Delay Attribution Board

Guidance No. DAB-35

1. Introduction

1.1. The Delay Attribution Board (the Board) received a request for guidance in connection with the attribution of TRUST incident 885727, associated with power failure.

1.2. The Board received the joint request for guidance from First Capital Connect and Network Rail Infrastructure Ltd, London North East Route, (Network Rail) (the Parties) on the 19th August 2014.

1.3. The Parties asked the Board the following general question:

1.3.1. DAB is asked to provide guidance as to who would be responsible for this incident and what would the appropriate delay cause code as per the Delay Attribution Guide be.

2. Information Received

2.1. The Parties have discussed the issues relevant to this matter, in accordance with the agreed procedures for obtaining agreement in relation to a disputed attribution as set out in Part B of the Network Code. However, they have been unable to reach a common position. The Parties are therefore agreed that the issue raised should be referred to the Board for guidance.

2.2. The Parties submitted the agreed factual background and their respective views on how the incident should be attributed.

3. Factual Background to incident 182867

The Parties provided the following agreed facts:

3.1. On Tuesday 20th August 2013, 2B29 13:12 Moorgate to Hertford North lost its line light and all power to the train between Gordon Hill and Crews Hill. Both the pantograph and the overhead wires were damaged.

3.2. The pantograph suffered severe damage.

3.2.1. The pantograph detached clear of the OHL equipment shearing the automatic dropping device (ADD) causing the pantograph to lower and therefore breaking the right hand side head horn.

3.2.2. A tube comprising of part of the pantograph frame failed.

3.3. Approximately 350 yards from where the train had come to a halt a sagging mid-point anchor wire and damage was found between stanchion numbers EH17/11 and EH 17/09.

4. FCC View

4.1. FCC completed a detailed review of the incident with the aid of CCTV footage and commissioning an independent expert to carry out a report on the damaged pantograph.

4.2. FCC's investigation found that the pantograph was structurally sound and in the correct position immediately prior to the incident. The independent metallurgic report confirmed that:

4.2.1. the metal used to make the pantograph had no prior defects.

4.2.2. there was evidence of wear on the underside of the left hand pan head horn (corresponding with the theory that the anchor wire was caught under the horn and ran along it until the point of failure).

4.2.3. that yellow grease paint from the horn of the pantograph was found on the wire approximately 21 metres from the stanchion at the scene of the incident.

4.2.4. the tubular frame section failure was found to be due to an overload in bending with some torsion on the right hand side. There were no signs of fatigue or corrosion. (It was the opinion of FCC that the failure of the frame was as a result of the incident, rather than causing the chain of events).

4.3. CCTV footage from Palmers Green station (approximately 5 miles prior to the location of the incident) showed that the pantograph was working as designed before the time of the incident. Visual images from forward facing cameras on the train suggested that the mid-point anchor tie wire was sagging.

4.4. This review identified the cause of the incident to be the sagging mid-point anchor wire. Network Rail however, did not agree. FCC found that a similar incident had occurred nearby at Cuffley on July 26th 2008 which caused similar damage that Network Rail had accepted responsibility.

4.5. Based on the evidence summarised above and on the balance of probability FCC believed that the most likely sequence of events was that the sagging tie wire became caught under the left hand head horn, ultimately leading to it striking the OHLE support structure causing the pantograph to fail.

4.6. The independent report commissioned by FCC supported this theory. "*The pantograph failed due to rapid ductile overload with no evidence of fatigue cracking or any pre-existing manufacturing defects. It is likely that the frame failed as a result of the incident rather than causing the chain of events."*

5. Network Rail View

5.1. Network Rail contended that a detailed local investigation between both Network Rail and FCC Engineers took place and neither party could identify the cause of the failure.

5.2. Damage to the pantograph meant that it was not possible to determine what may have been causal or consequential damage.

5.3. In Network Rail's opinion, it is not physically possible for the tie wire to sag to the extent that it could cause a pantograph to hook over as the tie wire is a fixed asset. Tied to fixed anchor points it is not subject to adjustment with balance weights as the expansion range that the wire could experience when exposed to UK temperatures would not put the tie wire in an area, or risk, where it would come into contact with a pantograph head.

