Beyond human error

National Grid Metering is improving its health and safety performance by focusing on ways of improving procedures and systems after an incident, rather than the individuals involved.

Photograph: National Grid Metering

Christopher Cleveland
Head of safety, health, environment, assurance, risk and resilience
National Grid Metering

Phillip Roberts
SHE lead
National Grid Metering

Naturally, safety is of paramount importance at National Grid Metering (NGM), the UK's largest gas meter asset manager. To prevent future incidents, the priority is to learn from past and present ones – and that's only possible when people feel free to report them without fear of blame.

For us, this removal of blame is vital. It's based on the understanding that, although around 80 per cent of incidents can be linked to some sort of human error, the root cause in 94 per cent of these is a failure in systems, processes or practices. So, rather than focusing on the immediate 'human at fault' element of incidents, we look further, to discover what lies behind it.

It's a question of trust. We trust our people to report incidents, and they trust us to respond by finding out how and why they've happened, rather than focusing on who's involved. We show we genuinely care about people's thoughts, feelings and concerns, which helps them feel they can open up. They also know

we'll update them on the actions we've taken, and the reasons for them.

The approach sounds simple, but its success depends on an understanding that it's at odds with the basic human instinct to form snap judgements. We're hard-wired to judge, and conditioned to jump to conclusions, especially in difficult situations. These are rarely the right conclusions, so we mustn't let them cloud our thinking. Our first response must always be – is everyone okay? And then our priorities are to find out exactly what happened, and to learn from that to make sure it doesn't happen again.

For example, when a gate valve was dropped onto a contractor's foot, an investigation found that a significant contributing factor was the difference between communications regarding van-weight limits and the reality of how these could be achieved. To comply with the recent communications stating the importance of not exceeding the van limits, the team in question had decided

to leave some equipment behind, and the incident occurred as they tried to manage without it. So, preventing a recurrence meant changing a fundamental policy and procedure that affected the whole business. This change supported people's ability to meet the requirements of both taking the correct equipment and not breaching the limits – a much deeper, and more effective, reform than simply trying to educate the affected staff.

As the ultimate cause of the majority of incidents is, as in the case above, some failing in systems, processes or practices, investigations very rarely point to human error. When they do – and if it's a genuine mistake – our approach is not to discipline those concerned, but to help them improve. Again, the emphasis is on avoiding future recurrences.

Only in extremely unusual circumstances has a deliberate intent to do harm been discovered. Of course, in these cases, there must be a consequence, as part of our approach to a fair safety culture.

Measuring the impact
To show the areas of the business affected by safety incidents – and the types of actions needed to prevent history repeating itself – our SHE (safety, health and environment) team uses a reporting triangle for the number of reported incidents. This works along with our own development, an 'inverted learning' triangle, and this is all underpinned by trending, analysis and insight.

As we've implemented our learning approach, we've seen that when more of the business is involved in the response to an incident, the resulting changes we make are more successful. This is why we've inverted the learning triangle – we want our safety culture to lead to more business-wide reforms and fewer people-focused actions.

Incident reporting and inverted learning triangles

By relating all safety responses to the hierarchy of the inverted triangle, we can study their effectiveness in reducing injuries and preventing recurrences of incidents – and see the outcome of the investigation actions. This is split into business-focused and people-focused elements, ensuring the right actions are taken so the learning has the most significant impact in preventing the recurrence of similar types of incidents. With business-wide reforms (those affecting the whole organisation), we can look at the area where the response originated and assess whether the changes really are business-wide.

In the next layer of the triangle, business-focused actions affect only specific areas – so we can analyse the impact in these areas, and assess the potential benefits of extending the changes to other parts of the business. Engineering retro-fixes identify where changes to the mechanical elements of our assets are needed. People-focused actions show where additional training or briefings are required. And finally, discipline is our last resort for those rare occasions where an intent to deceive or break the rules has been discovered.

The ripple effect
Focusing on the business change when implementing learning has helped us to grow trust quickly, while providing the foundation for improvement in employee engagement and safety ownership. These approaches are encouraging our people to talk more about safety, and this is empowering them to take action. In this way, our safety culture is now taking on a life of its own.

This 'ripple effect' seems to be spreading across the business, because we're now a lot closer to the safety issues that affect our people. We're talking about them more openly, and our teams are thinking about safety and being empowered to act. Safety has become a consciously integral part of their everyday work.

This new emphasis also extends to our external relationships with service partners. Both parties are much more willing to discuss safety issues in detail – even when there are difficult problems to face, as everyone knows the approach to dealing with them will be positive and constructive.

So perhaps the greatest success of our approach to safety is the way it is now developing almost autonomously. Having set the wheels in motion by establishing a culture where people are valued for their input into safety – rather than blamed for their (usually inadvertent) involvement in incidents – our organisation is benefiting from a rapid build-up of momentum. With employees at all levels now more than happy to contribute, business-wide implementation seems to be taking care of itself.
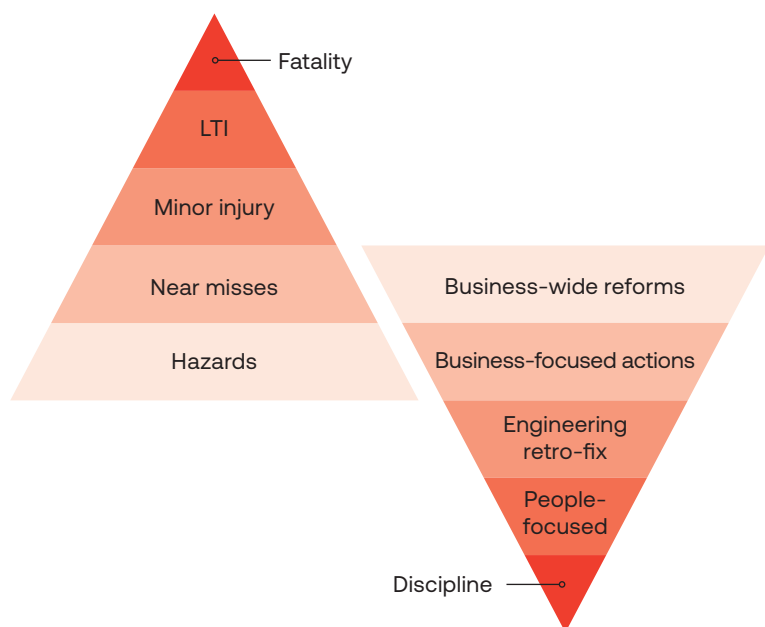
For more information see:
ngrid.com/3kyACBS

linkedin.com/company/national-grid-metering