

SAFETY AND HEALTH RECOGNITION PROGRAMME 2017



The World Steel Association (worldsteel) was founded in 1967, on the premise that a global steel industry that works together is better placed to succeed. Fifty years later the industry has changed almost beyond recognition, but worldsteel continues to play a critical role in driving global improvement initiatives.

Our Board of Directors have made the clear statement that nothing is more important than the safety and health of the people who work in our industry. The purpose of the safety and health excellence recognition programme is to share the best practices developed by the leaders in safety and health management. We believe a rising tide lifts all boats, and this is especially true in safety and health. The practices and case studies outlined in this publication represent leading practice in safety and health management and I encourage all leaders within our industry to read them, and learn from the best.

This year we sought nominations for safety and health initiatives across three categories. These are Occupational Safety Management, Occupational Health Management, and for the first-time Process Safety Management.

We have included Process Safety Management as a separate category as it became clear that not all steel companies are as familiar with, and engaged in Process Safety Management as they are with managing more conventional Occupational Safety and Health issues, but it is vital for the industry to prevent major incidents from happening.

In 2016, 17 submissions were received from 13 member companies, and four of these have been selected for recognition: Hadeed, Liberty OneSteel, Tata Steel and Usiminas.

I wish to personally congratulate and thank the leaders of the four recognised organisations for their ongoing commitment to, and achievements in safety and health management in 2016, and also for their willingness to share and support their peers. Through your support of this process the whole industry can move forward in safety and health.



Andrew Purvis
Director, Safety, Health
and Environment

The three following areas need to be considered to manage safety and health comprehensively:

Occupational Safety Management

Occupational safety management promotes the safety of employees, contractors and visitors by preventing personal injuries in the workplace, and has a strong focus on primary prevention of exposure to hazards.

Occupational Health Management

In its widest definition, occupational health management encompasses the physical, mental and social well-being of the people working in the company. The focus is placed on long-term effects on exposure to hazards. The health of workers has several determinants, including risk factors at the workplace leading to cancers, musculoskeletal diseases, respiratory diseases, hearing loss, circulatory diseases, stress related disorders and others.

Process Safety Management

Process Safety management is focused on preventing catastrophic accidents and near misses, particularly explosions, fires, structural collapse and damaging releases of energy or dangerous substances. The focus of process safety management is not limited to protecting people but also the environment, our assets and the surrounding community.

Process Safety Management (PSM) is one of the pillars of Saudi Iron & Steel Company (Hadeed)'s Environment, Health, Safety and Security (EHSS) Management system. PSM is embedded within Hadeed's work culture.

The key drivers of PSM are established within Hadeed's 14 Management Systems. PSM is based on a series of Management Systems, including Mechanical Integrity, Management of Change, Pre-Start up Safety, Health and Environment Review, Process Hazard Analysis and Emergency Response Planning.

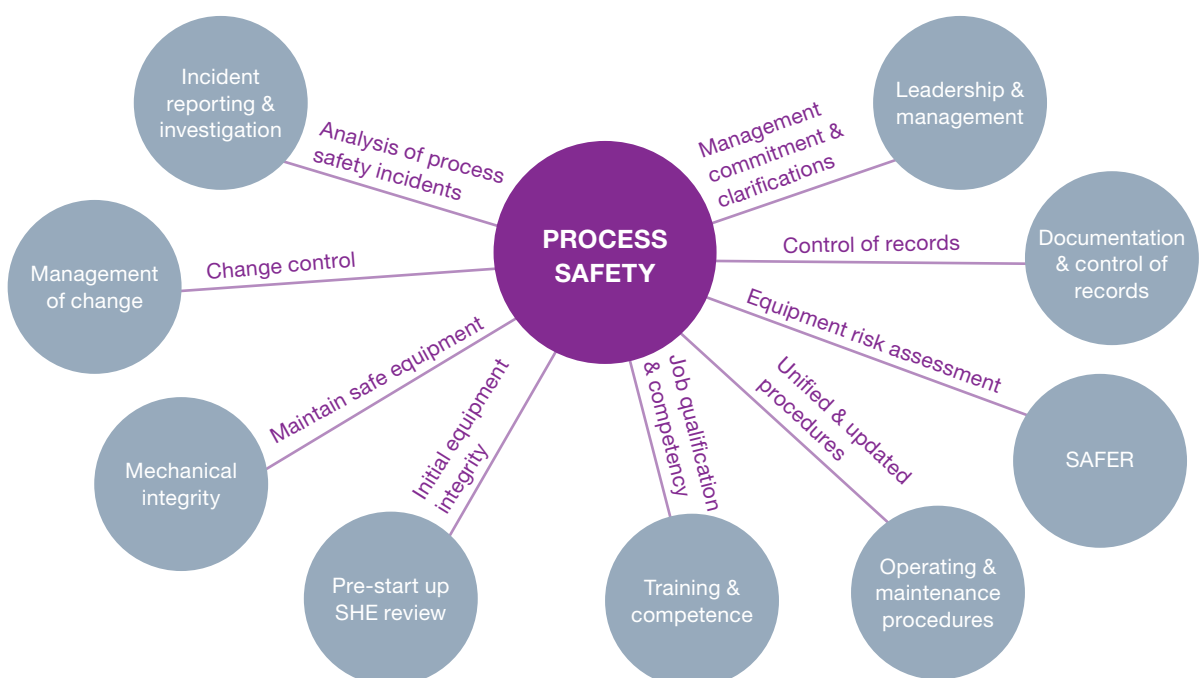
Hadeed's PSM incorporates a procedure on 'Process safety incident reporting and investigation'. It requires the reporting, classification, investigation, analysis and recordkeeping of Process Safety Incidents to enable pro-active corrections to be made. Employees are also encouraged to register and report all process safety abnormalities in the form of 'Observations' or 'Near Misses' through an incident reporting and investigation online platform.

