
Delay Attribution Board

Guidance No. DAB-33

1. Introduction

- 1.1. The Delay Attribution Board (the Board) received a request for guidance in connection with the Attribution of TRUST incident 746296 (2P10 Loss of Power Hitchin) created on the 22nd April 2012.
- 1.2. The Board received the joint request for guidance from First Capital Connect Limited (FCC) and Network Rail Infrastructure Ltd, LNE Route, (Network Rail) on the 1st February 2013.
- 1.3. Each Party requested the Board to answer three questions as follows:

Network Rail asked:

- 1.3.1. Was the incident attributed correctly?
- 1.3.2. Should a second incident have been created for the assistance element?
- 1.3.3. Should a possible second incident have been attributed to First Capital Connect, Network Rail or the TOC/FOC of the assisting train?

First Capital Connect asked:

- 1.3.4. DAB is asked to provide guidance as to whether it is acknowledged that the delays within incident 746296 are not solely due to one cause?
- 1.3.5. Does the DAB agree that a second incident should have been attributed?
- 1.3.6. If the Board agrees that the delays were due to more than one cause, should 100% of the responsibility remain with FCC?

2. Information Received

- 2.1. The parties 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 both agreed that the issues raised should be referred to the Board for guidance and have prepared a joint submission accordingly, incorporating their respective interpretations.
- 2.2. The parties submitted the agreed factual background together with their respective views on how the incidents should be attributed.

3. Factual Background to the incident

- 3.1. This reference is about the events of Sunday 22nd April 2012. However, in order to put this issue into context, a background of previous events is required.
- 3.2. Engineering work was planned on the Great Northern Area on LNE Route during Weeks 2, 4 and 6 of 2012. To operate as full a service as practicable, the planned and agreed method of working was to coast electric services through an isolated section between Stevenage and Biggleswade. Trains were planned to coast in the wrong direction, with the pantograph in the lowered position under the Over head Line (OLE).
- 3.3. In Week 2 (Sunday 8th April), FCC suffered three train failures caused by the unexpected reaction of the Class 365 unit after lowering the pantograph. The previously dormant DC mode of the AWS equipment became active despite a lack of any shoe gear on the unit.
- 3.4. Following these failures the decision was taken to isolate the AWS and reinstate at the end of the isolated section.
- 3.5. The driver briefing was rewritten for future occasions to emphasise the need to cancel the AWS before entering the isolated section followed by a complete reboot of the system after exiting. A late notice case brief was produced and it was also restated on the single line working ticket. Drivers were also reminded verbally on the day by the pilot-man.
- 3.6. Due to the issues previously encountered under this method of working, further planning took place. Part of the planning ensured that FCC supplied three members of staff along the course of the neutral section, each armed with emergency coupling equipment. Network Rail, in turn, arranged with East Coast to position two East Coast Thunderbirds (rescue locos) at either end of the isolated section in case a unit became stranded.

3.7. Sunday 22nd April 2012

- 3.8. The first three FCC trains went through the neutral section without issue. However, at 13:23 2P10 – 12:15 Kings Cross to Peterborough reported that it had come to a stand in the isolated section. This was later confirmed to be due to an AWS failure. One of the wires in the AWS mechanism had become trapped causing a false activation (caused by an intermittent earth fault) and the brakes had applied.
- 3.9. A Thunderbird locomotive was deployed within five minutes of the failure being declared. Within fifteen minutes of the failure an emergency coupler was fitted to the failed unit awaiting the arrival of the Thunderbird locomotive.

