



Llywodraeth Cynulliad Cymru  
Welsh Assembly Government

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## WRITTEN STATEMENT BY THE WELSH ASSEMBLY GOVERNMENT

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**Title: Major Power Failure on the South Wales Rail Network on 22 March 2011**

**Date: 31 March 2011**

**By: Ieuan Wyn Jones, Deputy First Minister and Minister for the Economy and Transport**

On 23 March I answered an urgent question in the Chamber about the power failure at Cardiff Central Station signal box on 22 March that affected all train services into Cardiff.

I stated at the time, and it is important to re-emphasise, that this type of power failure in these circumstances is unusual. I also said that the issues relating to the failure are within the remit of Network Rail. The Welsh Assembly Government has no devolved responsibility for Network Rail.

Nevertheless, I would not want to see commuters unable to go about their business, and clearly there was major disruption to the network in the Cardiff area on Tuesday 22 March.

Network Rail and Arriva Trains Wales will be producing a full, formal report into the incident. This will be available shortly.

In the meantime, I agreed to provide further information to Assembly Members. The following additional information has been received from Network Rail:

*The first report that the signalling system had failed was received from Cardiff Central Signal Box at 07:07. Subsequently, Heath Junction and Barry signal boxes confirmed that they too had lost power.*

*An initial review suggested the cause may have been a significant power surge. However, further investigations involving Western Power personnel were able to discount this and by early afternoon it became apparent that the*

root cause was the failure of a cable connecting the 'stand-by' generator<sup>1</sup> to the signalling system at Cardiff.

Subsequent investigations showed that the fault resulted in the termination points in the cable over-heating. As a consequence of this, the amount of current drawn increased which blew a fuse and caused the cessation of the mains power supply to the signalling equipment. As it should, the stand-by generator then started but the damaged cable caused a short circuit which resulted in the failure of the back-up generator. This type of failure is highly unusual and had not been experienced before.

Immediately after the loss of power to the signalling equipment was first reported, a replacement generator was procured from Sudbrook Pumping Station (Severn Tunnel). Full signalling was restored by 10:00, approximately three hours after the failure was first reported.

An industry review of the incident took place on Wednesday 23<sup>rd</sup> March. This involved representatives of passenger and freight operators and Network Rail. During this review particular attention was paid to the effectiveness of the industry's response to the incident and the subsequent recovery of the train service.

While it is fully acknowledged that this was a hugely damaging and disruptive failure of the railway infrastructure, the subsequent response and service recovery is considered to have been largely effective. Typically, an incident of this magnitude will have significant knock-on effects throughout the rest of the day. In this instance, as soon as full signalling was restored, the industry was quick to recover to a reasonable level of punctuality. This was achieved by pro-active management of the reinstatement of services. By midday the amount of residual delay in the system had reduced significantly and by mid afternoon the punctuality, as measured by PPM, had returned to normal levels. In total, however, this incident caused 5,000 minutes of train delay and resulted in 223 full or part train cancellations.

In the short to medium term Network Rail will be conducting a forensic examination of the signalling and power supply equipment at Cardiff signal box to determine the exact nature of the faults experienced. A review into inspection and maintenance protocols will also be undertaken.

In the longer term, Network Rail is embarking on a £220m programme which will modernise the signalling in the Cardiff area. This will see the migration of signalling operations to the new South Wales Control Centre at Canton. The Welsh Assembly Government is funding elements of this programme including new turn-back facilities at Barry, Caerphilly and Pontypridd. The programme is already well into the development phase and commissioning is currently expected to run from 2013 to 2015.

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<sup>1</sup> The stand-by generator exists for occasions when the mains power supply fails.

I believe that Network Rail has provided a comprehensive reply so far for such a recent incident. I am aware that Arriva Trains Wales is also reviewing its communication procedures and amending its processes for dealing with future large scale incidents of service disruption.

The Assembly Government will review the formal report of this incident in more detail, when it arrives in due course.

In terms of the effect of the incident on the wider economy, it is difficult to provide a reliable quantitative estimate. Clearly there was widespread disruption to work patterns. However, in judging the overall impact, account also needs to be taken of the fact that rail travel accounts for a relatively small share of commuting, even in South East Wales, and that in many cases, activities may have been delayed rather than abandoned altogether.

Taking account of the numbers affected, likely average lengths of delays, and incorporating broad estimates of the potential value of lost output, it would suggest that the economic cost of the disruption was probably of the order of £1 million.