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SwP008/14

Lindridge Farm - EMCC

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home safe
every day

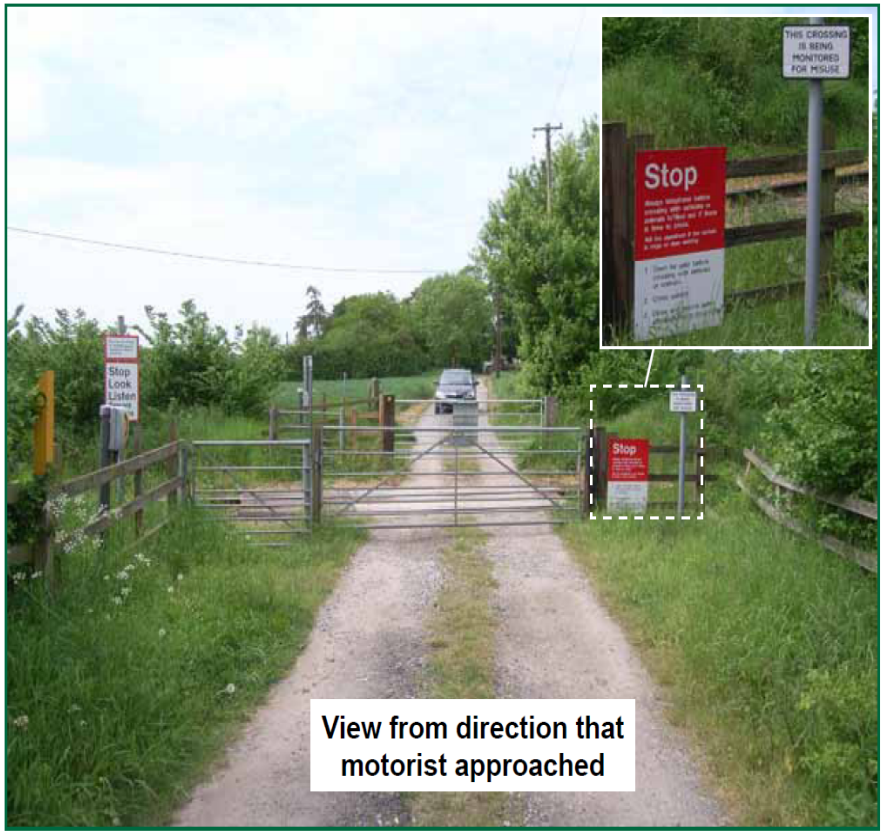
Background

Lindridge Farm is a User Worked Crossing (UWC) depicted on the Leicester Workstation of East Midlands Control Centre (EMCC)

The linespeed at this location is 20mph and Freight traffic only use this line

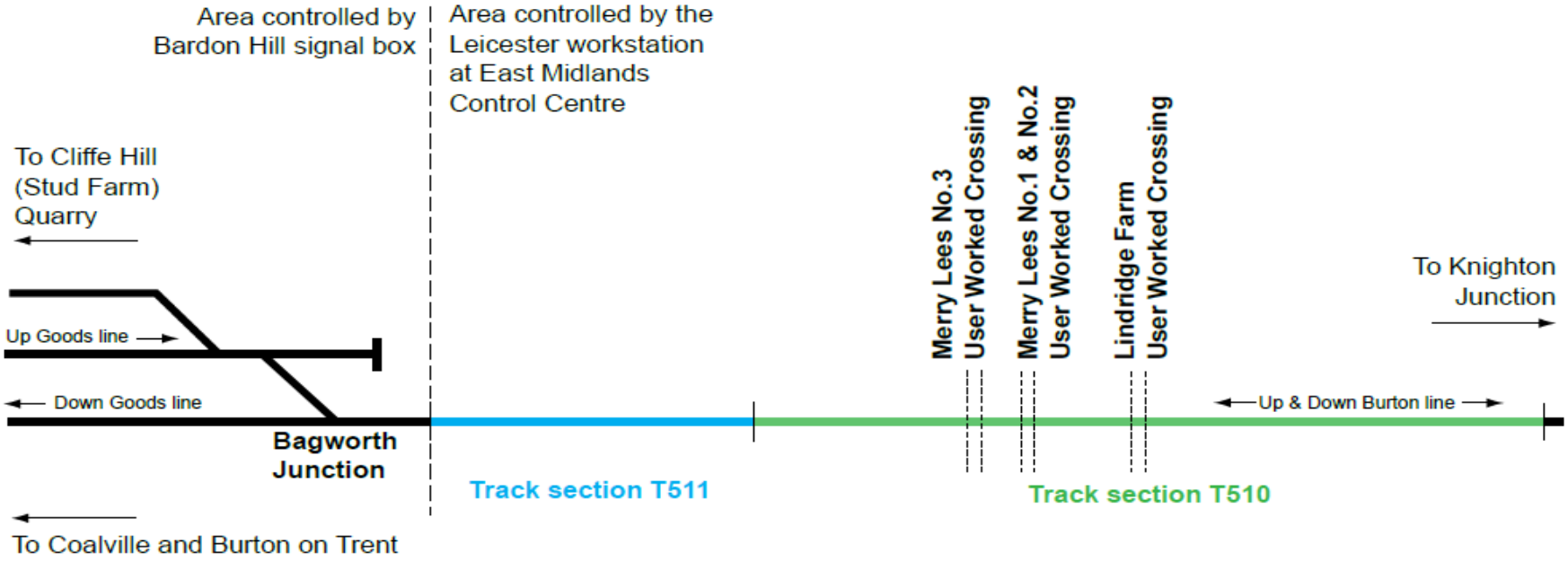
The signalling is colour light multi-aspect signalling with Track Circuit Block