- 3.10. The Thunderbird locomotive was deployed from Welwyn and arrived at the failed unit at 13:54. All staff were in place and the assistance commenced. However, it was soon realised the Thunderbird locomotive was unable to couple to the stranded unit because the pin which secures the coupling would not fully drop on the locomotive. When the unit and locomotive tried to uncouple in order to rectify this issue, it was found that the pin had become jammed in the wrong position. A 'pull away' test failed, and the movement caused the train to split apart.
- 3.11. After many attempts, the unit and locomotive successfully coupled at 16:15 hours using the same equipment. At this point the locomotive compressor was unable to supply sufficient air pressure to release the brakes on the unit which, in turn, was not able to assist due to its batteries having gone flat during the time taken to secure the coupling of the unit to the locomotive. It then took a further 40 minutes for the air pressure to be built up sufficiently. The air pressure only reached 6.5 bar whereas the unit requires 7 bar to release the brakes via the eight main Reservoir Governors. Both the unit and the locomotive were examined to see if there was any air escaping, but none was found.
- 3.12. The decision was made to evacuate the stranded train (this had been considered earlier, but was deemed unnecessary as it was believed the train would be moved fairly quickly). The Rule Book requires that where the Emergency Bypass Switch is raised, the train cannot proceed forward with passengers. When all passengers had alighted the stranded train, the brakes were isolated and the unit was hauled by the locomotive as an 'un-braked' train. The line was cleared at 18:00.
- 3.13. The failure of the unit was due to a DC AWS circuit (based on legacy circuitry before the units began to be used in AC mode only) being activated by the lowering of the pantograph. The default status of the AWS when the pantograph is lowered is DC; this is because the 365 units were built as dual voltage trains. When the pantograph is lowered, the train is, in effect, preparing to operate on DC infrastructure. This failure mode was only experienced when the train was in 'DC' Mode, which was an issue not previously identified as the unit now only works using OLE power supply. This defect (a trapped wire) remained dormant and undetected as, on no other occasion previously had the unit encountered AWS track magnets, with the pantograph in the lowered position.

4. First Capital Connect View.

- 4.1. Considering all of the facts, it is the view of FCC that the delays captured within incident 746296 are not solely a result of the failed unit (one of four classes of EMU FCC operates on the Route). Other factors played a large part in the length of time it took to remove the stranded train. Prior to the unusual method of working on 22nd April 2012, which required a complex operational working arrangement to be implemented, robust contingencies to avoid excessive delay had been put in place. These were based on lessons learnt from the experience two weeks before. On this day the agreed contingency plan failed to meet expectations or to mitigate the delay.
- 4.2. The engineering work which should have been completed in 2010 could no longer be avoided. In order to finish the work, it was necessary for FCC to coast over a sizeable distance. During the planning stages of this work, the same type of scenario as this incident was discussed and listed in the risk assessments. It was agreed that Network Rail would be responsible for availing rescue trains should any issues be encountered in the isolated section. FCC does not operate diesel trains, therefore, would not be able to recover stranded units without assistance.
- 4.3. From 13:23 to 13:54 the FCC train was stranded and was solely responsible for the delay due to a fleet failure. However, taking into consideration an amount of time it would take to couple the two trains, build up the air pressure and do the correct safety tests (20 minutes), we believe the stricken train should have been moving by 14:23.
- 4.4. A secondary cause of delay was encountered when the coupler on the Class 67 loco failed to function as it should. The moveable parts of the coupler had become seized and the securing pin did not drop fully. After time was spent trying to manipulate the seized equipment, a second attempt at the coupling process was attempted and successful.
- 4.5. Due to the amount of time the unit had spent in the isolated section, the trains systems had to use the battery supply. However, by the time the trains were successfully coupled there was insufficient supply in the batteries to enable the brakes to be released. The Class 67 was only able to reach 6.5 bar air pressure but a 365 unit requires 7 bar in order to release the brakes.
- 4.6. The Guidance given for AD12 recognises that in some cases a second incident is necessary to capture the reasons for further and unexpected delay being encountered. FCC believes that, had the recovery loco been in full working order, the delay would have been reduced considerably. The stricken unit should have been recovered as planned in the contingency arrangements within one hour of the incident first occurring.
- 4.7. FCC has made every effort to negotiate a split of responsibility with Network Rail for this incident but, all offers have been refused.

