

Towards zero harm

Industrial safety is intricately linked to employee well-being and business performance. *Tata Review* looks at the initiatives of three companies, namely Tata Steel, Tata Motors and Titan in this realm

BY HAROON BIJLI

In early 2010 Tata Steel Ltd (Tata Steel) was executing a brownfield project and expanding its steel production capacity by 3mtpa. This massive project required tens of thousands of workers to arrive at the earmarked sites, and on some days their numbers swelled to 80,000 in a day. On normal days itself, the Jamshedpur plant has a footfall of close to 20,000 contract labour daily for regular operations and maintenance. As most of these workers arrived to work on bicycles, this led to traffic snarls. Many experiments to clear the bottlenecks were tried, tested and discarded.

At a senior-level oversight meeting, the leadership team came up with an idea: why not have the bicycles parked at the site entrance and have the workers shuttled by buses to the sites? The plan wasn't simple. It required considerable planning and coordination, but it was achieved, with the safety record intact.

Says Sanjiv Paul, vice president, Safety Health and Sustainability at Tata Steel: "It seems a no-brainer now. But the fact is it took some time for this idea to occur to us. We learnt from it and have started to think differently about how we view safety."

BACKED BY VALUES

The group has been known to espouse employee-centric policies ever since its founding. At the Empress Mills in Nagpur, one of the first businesses of the group, our Founder Jamsetji Tata implemented employee welfare initiatives that were unheard of at that time. He instituted a Pension Fund and introduced accident compensation. To ensure employee safety and well-being, he installed humidifiers and fire-sprinklers in the mills — a first for India.

In 1979, Tata Steel instituted a new practice; it



A training session on defensive driving at Titan

deemed a worker to be 'at work' from the moment he left home for the factory, and until he returned home. The policy is still in place and the company is financially liable if any mishap takes place on the way to and from work. This was a pioneering step in the industrial sector in India.

"When we became a multinational company 15 years back, we started thinking and acting on safety with a passionate resolve," says Mr Paul. "We are now directing all our efforts to be risk intelligent and to ensure zero harm. That is the target."

SAFETY IS A MOVING TARGET

"After oil and gas, process manufacturing industries are the most accident-prone. Yet, most accidents occur on the road," says Neeraj Sinha, chief of Safety, Tata Steel. "We have used artificial intelligence (AI) to institute intelligent traffic mechanisms in our campuses to ensure maximum safety."

Vehicular speeds are monitored using devices, patterns are learnt, and AI is used to optimise movement. For example, no vehicle can move over 30kmph inside the campus. Automated number plate reading ensures tracking and compliance.

Similarly, Tata Motors Ltd (Tata Motors) is

committed to maximising safety in human-vehicle interaction points at its plants. A data-driven approach has enabled Tata Motors to identify critical to safety stations, where the probability of incidents is high. Focused and time-bound efforts in the form of hazard elimination, substitution and engineering controls were implemented to improve safety at these stations, resulting in 65% reduction in incidents in the past year.

As data showed that vehicular movement was the major contributor to campus incidents, Tata Motors conducted Kaizen activities to reduce risk at all human-vehicle interaction points at its plants with a focus on improving safe driving and safe walking standards.

The safety team at Tata Motors observed that risks tend to exist at all times, even during employee commute. Therefore, employee transport buses are fitted with AI-based Driver Fatigue Monitoring Systems that monitor driver behaviour and sound off alarms for any abnormalities. This has helped Tata Motors improve the employee transport system.

The Titan Company Ltd (Titan) too considers travel safety as a critical element of their overall safety approach. Safety requirements are a part



Emergency operations drill at Titan



A mock drill at the Titan factory

of the company's travel policy, and all employees are trained in defensive driving and road safety. This extends to cabs engaged by the company, travel service providers, as well as material handling equipment.

While studying a pattern of incidents in material handling, Titan realised these were recurring because unqualified workers were operating the vehicles. Thereafter, Titan ensured that all material handling equipment operators possessed an LMV (light motor vehicle) licence and underwent periodic training, evaluation and certification. A biometric mechanism in the vehicle's ignition system ensures that only certified drivers operate these vehicles. This has resulted in zero safety incidents in material handling.