The monitoring of this crossing and others on this route transferred from Leicester PSB to EMCC on 3rd January 2012



Site Configuration

Lindridge Farm user worked crossing is located at 105 miles 64 *chains*, from a zero reference at London St Pancras station, and crosses a single track railway which is referred to as the Up & Down Burton line (figure 3). This line, on which trains run in both directions, goes from Knighton Junction, which is about 1.5 miles (2.4 km) south of Leicester station, to Bagworth Junction at 109 miles 74 chains where it becomes a double track railway. After Bagworth Junction, the railway continues through to Coalville and on to Birmingham Curve Junction where it joins the Derby to Birmingham line just south of Burton on Trent.



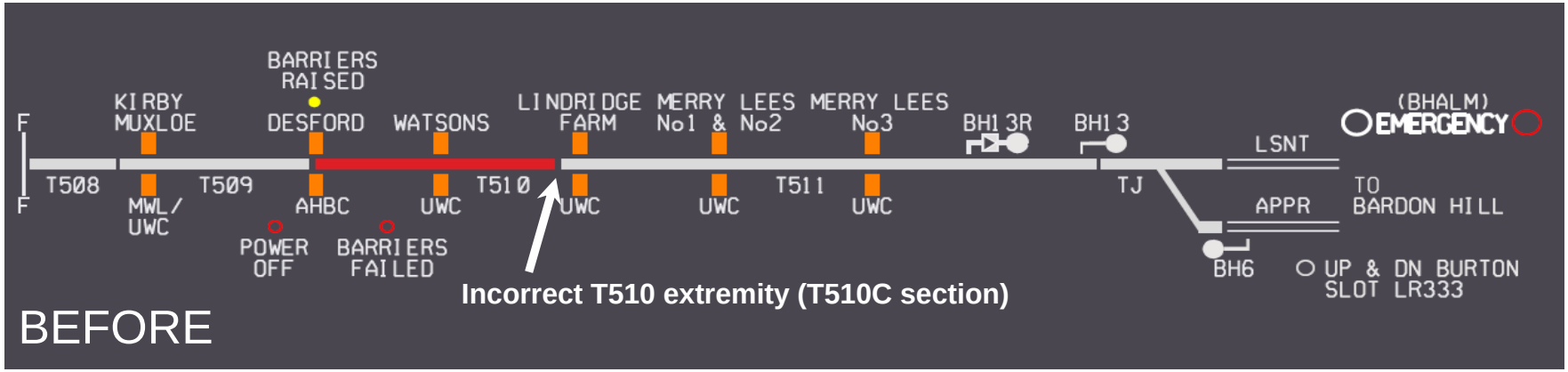
Lindridge Farm UWC Incident

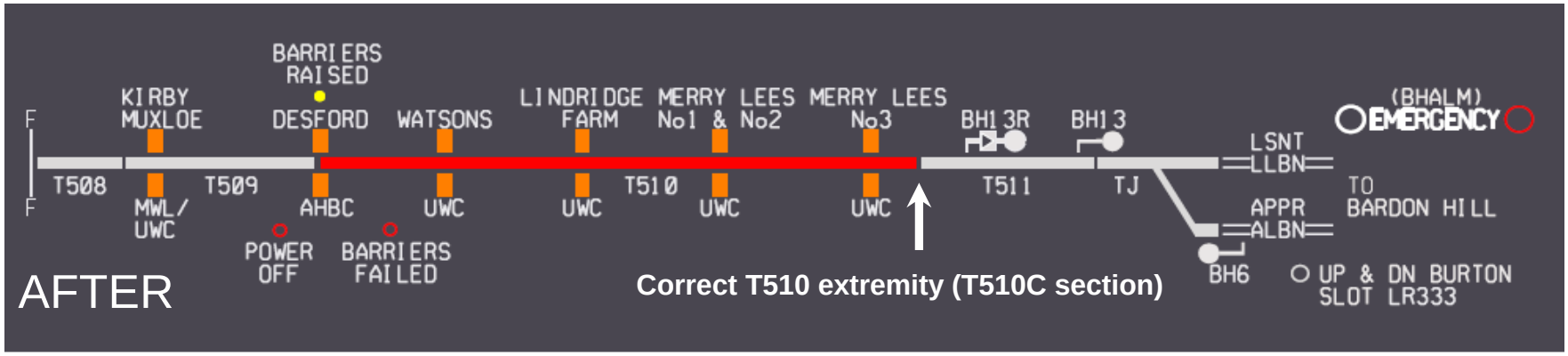
At about 07:38 hrs on 22 March 2012, a motorist used the telephone at Lindridge Farm user worked crossing, near Bagworth in Leicestershire, to ask the signaller at Network Rail's East Midlands Control Centre for authorisation to cross the railway. The signaller checked the indications on his workstation, observed that a train had already passed over the crossing, and gave permission to cross. The motorist opened the near gate, crossed the railway line on foot, and while opening the far gate saw a train approaching. The motorist called the signaller back to report what had happened.

The immediate cause of the incident was that the signaller believed the train had already passed the level crossing when he gave the motorist permission to cross because his workstation view showed the level crossing in the wrong place. This error had been present on the workstation view from the time it was commissioned on 3 January 2012 as part of a project to transfer control of the railway from Leicester signal box to the East Midlands Control Centre.

This project had redrawn a signalling plan for the Leicester area and introduced an error; a track circuit was incorrectly named. This error was not noticed and was copied into a scheme plan, which was subsequently used to check the design of the signaller's workstation views. During these design checks, the level crossing was moved to the wrong track section on the view, so that it corresponded with the error on the scheme plan. The error on the view was not identified during testing so the signaller's workstation was commissioned with the level crossing shown in the wrong place.

VDU Screens before and after correction





Signalling and Scheme Plans for the work