4.8. FCC believes that:

4.8.1. A complex operational working arrangement was implemented in good faith at Network Rail's request.

4.8.2. FCC prepared properly following previous issues two weeks before.

4.8.3. NR failed in their objectives outlined in (page 3) section F of the Railway Operational Code (ROC). This states the following:

4.1.1 to facilitate the rapid clearance of a Failed Train or Disabled Train as appropriate, so as to clear the line; and

4.1.2 to provide the guiding principles to enable this to be achieved in each case, so as to support the ROC Objective, which is to sustain, and where necessary restore expeditiously, the operation of Services in accordance with the Working Timetable and in a manner consistent with the ORR ROC Criteria, having regard to:

(a) the interests of safety and security;

(b) the needs of passengers and freight customers; and

(c) the efficient and economical operation of the Network and of trains operating on it.

4.8.4. The agreed contingency plan failed to properly mitigate the incident due to the poor maintenance of the rescue locomotive.

4.8.5. This failure represents a second incident. As it is now too late to set this up, Network Rail should be liable for a proportion of the delay attributed to incident 746296.

4.8.6. The delays accumulated before 1423 hours equates to just under ten percent of this incident. FCC believes that Network Rail is responsible for ninety percent of this incident.

5. Network Rail View

5.1. Network Rail has used all sources of information available to the company to investigate the cause of delay as per the Delay Attribution Guide (DAG).

5.2. Network Rail agree with FCC that:

5.2.1. The trapped wire within the on train AWS equipment was the cause of the incident. The driver of 2P10 was unable to cancel his AWS warning indication because of a defective wire. It should be noted that this issue was not that the driver failed to cancel in time, but rather that he could not cancel.

5.2.2. The East Coast rescue loco was unable to couple with the stranded unit because the pin which secures the couplers would not fully drop on the loco. Network Rail staff were not involved in trying to engage the pin, this was FCC staff.

5.2.3. When the unit and loco tried to uncouple, it was found the pin had become jammed in the wrong position. Network Rail staff were not involved in trying to engage the pin, this was FCC staff.

5.2.4. A pull away test failed, and the movement caused the train to split apart.

5.2.5. The batteries on the class 365 unit had exhausted.

5.2.6. The class 365 was unable to create the correct air pressure.

5.2.7. The decision to de-train the passengers from the train was the correct one.

5.3. The Thunderbirds, Class 67s, are owned and maintained by DB Schenker and operated by East Coast drivers who have a link in their driver competencies to enable them to do so. Prior to this incident, arrangements had been made with East Coast for their Thunderbirds to be positioned at strategic locations as mitigation against this kind of eventuality. The Thunderbirds are not owned, maintained, operated or provided by Network Rail.

5.4. The Thunderbirds were scrambled within 5 minutes of the failure occurring at 1328, and were on site at 14:00, 32 minutes after the incident occurred. The failure occurred equidistant from the two standby Thunderbirds at Welwyn Garden City and Huntingdon, but the closest Thunderbird was on site without undue delay. To this point it is clear that Network Rail could not have done more to assist the failed train as response was immediate, and Network Rail had arranged with another Train Operator to provide two standby locos local to the coasting.