IN THE DESIGN

Titan's safety vision is 'To be the safest organisation in the eyes of all our stakeholders'. This commitment ensures that the safety charter is adopted right from the top and extends to vendors and contractors.

Adapting a prevention-based approach, Titan has created safety awareness through regular communication, engagement and encouraging behavioural changes; it takes proactive initiatives to eliminate issues before they occur.

Titan believes that safety and health start at the design stage itself. The company eliminates and

controls incidents at the design stage of machines through judicious design decisions and engineering. This also extends to retail store design. Safety professionals are part of design development and vice versa, and design engineers are trained on hazard management. Thus, safety principles undergird the aesthetic design of the Titan brand.

In its manufacturing processes, the luxury products manufacturer follows the principle of 'inherently safer design' in which hazard elimination or minimisation is built-in. Take for example, the power press, machinery that is used to cut, shape or form a metal design. Titan discovered that employees were not using the hand-pulling safety device while operating the machine, resulting in accidents. Hence it introduced sensors in the device, whereby employees could not operate the press without the safety device. This change helped Titan achieve zero accidents in the press shops.

THE SAFETY LEADERSHIP DEVELOPMENT CENTRE

Steel manufacturing, like many process industries, involves use of hazardous gases, material and processes. Safety is a moving target and is never 100% foolproof, and the key to it is constant learning and evolution which the safety leadership at Tata Steel recognises.

"We have come a long way in the safety journey, but we still have a long way to go," says



Safety inspection at the coke oven in Tata Steel

Mr Paul. Industrial safety is part of the MD's dashboard. According to Mr Paul, the mandate by TV Narendran, global CEO & MD, Tata Steel, is that there should not be a single life lost due to safety-related incidents.

"Mr Narendran himself was the VP of Safety in a previous role. And we share his ambition to ensure that our commitment to the employee's family — that he or she will return home safely — is fulfilled."

Towards this, Tata Steel has established a world-class Safety Leadership Development Centre where inductees at all levels are trained before they join the jobs. Another recent practice that has emerged is the circulation of roles where managers in other parts of the organisation are deputed in safety roles so that the institutional knowledge of safety can be reinforced as a culture. For example, Mr Neeraj Sinha was the project manager of the Coke Plant at Tata Steel Kalinganagar before assuming his current role as head of Safety, and he will return to a business role after this stint.

THINKING RISK

For its sharp focus on industrial safety during

the pandemic, Tata Steel won Safety & Health Recognition 2021 by World Steel Association, the international trade body for the iron and steel industry. The company continually innovates in safety, not only in terms of deploying digital technology but also at the way it looks at the less obvious gaps and risks.

Mr Paul illustrates this in how the company uses wearables that collect health data. "We have many spaces where work is solitary, for example, as a crane operator or at an isolated location. The wearable devices ensure that health indicators like heart rate and blood pressure do not go above a certain rate. Such alerts have helped avert incidents and even saved lives," he says.

The same devices help elderly workers understand their health-related issues. Tata Steel, rated among the best employers in the world for many years, has employees who have spent their lifetime in the company, hence ensuring their well-being, according to Mr Paul, is an important part of the job.

Moving the needle further, Tata Steel is ensuring that every unit, division and team maps safety risks with rigour. "Tata Steel is several organisations rolled into one. We're an integrated steelmaker — we're a mining, manufacturing, an engineering/construction, and a logistics company at the same time. How do we ensure that we don't let our guard down? Mapping risks is key to achieving this level of attention," says Mr Paul.

These safety risks are mapped in a colour-coded 'risk matrix'. High probability and high frequency risks are coded in red and roll up right to the top of the organisation, while others are addressed at the appropriate levels. "This is how we're ensuring that safety risks are embedded at all levels," says Mr Paul, "and that will eventually lead to zero harm."

Jamsetji Tata wouldn't have settled for anything less. **TR**

tata.review@tata.com