

Zonegreen



Reducing the Risks in Rail Depots

Even though the UK boasts one of the safest railways in the world, accidents are still happening with worrying frequency.

With a deadly combination of high-speed vehicles, high-voltage electricity and powerful machinery, maintenance depots are undeniably dangerous places to work. It is no surprise that a quarter of all

workforce fatalities have occurred in depots in the last five years and they account for 20% of all workforce harm, according to the Rail Safety and Standards Board's (RSSB) latest Annual Health and Safety Report.

The continued level of incidents in depots prompted the RSSB to conduct an analysis with the Passenger Operators Safety Group into patterns in reported injuries. The study found clear peaks in incident rates at 10am and 11pm,

which correlate with peak times for trains arriving at depots for servicing after the morning rush hour and at the end of the day.

The RSSB states: "After arriving back on depot...trains are moved for refuelling, servicing and cleaning. This involves activities such as coupling and decoupling."

It concluded that more attention needed to be paid to how trains enter depots, particularly during peak times.



Protecting Our Depot Workers

If we are to mitigate accidents and injuries in rail depots, it is clear the movement of vehicles needs to be made safer. The easiest way to do this is to remove the margin for human error.

Zonegreen's flagship Depot Personnel Protection System (DPPS) is an innovative, automated means of allowing the safe and efficient movement of vehicles in and around maintenance depots. Workers are able to create 'safe zones' in which to operate, which are physically protected by Network Rail-approved powered derailleurs.

Staff members log on to DPPS using contactless RFID tags that identify where they are working. The system then prevents any vehicle movements being authorised on to that road until all staff members have logged off and the road is clear. In the event that a signal is passed at danger (SPAD) the vehicle is physically prevented from entering the maintenance shed by either a Network Rail-approved derail or wheel stop. When a train needs to be repositioned,

a designated person can give permission for the movement using the system's user-friendly road end control panels, which are placed strategically within the depot (normally next to the doors), giving a clear line of sight to incoming and outgoing activity.

Only after the derailer has been lowered will the proceed signal be given. Audible and visual warnings are simultaneously activated on the road when the derailer is lowered to indicate a train is on the move.

Certified Risk Reduction

Unlike most competitor depot protection systems, DPPS has been independently certified to meet hardware safety integrity requirements of SIL 2. This is a measurement of the performance required for a safety instrumented function and is defined by assessing the relative levels of risk reduction it provides.

Although there is no defined SIL requirement for depot protection, some alternative products integrate an off-the-shelf SIL2 PLC into an otherwise untested system. However, Zonegreen has

subjected the whole of DPPS to the functional safety assessment, demonstrating its commitment to improving the depot environment for maintenance workforces. The firm's continued research and development has enabled its team to create a standard DPPS product that can be simply and quickly configured to each depot's unique layout. This means every installation, going forward, will be certified to SIL2 with respect to hardware failures.

Safety Demonstrations

Zonegreen will be exhibiting its market leading depot protection system at Railtex/Infrarail this year, 7-9 September, on stand N02 in Hall 11 of the NEC. Visitors will be able to see first-hand how staff are protected and vehicle movements are controlled via the RFID-operated road end panel and powered derailleurs. They will also be able to learn more about the benefits of the Depot Manager software.

Gemma Houghton, the firm's sales and marketing director, said: "After a very long wait, we are really looking forward to catching up with old friends and introducing DPPS to new contacts at Railtex.

"We have been hard at work throughout the pandemic installing DPPS at UK depots and looking for innovative ways to improve the system and demonstrate its effectiveness. Being certified to meet hardware safety integrity requirements of SIL2 is a fantastic endorsement of our product and we are very proud to have achieved this independent accreditation."

For more information about DPPS, call at **stand N02 at Railtex**, telephone Zonegreen on (0114) 230 0822 or visit www.zonegreen.co.uk

WHAT'S THE COST OF LIVING?



Renowned as global market leaders in depot protection systems, the **SMART DPPS™** delivers physical protection from vehicle movements to rail depot staff whilst providing visual and audible warnings.



7 - 9 September 2021
NEC, Birmingham

Visit us at Stand N02, Hall 11

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