- 5.5. For this possession, the Thunderbird usually based at London King's Cross was moved to Welwyn Garden City to provide cover for this possession. It is not unusual to move the Thunderbirds in order to provide cover - it is an operational decision between Network Rail and the operator of the Thunderbirds – it is not a contractual responsibility.
- 5.6. In Summary: Network Rail took every reasonable step to mitigate delay.
- 5.7. The issue that arose is that FCC claims that due to issues with the emergency coupling of the locomotives, the assisting train was unable to assist as quickly as possible. On site, the emergency coupler was fitted to the unit and the Thunderbird 'buckeye' lock was positioned correctly with this. However, the buckeye was unable to lock in position, but could also not be released in order to uncouple.
- 5.8. After the evacuation, the unit and the attached Thunderbird attempted to move, but the loosely held coupling broke off. They were re-coupled but the additional time meant that the unit battery charge had reached such a low level that the brakes could not be released again. The brakes were manually wound off and once the unit was back under the overhead lines, the correct air pressure was able to be built up on the Thunderbird and the unit and both were able to function correctly.
- 5.9. The problem was further compounded when the Thunderbird attempted to supply air to the unit from the main reservoir on the locomotive via the emergency air pipe. This means there is a 7 bar air supply to the unit. The FCC unit has a normal working main air system pressure of 10 bar. The low main air protection switches on the units are set to open at 6.8 bar, and the locomotive was unable to generate enough pressure to release the brakes. Therefore this was not a 'failure' of equipment, more an operational limitation of the Thunderbird, once the class 365 batteries had run down. The Fitters on site operated the Emergency Bypass Switch in order to get the brake release, but by the time this was completed and the unit was ready to move, they were informed that an evacuation would take place, as is required by the Rule Book.
- 5.10. None of the failures or actions taken in relation to the coupling of the train and evacuation of the passengers was the responsibility of Network Rail.
- 5.11. In summary:
- 5.11.1. The root cause of the incident was the broken wire in the AWS mechanism on the unit which lead to the train coming to a stand in the isolated section. The battery drained and the unit was unable to raise air pressure to release brakes and required air supply from the Thunderbird.
- 5.11.2. There were issues with the coupling due to a problem locking in position. However, it is FCC that supplies the emergency coupler via their fitter.

5.11.3. The brakes could not be released due to insufficient air pressure. This is not a failure, but an operational limitation. It can, and was, overridden by the fitters on site.

5.12. Network Rail would re-iterate that at no point was there a fault with the infrastructure and that all of the issues cited in this paper relate to the operation of trains and decisions taken under the control of FCC as the operator of trains. At no point during the incident was the Network Rail infrastructure at fault.

5.13. Network Rail Involvement

5.13.1. Thunderbirds are not a formal part of possession planning. FCC does not agree to the timetables that ran during that period being dependent on the Thunderbirds being in place. There is no formal agreement or obligation on Network Rail to provide the Thunderbirds to mitigate against operational incidents/train failures during normal timetable, during possessions or times of degraded working. This is entirely an East Coast TOC business decision. Therefore, there is no obligation for Network Rail to maintain the Thunderbirds and ensure that they are in operational condition. Had the Thunderbirds not been present the overall delay would have very probably been more than the current 2,739 minutes as an assisting locomotive or train would have had to be secured from elsewhere, with the same potential risks.

5.13.2. East Coast allows the positioning of the Thunderbirds in order to facilitate the smooth running of the Network. It is in their interest to do so, and usually, in the case of trains or locomotives being used to aid failed trains, Network Rail pay the assisting TOC/FOC for use of their locomotive or stock, on each occasion they are deployed and the money is then recovered from the failed train TOC/FOC.

5.13.3. To summarise:

5.13.3.1. There is no formal contractual agreement between FCC and Network Rail to provide Thunderbirds to assist failed trains, or to maintain them. Therefore any problem with the Thunderbird cannot be Network Rail's responsibility.

5.13.3.2. When one operators train is called upon to assist another operator's train, while Network Rail facilitates the operation, by for example, commandeering a locomotive from a freight train, or cancelling a service train to secure an assisting unit, Network Rail accepts no accountability for the delay minutes arising in trying to provide physical assistance.

- 5.14. The cause of this incident is the failure of the AWS system on the train and ongoing issues related to the rolling stock. At no point was there a failure within the control of Network Rail.
- 5.15. The method of working implemented during the engineering work was agreed by all parties.
- 5.16. There is no contractual agreement between Network Rail and FCC to provide assisting locomotives. Network Rail had already made all reasonable efforts to ensure delays were minimised by requesting the Thunderbirds were located in strategic locations. The delays could have been worse had the Thunderbirds been based at their usual locations. It should be noted that FCC was responsible for the coupler and it was their decision to evacuate which caused further delay.
- 5.17. There was no failure of the infrastructure that stopped trains from running. This was a planned and agreed method of working, and all trains before and after had followed the plan successfully and without incident. The initial cause of the incident was the result of a train failure. This is not in dispute. The ongoing delay caused by this incident was the direct result of the issues related to the rolling stock and the actions undertaken by FCC to evacuate the train. Network Rail does not consider any of these concerns or issues to be the responsibility of Network Rail. FCC as the operator of trains was best placed to reduce overall delay. Network Rail did all it could to mitigate this delay and any extra delay due to the issues with the assisting train are not the responsibility of Network Rail.
- 5.18. The DAG is quite clear on failure to mitigate incidents and with regard to the failure of 2P10 on the 22nd April 2012. Network Rail did everything reasonably practicable to avoid this type of incident and there were no acts or omissions in the planning or on the day that should result in Network Rail being attributed an element of the delay arising.