Due to the signalling plans for the area being out of date, a signalling plan redraw took place and track circuit T510C was incorrectly drawn as T511C. Track circuit T511 is adjacent to T510 and contains sections T511A, T511B and T511C.

Track circuit section T511C was therefore duplicated and the duplicate entry was now between T510B and T510D.

The signalling plan was used to produce the scheme plan for this project and the error was transferred.

At the IDC it was decided to move the extremity of T511 to now include Lindridge and the 3 Merry Lees UWCs on the screen layouts on the basis that the screen layouts were in error.

The existing Leicester PSB panel was also incorrect due to another project using the re-lock scheme plan when Merry Lees UWCs were represented on the panel during fitment of telephones prior to the main commissioning into EMCC.

During the main EMCC commissioning, a test log was raised noting the error and was deferred citing a records deficiency for update of the signalling plan.

Lessons Learnt

The importance of the integrity of signalling plans and scheme plans is paramount;

Opportunities existed to capture the duplication at points in the project lifecycle

1. Use of numbering grids as per NR/L2/SIG/11201/ModA2 'Minimum Requirements of Design Details' issue 5, compliance date 03/09/2011*, Clause 1.4 Numbering Grids*, would have presented an opportunity to capture these errors at both signalling plan re-draw and scheme plan production phases (Note future versions of plan software to have duplication check functionality included)
2. The material change that took place during the IDC should have been more effectively consulted, resulting in another check of the situation that presented itself prior to moving the crossings presentation on the signallers view
3. VDU layout to be produced from the approved Correlated Scheme Plan and a ‘cross check’ of a VDU layout vs the existing panel/diagram during recontrol projects
4. Consideration to be given to corresponding train detection from trackside at UWC/FP crossings with phones

Numbering Grid Examples

Examples of numbering grids;

<u>One Dimensional</u>:

Signals: 101, 103, 105, 120, 122, 124.
Points: 201, 202.
Train Detection: AA, AB, AC, BA, BB, BC.

<u>Two Dimensional</u>:

√ denotes identity used

Main Signals & Slots (100-199)

	0	1	2	3	4	5	6	7	8	9
10x		√		√		√				
11x										
12x	√		√		√					
13x										
14x										
15x										
16x										
17x										
18x										
19x										

Further information…

Please also see RAIB report 11/2013

For any further details or information please contact:

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