

20th May 2008

Appendix A – 3350/169

Infrastructure Group Safety Bulletin

Zollner ZPW LOWS – Prohibition Notice



ZPW Static version



ZPW Patrolling/Mobile version

The Office of the Rail Regulator (ORR) have recently conducted a site visit to observe the LOWS equipment being used to provide warnings of trains approaching for the red zone safe system. During the visit an incident occurred when a train approached without warning having been given through the LOWS equipment.

The ORR believed that a Wrong Side Failure had taken place and issued a Prohibition Notice effective until the cause of the incident had been investigated and resolved. Investigations have demonstrated that there was **NO wrong side failure** and that there were multiple human errors in the use of the equipment which caused the event.

Correct set up and use process of the LOWS equipment when the lookout is more than 500 yards from the ZPW site warning unit requires;

- Good positioning of the lookout clear of features which reduce radio signal transmission
- Use of the 5A radio signal strength booster and the back pack aerial with the lookout ZFH
- Good positioning of the ZPW clear of features which reduce radio signal transmission
- The ZPW to be either used static version with aerial fitted mounted on its tri-pod or patrolling version with back pack aerial fitted and extended
- When setting up the system, a **test train warning** must be made from each lookout unit to prove the system **BEFORE** any work starts on site

The staff involved in setting up the LOWS at this site performed **NONE** of the required set up and test processes described above during each of the 9 system re-starts they made during the 40 minutes at site.

At the time of the incident the South direction lookout ZFH unit had **NOT** been accepted, registered and tested onto the ZPW warning unit by the ZPW Operator – so no warnings of trains could be received from that lookout unit.

Data log reviews from other ZPW units in use by Network Rail staff does demonstrate that other users of the equipment are correctly following the required set up and test processes.

Actions:

All Managers and Users of ZPW LOWS are instructed that:-

- ZPW LOWS can not be used on the infrastructure until the Prohibition Notice is lifted.

Zollner and the Maintenance LOWS Project Manager are:-

- Modifying the LOWS software to enforce the sending of test warnings by staff between units during the set up process (if not done equipment will fail to safe and give warning)
- Modify the LOWS software to provide additional ZPW on screen prompts to lead the user through the set up process
- Modify the LOWS software so that it takes a double action button press to confirm the rejection of a ZFH lookout unit from the ZPW
- Increasing the number of action events recorded in the equipment data logs to more effectively assist incident investigation and monitor staff usage.
- Proof testing the changes then rolling them out across all ZPW units

The Maintenance LOWS Project Manager will:-

- Prepare a briefing document for use by Managers in briefing staff in the nature of the changes to allow the Prohibition to be lifted.
- Define the programme to roll out the implementation of the software changes onto the ZPW units
- Liaise with ORR to have the Prohibition Notice lifted

An up-date to this bulletin will be issued when the Prohibition can be lifted

The Prohibition Notice does NOT apply to Zollner ZAL LOWS equipment or to Schweizer LOWS equipment