Management at all levels systematically conduct Process Safety Walkthroughs at its site facilities with the goal of reducing the risk of personnel injury, loss or damage to company assets, environmental damages, operational and maintenance problems. Recognised training institutions conduct training sessions on Process Safety Risk Management, Process Hazard Analysis Methodology and Risk Assessment for employees in all work disciplines.

Hadeed's PSM performance is measured and reported based on leading and lagging indicators for Key Performance Indicators (KPIs) developed and implemented within all departments. PSM KPI's are updated based on best practices across the industry, to prevent and mitigate devastating potential failures.

Hadeed has developed and implemented a well-defined management system to ensure the systematic identification, assessment, mitigation and stewardship of Process Safety Risks.

The success of PSM at Hadeed is attributable to the unrelenting commitment of its management and employees.



LIBERTY ONESTEEL - AUSTRALIA

The goal zero: Every Body, Every Day safety engagement programme

The Goal Zero: Every Body, Every Day safety engagement programme (Goal Zero) was developed by the management team and the business safety partner of OneSteel Reinforcing in Queensland, Australia (now Liberty OneSteel Reinforcing, part of the GFG Alliance) to improve the workers' commitment to 'Brother's Keeper' and their own individual personal ownership of safety through active engagement and participation.

In developing the programme, surveys of employees were conducted to establish baseline information, their preferred communication methods and presentation styles, as well as their interests and motivations. Data on site injury trends were also collected. Using all of this information, the management team developed and delivered various engagement workshops over an eight-week period.

Each of the weekly workshops was themed around a key safety topic based on site incident trends. These included topics such as:

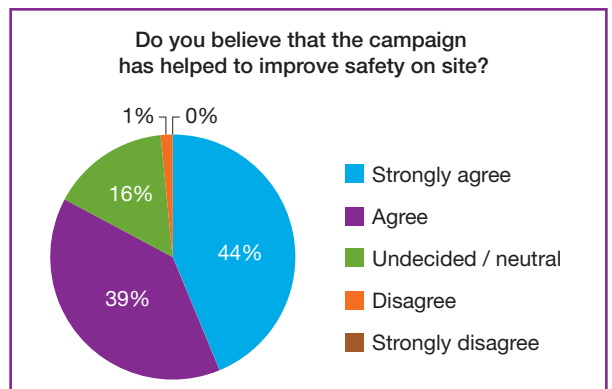
- 'My Hands Matter', where workers participated in a number of workshop activities including the crushing of a life-like prosthetic hand to help demonstrate the trauma of a significant hand injury;
- 'My Back Matters', where along with a number of activities, workers were encouraged to share and discuss their own back injury stories; and

- 'Brother's Keeper', where workers were asked to identify the reasons they wanted to return home and record them on an activity card, including having a picture of their family on the card and keeping the card with them for the duration of the programme.

The workshops included small pre-selected diverse groups of employees, focusing on engagement by encouraging worker participation in 'safety story-telling' and open discussion, with a strong emphasis on hands-on practical activities. In addition, the workshops targeted personal ownership of safety by exploring individual workers' motivations to return home safely.

