Responsibility for the regulation of health and safety on the railways was transferred from the Health and Safety Commission (HSC) and Health and Safety Executive (HSE) to the Office of Rail Regulation (ORR) on 1 April 2006.

This document was originally produced by HSC/E but responsibility for the subject/work area in the document has now moved to ORR.

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Derailment of Gatwick Express Train near Redhill, Surrey on Monday 30 June 2003

1. On Monday, 30th June, just before 5.30 am, a Gatwick Express train (Gatwick to Victoria) derailed just outside Redhill Sand Tunnel between Earlswood and Purley while traveling on the Up Fast Quarry Brighton Main Line. The train, which had 26 passengers on board, was a Class 73 Electro Diesel Locomotive with five Class 488 (Mark II) coaches and a Class 489 motor luggage van with driving cab. The locomotive was at the rear of the train and the driver was driving the train from the motor luggage van at the front.

2. The train was traveling between 75 and 80 mph, which was within the permitted line speed, when the driver saw ahead a misalignment of the track; he immediately applied the emergency brake. As the train hit the track misalignment the driver was thrown from his seat, but he was not hurt. He promptly spoke to the signaller to get the line blocked and then placed track circuit operating clips and detonators on the line. One member of the public aggravated a previous whiplash injury. The train stopped 600m beyond the track misalignment. A single wheel set on the leading bogie of the locomotive was derailed. The passengers were evacuated into another train brought alongside at 8.30 am.

Derailed trailing locomotive

3. Inspectors from HM Railway Inspectorate (HMRI) immediately went to site to start an investigation. HMRI's investigation confirmed that tamping work (maintenance work by a machine to correct any line and level faults in the track) had been carried out on the track immediately to the south of where the driver saw the track fault. The tamper team had finished work about one hour

before the Gatwick Express train went over the track; it was the first train on that line following an engineering possession on 29/30 June. The Gatwick Express was rerailed by 1.30 pm on Monday 30 June 03. Both the Up and Down Fast lines were closed for four days while the damaged track was repaired.

Track fault after the Gatwick Express had travelled over it

4. HMRI's investigation involved:

- Examination of the track, the Gatwick Express train and the tamper;
- Examination of the maintenance records for that area; and
- Interviews with relevant personnel involved.

5. Examination of the track confirmed that, immediately to the south of the derailment site, the Up line track had been progressively displaced towards the Down line track by up to 228mm. This displacement occurred over a length of 171 sleepers. The derailment was caused by the sharp transition in the track's alignment between the displaced and undisplaced sections of line. The trailing Class 73 Electro Diesel locomotive caused the track displacement towards the cess, as shown in the photograph above, after it had been through the sharp transition.

6. A number of different scenarios have been examined to determine how the track could have been displaced in this way. The only reasonable explanation for the displacement lies in the tamping work carried out on the day of the

incident. After extensive examination no permanent fault could be found with the tamper and while a transient fault in the tamper's slewing mechanism could not be replicated, it may have been present.

7. The tamper was not pulled off the transition in the track between the displaced and undisplaced sections of line at the end of the tamping run to allow the track to be inspected. This failure to properly inspect the transition at the end of the tamping run before handing it back for use has been raised with Network Rail (the infrastructure controller) and AMEC SPIE Rail (UK) Ltd (the infrastructure maintenance contractor, who had responsibility for inspection of the track) and Jarvis (the tamper's owner and operator). Very soon after the incident both companies sent out briefings to their staff to ensure that tampers are moved off the end of their working area to enable the proper inspection of the transition area prior to a return to service. HMRI is content with that action by both companies. HMRI will not be making any further comment on this investigation, which has been closed out.

HM Railway Inspectorate December 2003