“4.1.7 When agreeing attribution of Minutes Delay, or Reliability Events the contractual responsibility of Network Rail and Train Operators to mitigate the effects of an Incident should be taken into account. This includes where one of the Track Access Contract parties refuses a reasonable request (usually defined with reference to any contingency / service recovery plans that may have been agreed) to terminate one or more trains short of destination to prevent knock-on effects continuing for an extended period on intensively diagrammed services. A separate incident attributed to the party concerned is to be created for the effects of such failure to mitigate. “

Network Rail would state that it has not refused a reasonable request and has done everything in its power to mitigate delays.

4.1.8 In the case of incidents where Network Rail is held to be at fault, if the acts or omissions of the Train Operator were such as to prevent the mitigation of delay then the additional delays must be attributed accordingly. The converse also applies to the acts or omissions of Network Rail, its staff or agents, in the case of incidents where a Train Operator is at fault.”

- 5.19. Network Rail maintains that the attribution of this incident was absolutely in line with the DAG.

- 5.20. Network Rail maintains that where assistance to a failed train is required and where a third party locomotive or traction unit is used to assist, attribution should remain to root cause of the prime cause of failure, regardless of whether engineering activity is taking place or not. The fact of the matter is that the incident is the responsibility of the operator of trains and not the network. Paragraph 5.3(a)(iii) of Schedule 8 is clear in this issue.
- 5.21. Furthermore there were no allegations of failure to mitigate by FCC on the day of the incident.

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 they could refer the matter to Access Dispute Adjudication (ADA).
- 6.3. If the issue were referred to ADA, then an Access Dispute Adjudication 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 was not 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 DAG should be proposed, to improve clarity.

7. Consideration of the Issues

- 7.1. The Board, at its meeting on 19th February 2013, considered the request for guidance and took account of the following:
- 7.1.1. The facts provided by both Network Rail and FCC, in connection with the incidents disputed between the parties and their requests for guidance.
- 7.1.2. The oral information provided by the representatives of Network Rail and FCC at this Board meeting.
- 7.1.3. The incident occurred in April 2012 and, therefore, the version of the DAG in force at that time was dated September 2011.

7.2. In coming to its conclusion the Board regarded the following points as particularly relevant:

- 7.2.1. The parties have not disputed the facts of the incident.
- 7.2.2. There was no suggestion that any party had failed to mitigate the incident and the resulting delay.
- 7.2.3. Network Rail is not an operator of trains.
- 7.2.4. East Coast Trains are the Train Operator of the rescue locomotive.
- 7.2.5. The Railway Operational Code indicates the following:
 - that Network Rail is responsible for the necessary consultation and commissioning of any rescue locomotives,
 - that the Train Operator of the failed train is responsible for guidance and control when pushing or pulling the failed train,
 - that movement of the failed train is described as action by or on behalf of the Train Operator of the failed train.
- 7.2.6. The Board concluded that the method of working and the planning for it indicated a commendable attempt by all the parties involved to minimise the disruption to passengers that the engineering work would cause. It was simply bad luck that a combination of circumstances led to so much disruption.
- 7.2.7. The Board recognised that it would not wish to discourage the co-operation demonstrated by the parties and that correct delay attribution should provide appropriate incentives for Access Parties to improve train service performance. It also recognised that no matter which Access Party this incident was attributed to, there would potentially be no incentive:
 - For the Train Operator of the Class 67 to provide rescue locomotives for incidents for which it is not at fault.
 - For FCC to agree to 'coasting' arrangements in connection with this kind of restriction of use.
 - For Network Rail to plan and implement alternative methods of working that allow services to continue to operate during restrictive engineering works, including the arrangement of rescue locomotives to mitigate delay in cases of failed trains Operating under those methods of working.