The development and delivery of the programme was positively received by the participants, has created a greater level of safety ownership, developed the capability of supervisors, increased levels of safety engagement and created a stronger bond within the work force.

Following the programme the site has seen an increase in minor incident reporting and near miss reporting – indicating a greater level of safety ownership amongst the workgroup and a reduction in significant incidents, allowing the site to investigate and implement corrective and preventative actions to reduce ongoing risks.



Employee survey results

Tata Steel Group has a strong focus on three key safety and health areas, namely leadership, engagement of employees/contractors, and effective deployment of systems.

Despite a well-established framework for Contractor Safety Management (CSM), incident investigations and site audits frequently revealed gaps in effective implementation. We also noted a great variety in the competence level of contractors across regions and management on our sites. Hence, throughout the group we set about improving contractor safety management with a clear message: 'we will NOT achieve our ambition without a step change in our contractor safety management.'

While improvements are now taking place across all units of the Tata Steel Group, Tata Steel Thailand (TSTh) took a pioneering role in the programme's deployment across India and South East Asia. TSTh has three separate steel manufacturing units (EAF/Continuous Casting and Mills) and several locations for sales and marketing activities, which means having to deal with a wide variety of contractors.

After the implementation of CSM two years ago, TSTh achieved zero Lost Time Injuries (404 days) for both contractors and employees. Contractor Lost Time Injury Frequency Rate and First Aid Cases also decreased significantly.

Identified gaps in the implementation of the contractor safety management process

1.

Contractor selection

- Inadequate safety and health criteria in vendor registration form, lack of safety competency assessment of vendors

2.

Contract preparation

- Absence of job hazard analysis (or similar) before all safety critical tasks
- Inadequate competency of line managers on contract preparation

3.

Contract award

- Inadequate pre-bid criteria and lack of communication about hazards and the cost implication of compliance to safety standards
- Lack of guidelines on sub-contracting processes, lack of a single point of ownership on safety issues, and no demand of methods statement from contractors

4.

Orientation and training

- Lack of job-specific training on well-defined safety hazards/risks and required control measures
- Lack of job-specific medical health evaluations

5.

Managing the work

- Lack of discussion of work-related safety risks, deficient contractor and worker supervision, poor quality tools and equipment, poor or no standard operating procedures (SOPs), improper incident reporting
- Lack of basic amenities, MoC of contractor employees

6.

Periodic evaluation

- Inadequate system for regular feedback
- Lack of adequate and consistent safety evaluation criteria
- Current safety evaluation criteria are only for invoice certification



The Safe Hands Project began in 2013 in order to mitigate the fact that hand injuries account for 41% of work accidents in Brazil, a number that was even higher at Usiminas, at 42%.

Reviewing our work accident records, we found issues to be resolved related to task design because hands were used instead of tools, as well as improper behaviour from employees who were not completely familiar with the tools they should use to perform a given task. As it would have been virtually impossible to identify all potential or frequent tasks performed directly with the hands in the maintenance department, the project aimed to encourage employees to identify the tasks they perform that exposed their hands to risk, and propose a new or existing tool to prevent the risk. Managers took the first steps and played an active role in the project, a unique initiative in the industry, in order to engage Usiminas employees so that the project could succeed.

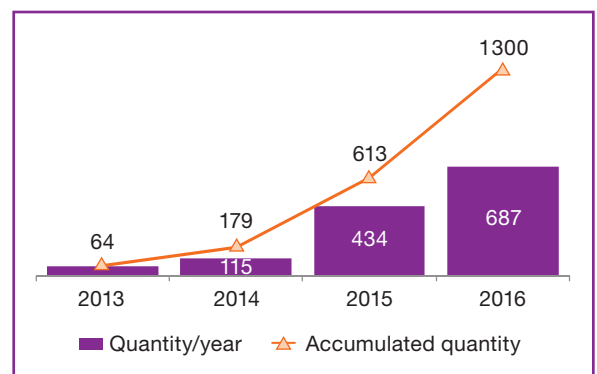
Another key aspect was to ensure that the identified risk was eliminated, and that the new, proposed practice/device did not create additional risks. In order to do that, an activity flow was set up so that the immediate superior is given a report on a proposed tool and approves it; Maintenance Engineering assesses the market and provides the

basic engineering and standardisation; and Work Safety certifies the ergonomics and checks whether the risks have actually been eliminated; all before the tool is actually manufactured and given to the workers carrying out the task.

