

Help to improve track worker safety

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The OPC uses its three decades of industry expertise to discuss why safety incidents can happen at the trackside and what can be done to help improve the safety of our track workers.

For over 30 years, OPC psychologists and assessors have successfully worked alongside rail operators, employees; track rail engineering agencies, and other engineering operators in both the UK and overseas. We have a special interest in Human Factors; and have experience and expertise into why rail workers make errors and have safety incidents.

Ensuring track worker safety is of 'critical concern' for our industry and with a recent report into a track fatality, the OPC believes that there is still more to be done to help improve track worker safety. So, we've been sharing some learnings and activities that we've been implementing alongside clients in the industry.

The importance of Non-Technical Skills (NTS)

The importance of identifying and implementing NTS cannot be emphasised enough. Having spent many years working with rail employees who've had safety incidents, and more recently with track workers involved in near misses or other incidents, OPC psychologists believe there are some critical NTS for safe and effective track work performance. These NTS include:

- Risk anticipation and time focus;
- Being and staying actively vigilant for safety hazards and warning signs along with concentration;
- Conscientiousness and checking; and
- Understanding and following rules, regulations and procedures closely.

A case in point – demonstrating the effectiveness of these NTS

OPC psychologists were asked to investigate a close call for a line blockage incident involving two track workers and a signaller. The aim was to identify the NTS shortfalls, the Human Factors involved and whether there were other issues for consideration, such as rules and policies. [Some of the facts below have been changed to protect those involved.]

Initially, the track work for an overseas rail organisation was booked and set up for a track employee who didn't know the track section particularly well. So, another very experienced track employee (Track worker 1 -TW1) offered to complete the work as she was more familiar with the location. She would be helped by an assistant who was new to the role (Track worker 2 – TW2).

The blockage was long and it was booked at a busy time of day with frequent trains running. An additional complication was that the signaller was due to swap with a relief signaller about the time of the blockage. The signaller's desire was to get the job done himself and also to 'help out' by pre-filling some of the necessary paperwork ahead of his contact call from TW1 to provide the blockage.

The Signaller conversed with TW1 on the phone. It was agreed that four trains needed to pass before the line blockage could be actioned. TW1 agreed to call the signaller back when they had all passed to complete the blockage request. TW1 noted three trains had passed by and she then received a call from the Signaller, to provide the line blockage. TW1 had not seen the fourth train pass, but assumed the signaller was more 'in the know' than she was. Their conversation was short, and only the final sections on the Signaller's paperwork were completed over the phone. The blockage was granted. The signaller did not check for the location of the final fourth train.

TW 1 began to walk in the cess whilst TW2 walked in the 'four foot'. Checking for confirmation, TW1 asked TW2 how many trains had passed, was it three or four? She knew the answer was three. At this point TW1 felt something was not quite right – a 'gut feeling'. She sensed there may be a risk of a train in the line blockage. We often interpret this as 'risk anticipation'. Given her unease she asked TW2 to come into the cess. He didn't move immediately but did so after a more assertive instruction. Immediately the train driver of a train sounded the horn. The train was going at speed. Both track workers acknowledged the horn. The train passed within a few seconds of TW2 moving out of the way. A really close call.

Some NTS observations and opportunities to learn

Anticipation of risk and time focus

Trackworker 1 (TW1)

She demonstrated strong risk anticipation:

- Initially she took on the job herself, protecting a team member with lesser experience. These are key safety leadership behaviours and it shows risk management.
- She was conscious of what we call the 'risk journey' – small, subtle and cumulative risks that means an unsafe situation is more likely to occur. In this case the line blockage location, the busy timing, the signaller not following the agreed process; and, her conscientiousness at counting just 3 of the 4 planned trains. Cumulatively, they all added up to leave a strong feeling of unease – or a 'risk anticipation';
- Checking the number of trains that'd passed and also seeking confirmation of that fact from TW2;
- Her risk anticipation led her to modify her behaviour helping ensure their safety e.g., instructing TW2 to join her in the cess;
- TW1 was aware of these risks and acted upon them, probably saving both their lives.

The Signaller

Risk anticipation and time urgency go hand in hand – there are some contributory factors in this case:

- He wanted to help TW1 complete her job, as it was near her shift end;
- He also wanted to set the line blockage up earlier to avoid his relief signaller having additional work;
- He was rushing to get the blockage done and didn't check the location of the fourth train;
- Furthermore, to save time he completed some of the necessary paperwork up front, instead of following a diligent process. The completion of the entire form during the agreed phone call could have prompted the Signaller to check the position of the fourth train and so most likely avoided the incident;
- His time urgency and desire to help led the signaller to be at risk, and so contributing to the incident.

The NTS of conscientiousness and checking

- A stronger checking regime could have helped avoid the incident. For example, if the Signaller had:
 - Checked the fourth train had passed the signal before calling TW1, to provide the line blockage, the incident may have been avoided
 - If he had checked and completed all the paperwork in real time, whilst TW1 was on the phone including a question about the 4th train leaving the protected site. This was key information missed.
- In the **OPC** psychologists' experience, a lack of checking is a common NTS shortfall that can contribute to many safety incidents.

Dr Stephen Fletcher, Director and Occupational Psychologist at the **OPC** commented: "Incidents like this case study show that, despite all the safe rail systems and processes we have in place how easy it is for incidents to occur. As in this case NTS shortfalls can be an underlying root cause of many safety incidents. However, the demonstration of NTS strengths can also neutralise those shortfalls and help keep employees safe. The anticipation of risk displayed by TW1 was probably lifesaving. In the **OPC** Psychologists' opinion the anticipation of risk including the anticipation of subtle and accumulating risks is a key NTS in helping employees stay safe.

"NTS shortfalls and strengths can be gleaned through a thorough and in-depth Post Incident Assessment of any incident. NTS shortfalls can have development plans attached to them, and NTS strengths should be

encouraged, supported and developed in all trackworkers”

If you would like to know more about how NTS can help improve track worker safety, then contact us at admin@theopc.co.uk or call +44 (0)1923 23 46 46.



the occupational
psychology centre