcha equipment between Eckington and Wellingborough? If so, what were the readings / were any obtained?

NR Response - No other readings were obtained but they have now been requested.

NR14 - Re Para 4.2 – Absolute block signalling rule book, module TS3 paragraph 3.2 states "You must observe the train as it passes the signal box and make sure it has a tail lamp"

Can NR please provide a "special instruction" for each of the 8 manual boxes between Norton Jn and Stourbridge Jn" that exonerates the Signallers in those boxes from the above rule book instruction.

NR Response - The signal boxes between Norton Jn and Stourbridge Jn are all manual signal boxes and are therefore required to observe passing trains line with the Rule Book such as checking the last wagon has a tail lamp and the train has cleared the signal section.

NR15 - Were individual Signaller reports obtained from each box and what did they state?

NR Response - Reports were not obtained from individual signal boxes, only those reported by the signaller at Little Mill which were recorded in the CCIL entry (ref: 1487309).

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Questions for DB Cargo

DBC1 - What was the full consist of the train?

DBC Response - The train consisted of a Class 66/0 locomotive and 20 HOA wagons.

DBC2 - Were there any other wagon(s) on the train with reported defects that were classified as a One Journey Only movement?

DBC Response - No

DBC3 - What maintenance history over the previous six months is available for wagon 300414? Have there been any reported brake equipment or wheelset faults in that time?

DBC Response - Unfortunately, no maintenance history has been located. The time that has lapsed since the incident combined with COVID-19/Staff Furlough has hampered efforts to locate such information.

DBC4 - Given that wheel flats on 6M39 were discovered at 10:00, is it possible that these wheel flats could have developed AFTER 06:56 when the driver found nothing, or is it more likely that they were missed by the driver(s) as it would have been winter, dark, cold etc

DBC Response - Yes, it is entirely possible that these wheel flats could have developed after 06:56 particularly as the train was operating during the Autumn leaf fall season. It is difficult for a single driver to identify a wheel flat, particularly at night and especially if it is a minor defect because the flat part of the wheel may be obscured by the track. Serious wheel flats (as Network Rail alleges occurred with 6M39) tend to leave more visible signs such as scoring on the rail or wheels particularly if the axle has seized causing the wheel to drag along the track or there has been significant wheel slip during braking or acceleration.

DBC5 - What course of action would DB Cargo have taken if an alarm had been raised by the Wheelchex?

DBC Response - If the Wheelchex/GOTCHA had raised an alarm, the train would have been stopped at the next available loop/recessing location, in the case of the Eckington Wheelchex, that would have been at Worcester. The train would have been examined by a C&W team and any defective wagons assessed as not being fit to continue would have been detached.

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DBC6 - Can you explain what a drivers exam actually entails, what is the driver checking and does he have any tools/processes to assist that process – does he need assistance to undertake the checks for example a rotation test and are any reports from the driver available for either examination can they be shared?

DBC Response - When there has been a verbal/visual report of wheel flats on a train, the train will be stopped at the next available recessing facility and the driver will check the train looking for signs of anything amiss. Drivers are issued with a 'tempil stik' that detects abnormal heat from a wheelset. So, for example if there was a handbrake left on causing the wheel not to turn properly then, as well as causing a wheel flat, it would also generate a significant amount of heat which would be detected by the 'tempil stik.' There are no reports from the drivers concerned other than the verbal confirmation at the time that they could find nothing wrong.

DBC7 - The train was examined 3 times, twice by different drivers and once by the C&W, can you explain what the differences are in the examinations undertaken by a driver and a C&W member of staff, the C&W exam resulted in the vehicle being Red Carded would the drivers exam have been able to detect the same defect that resulted in the red carding activity?

DBC Response - The driver's exam may or may not pick up a defect that would be detected by a C&W Team depending on the severity of the defect (see Q4 answer above). The C&W Staff could, for example, undertake a roll by test which would not be available to a lone driver as he/she would need to be in the cab to move the train. A C&W exam would be more detailed as C&W staff have a far greater knowledge of wagon defects, what to look for and how to fix them.

DBC8 - Do we have a report from the wagon repairer as to the severity of the wheel defect, what remedial repairs where required and any indication of how long the defect would have taken to get to the stage it was?

DBC Response - There is no report available from the wagon repairer. After the train was subsequently stopped at Harrowden (much later in its journey), after C&W exam, the wagon concerned was allowed to proceed at 5mph to Wellingborough Yard where it was detached

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APPENDIX B

Additional information provided for clarification purposes by DB Cargo and Network Rail during questioning by Board members at the 22nd September 2020 Hearing.

Question 1 – Given the Eckington Wheelchex did not alarm for the forces detected has Network Rail not considered coding the incident to IN to reflect the Wheelchex fault?

Response (NR) – Coding to the Wheelchex was not considered as it wasn't faulty - the upper limit tolerance settings at the time meant no alarm was generated, and the Wheelchex is not the cause of the incident.

Question 2 – If the Eckington alarm had activated and the train was examined could there have been a different conclusion?

Response (DB Cargo) – if the alarm had activated the train would have been stopped at Worcester and a more detailed exam would have been undertaken by a fitter.

Question 3 – Did Network Rail undertake any ultrasonic testing on the flawed rail(s) between the tamper damage happening and this incident occurring?

Response (NR) – The rails were inspected visually in line with the required standards.