8. .Guidance of the Board

8.1. Based on the information presented, the Board unanimously agreed the following:

- 8.1.1. That the parties had asked three specific questions each in their joint request for guidance and that the Board should respond to each question in turn and provide the rationale for each response:

Network Rail asked the following questions:

- 8.1.1.1. Q1. Was this incident attributed correctly?
- 8.1.1.2. A1. No. The failure of the locomotive coupling equipment to function correctly was unconnected with the AWS failure bringing the FCC train to a stand. Two separate and unconnected occurrences had caused Minutes Delay and therefore two incidents should be created according to DAG Section 2.6.2.
- 8.1.1.3. Q2. (If No to Q1) should a second incident have been created for the assistance element?
- 8.1.1.4. A2. Yes. As per the reason given in 8.1.1.2 above, a second incident should have been created to represent the additional Delay Minutes caused by the failure of the locomotive coupling equipment to function correctly.
- 8.1.1.5. Q3. (If Yes to Q2) Should a possible second incident have been attributed to FCC, Network Rail or the TOC/FOC of the assisting train?
- 8.1.1.6. A3. The second incident that should be created representing the additional Delay Minutes caused by the failure of the locomotive coupling equipment to function correctly should be attributed to FCC. The rationale for this being that the rescue locomotive was operated on behalf of FCC to clear the line of the failed FCC train. This premise is supported by paragraphs 7.1.1 & 7.4.1(a) of the Arrangements for Clearance of Track Blockages and Assistance for Failed Trains section of the Railway Operational Code (ROC) which make it clear that any movements of a rescue locomotive/rescue train and the failed train are under the control of the Train Operator of the failed train.

FCC asked the following questions:

- 8.1.1.7. Q4. DAB is asked to provide guidance as to whether it is acknowledged that the delays within incident 746296 are not solely due to one cause.
- 8.1.1.8. A4. Yes. The Board agreed that there were two causes for the total delay allocated to the incident. The first was the AWS failure bringing the FCC train to a stand and the second was the subsequent failure of the locomotive coupling equipment of the rescue train. The lack of sufficient air pressure to release the brakes on the failed train was a direct consequence of the failure to couple correctly and this, therefore, did not represent a third cause of delay.

- 8.1.1.9. Q5. Does the DAB agree that a second incident should have been attributed?
- 8.1.1.10. A5. Yes. The Board agreed that a separate incident should be created representing the additional Delay Minutes caused by the failure of the locomotive coupling equipment to function correctly.
- 8.1.1.11. Q6. If DAB agree that the delays were due to more than one cause, should 100% of the responsibility remain with FCC?
- 8.1.1.12. A6. Yes. The Board agreed that two TRUST incidents should be created. The incident representing Delay Minutes caused by the AWS failure on the FCC train should remain the responsibility of FCC. A second incident should be created representing the additional Delay Minutes caused by the failure of the locomotive coupling equipment to function correctly and this should also be considered the responsibility of FCC as the rescue locomotive was operating on behalf of FCC. This premise is supported by paragraphs 7.1.1 & 7.4.1(a) of the Arrangements for Clearance of Track Blockages and Assistance for Failed Trains section of the Railway Operational Code (ROC) which make it clear that any movements of a rescue locomotive/rescue train and a failed train are under the control of the Train Operator of the failed train.
- 8.1.2. The Board agreed that it was important to recognise that two separate incidents had occurred to provide data for train service performance improvement purposes.
- 8.1.3. The Board agreed that it would not recommend any proposed changes to the DAG as a consequence of this guidance as Section 2.6.2 already states that “Each separate and unconnected occurrence resulting in Minutes Delay and/or Reliability Events is set up by Network Rail staff as a TRUST Incident”.

This guidance was approved by the Delay Attribution Board on 19 th March 2013	John Rhodes (Chairman)
Signature: 	