5.4. Network Rail worked to resolve this incident based on the known facts:

5.4.1. There were no signs of rubbing or damage on the tie wire in the zone that would be typically the first point of contact with the pantograph. The tie wire was observed on site and the section of wire was still part of the OHLE. The tie wire is a relatively short piece of wire that spans between two structures typically 60 metres apart. It is fixed directly and not auto tensioned. Wire sag occurs over time and would result in side wear as it comes in contact with the pantograph horn.

5.4.2. An OHLE engineering team had surveyed the 'incident' site the previous week. No faults were identified with the tie wire. Network Rail considered that FCC's camera footage evidence had not indicated that the tie wire was sagging below the contact wire within the pantograph zone and suggested that a tie wire when viewed from the ground at a distance can look to be within the pantograph envelope but can actually be 4m clear

5.4.3. When undertaking the repairs after the incident, it was noted that the tie wire was still above the contact wire within the pantograph zone.

5.4.4. Yellow scrape marks in the direction of travel towards the cantilever initially appeared on the side of the tie wire anchor before appearing on the top of the tie wire anchor.

5.4.5. The damage caused to the infrastructure failed to match up with what would normally be expected when an incident involving a low tie wire occurred. There were no signs of damage to the catenary. On closer examination the damaged pantograph revealed the presence of isolated abrasion marks at the point where the pantograph horn was attached to the head frame. There were no other abrasion marks between the horn tip and the point where the horn was attached to the head frame. The pantograph unit indicated sustained damage which did not correlate with the expected damage from this kind of incident. Evidence showed extensive damage to the right horn, the fractured frame, the angle of the bent pin on the frame and the overall angle of the damaged pantograph. This damage did not match the forces exerted if the pantograph had hooked over the tie wire whilst in its normal operating position.

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 as to how incidents of this nature should be attributed, this guidance was not binding on any party. If any of the Access Parties were dissatisfied with the guidance provided the matter should be referred for resolution in accordance with the ADRR.

6.3. 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*".

6.4. In considering any request for guidance, the Board wtll always consider if an amendment to the Delay Attribution Guide (DAG) should be proposed, to improve clarity.

7. Consideration of the Issues

7.1. The Board considered the request for guidance at its meeting on 2nd September 2014 and took account of the following:

7.1.1. The facts provided by both Network Rail and FCC in connection with the incident and their respective requests for guidance.

7.1.2. The oral information provided by the representatives of Network Rail and FCC at the 2nd September 2014 Board meeting.

7.1.3. The guidance provided by the DAG.

7.2. The Board sought and received agreement from the Parties that it would not be able to provide the guidance requested as the correct attribution of the incident depended upon the technical cause of the failure (i.e. either an OHLE-based cause in which case Network Rail would be allocated responsibility or a Train-based cause in which case FCC would be allocated responsibility). The Board does not have the technical competence to undertake a forensic analysis of the technical evidence and decide what the most likely cause of the incident was.

7.3. Instead, the Board could only guide the Parties on how the dispute could be resolved and advised them that they should move on to the next stage of the formal process and refer the matter for resolution in accordance with ADRR as provided in Condition B2.4.4 of the Network Code, perhaps by way of Expert Determination.

8. Guidance of the Board

8.1. The Board considered the guidance request and unanimously agreed the following:

8.2. The process of delay attribution investigation was not followed in that, it appeared reports from Network Rail to the Operator did not contain sufficient detail, but were more of a summary nature. In addition, the DAB were informed that a further report had been written and submitted to the Operator only two days before the hearing. The DAB did not consider this to be in the spirit of the process - this was accepted by the Network Rail representative at the hearing-

8.3. The Board did not possess the technical expertise to decide on the most likely cause of the incident and therefore could not advise on how the incident should be attributed in accordance with the DAG.

8.4. The Board advised that the parties should move onto the next stage of the formal process and seek resolution of the incident in accordance with the ADRR as prescribed in Condition B2.4.4 of the Network Code. A ruling in accordance with ADRR would be legally binding on the Parties and allow the incident to be attributed accordingly.

8.5. The Board agreed to review the content of the Delay Attribution Guide (DAG) in order to establish to what extent the guide provides guidance in such cases concerning conflicting technical evidence preventing timely resolution of incidents.

This guidance was approved by the Delay Attribution Board on 30th September 2014	Richard Morris (Chairman)
Signature: R. J. Morris	1.10.14