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Things are steaming rapidly ahead... are all depots keeping up?

Some rail maintenance depots seem to look, and operate, as if they are still in the steam age. All very quaint, but how efficient are they, and even more important, how safe for depot staff?

Health and Safety Executive statistics for 2010/11 reveal that 171 people were killed at work in the UK that year and over 115,000 injuries were reported under RIDDOR. It is difficult to obtain a precise figure of the cost of a fatality, but in addition to the unquantifiably enormous cost of human grief and suffering, when considering the cost of legal proceedings, medical and emergency services charges, associated damage to equipment, loss of production and insurance costs, then a seven figure sum is not unreasonable.

So clearly it is vital in both human and financial contexts that everything possible must be done to reduce these risks, especially when severe hazards such as moving trains and high voltage equipment are present in the workplace.

Train movements within a depot are an obvious occupational hazard in the rail industry. Research carried out by the Rail Safety Standards Board in the 2005 Halcrow Report looked into the causes of collisions and accidents relating to train movements in maintenance depots, reviewing 880 incidents taken from information gathered in relation to 28 UK depots during a seven year period.



The need for infrastructure improvements

The report looked at various potential factors, but interestingly found age of depot to be the most statistically significant contributory factor. The RSSB report shows that depots built within the last 20 years are found to have reported significantly fewer accidents than their older counterparts.

Over the past two decades, depot infrastructure has undergone changes which have clearly made a positive impact on safety. Better lighting arrangements, communication systems, access points, switches/crossings, signal sighting, fouling points and SPAD traps all contribute to increased safety.



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Modern technology is an important part of the answer for Britain's depots. Innovative systems such as Zonegreen's SMART Depot Personnel Protection System (DPPS™) help control vehicle movements and protect individuals working within the depot, in turn ensuring that essential vehicle movements and maintenance are able to be carried out efficiently without endangering individuals or risking damage to maintenance facilities or rolling stock. Using intelligent control and communication technology, this system is a proven safe and efficient way of controlling depot train movements.



Technology has an important role to play

It is often the case that accidents are caused by human actions, and unfortunately given the circumstances and surroundings, a mistake in a depot is more likely to have a serious impact that it would in a different environment.

The RSSB's research identified the most common human factors for accidents to be: fatigue caused by night work; poor communication; poor user interface design; time pressures leading to risk taking; poor legibility of information displays; an over-familiarity with team members leading to incorrect assumptions; and a poor appreciation of risk due to lack of training.



Of course, nothing can completely eradicate the potential of an accident being caused by a human action; but it is possible to implement new technologies, putting in place as many complimentary measures as possible to ensure that such incidents are kept to a minimum.

Technologies such as Zonegreen's SMART Depot Personnel Protection System (DPPS™) offer solutions that provide added safety controls and communications help ensure that any human errors do not end in disaster. In the case of DPPS™, electronic personnel data keys identify when an individual is working in a "safe zone" and allow the intelligent system to protect them from unexpected train movements; the system furthermore provides warnings when train movements are imminent.

Modern, advanced solutions have a big role to play in promoting safe working practices - for the benefit of both staff and the depot operating companies they work for.