We also worked on giving the Safe Hands Project an identity by creating a logo and developing a communications plan involving digital and printed media, lectures and training. A monthly award was established to recognise the projects that stand out and the employee who creates the most innovative tool. During the award ceremony, the employees present their ideas and receive both a gift and a certificate of honour for their contribution to the Safe Hands Project.

Since the project started five years ago, it has achieved significant results. First of all, employee engagement: 1,300 projects have been presented. The frequency of accidents involving hands has been reduced by 46%, which has led to the project being introduced in other company units. We have also shared the project's approach externally as a best practice.

The Safe Hands programme is no longer just a project: it has become an important value cherished by every employee. All employees now participate in a systematic programme, sustained through time, to look for new ways to carry out their activities without exposing their hands.



Number of devices created under the Safe Hands Project

2017 STEEL SAFETY DAY

Falling objects



Established in 2014, Steel Safety Day was set up to reinforce awareness of the five most common causes of safety incidents and to create a safer working environment across the entire global steel industry.

By focusing on the five causes - moving machinery, working at heights, falling objects, on-site traffic, and

process safety incidents, worldsteel intends to set up a continuous improvement process.

An extensive membership audit took place in advance of the Safety Day on 28 April 2017. The focus this year was falling objects.



IN 2017...



440,000 employees and contractors from 55 companies actively took part in the audit.



975,000 employees and contractors working on those sites were directly or indirectly involved in the audit.

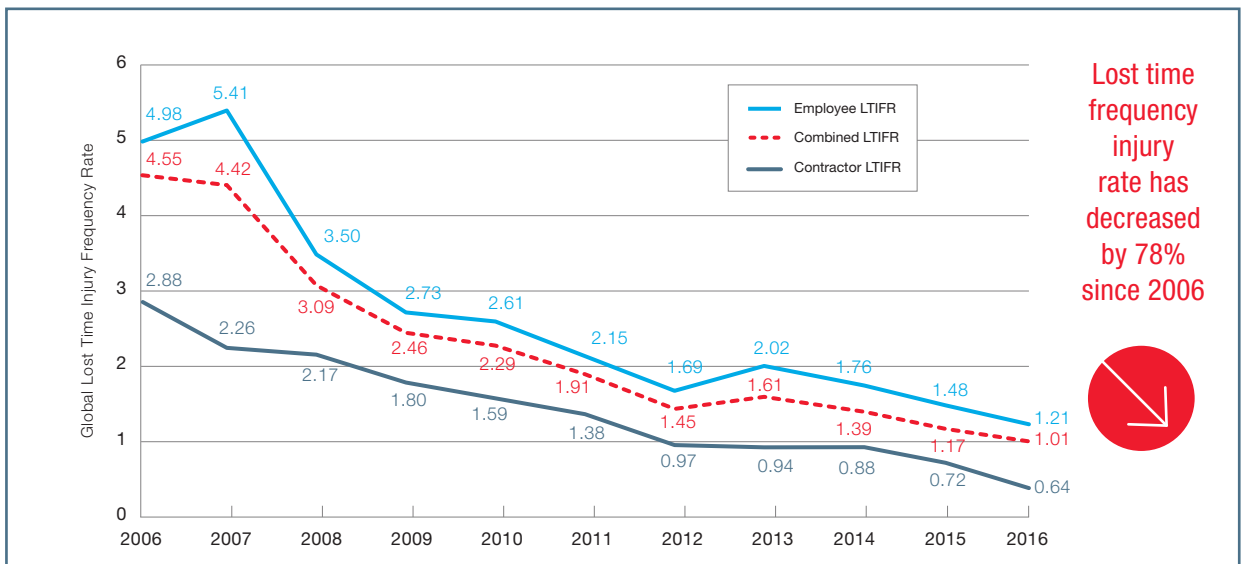
OUTCOME



The Steel Safety Day audits have had a major positive effect in identifying hazards in the workplace. Participating worldsteel members are now developing mitigation plans for 100% hazards identified to ensure serious injuries no longer occur.



Steel industry Lost Time Injury Frequency Rate (LTIFR)*



*A Lost Time Injury (LTI) is an incident that causes an injury that prevents a person from returning to his next scheduled shift or work period. The Lost Time Injury Frequency Rate (LTIFR) is the number of Lost Time Injuries per million man-hours. LTIFR includes fatalities.