

SAFETY AND HEALTH RECOGNITION PROGRAMME 2014



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worldsteel represents approximately 170 steel producers (including 9 of the world's 10 largest steel companies), national and regional steel industry associations, and steel research institutes. worldsteel members represent around 85% of world steel production. worldsteel acts as the focal point for the steel industry, providing global leadership on all major strategic issues affecting the industry, particularly focusing on economic, environmental and social sustainability.

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Cover image: Ternium employee attaching his safety belt on accessing a platform
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Communication key to a safe working environment

The goal of an injury-free, illness-free and healthy work environment remains the highest priority for our industry. This is important even in difficult economic times, when it may be tempting to reduce safety resources.

This year's safety metrics survey shows good results overall, with more companies approaching world-class standards. The metrics provide further opportunity to learn from those who have reduced their safety incidents significantly and allows for accelerated improvement – changes can be made with a dramatic effect over a relatively short period of time, with injury rates more than halving over a few years (see LTIFR chart page 11).

This year, the Safety and Health Excellence Recognition process and criteria have been altered slightly to reflect the improvements requested by the membership. worldsteel members have submitted their excellent work under the headings of business systems, health and specific improvement projects.

The Safety and Health steering group also specified that in order to be eligible to have their submission considered the companies had to support the Safety and Health Committee (SHCO) activities of sharing serious safety occurrences (SSOs), have a member on the SHCO and support the annual metrics survey for their organisation. One of the key initiatives created by the SHCO is the anonymous sharing of SSOs across the industry. Communicating this information provides an invaluable learning opportunity and can prevent a potential recurrence or even a fatality.

This year, 38 submissions were received in the Safety and Health Excellence Recognition programme. The first round of judging was carried out to reduce these to 13, to be considered by the judges again, from which six submissions were selected for recognition across the three categories.

The submissions received resulted in the following organisations being recognised: ArcelorMittal, Celsa, Essar Steel, Gerdau, Tata Steel Europe and Ternium.

The companies recognised show a continued commitment to leadership in safety by demanding uncompromising safety standards using the six safety and health principles developed by worldsteel members as a cornerstone of their programme. The six principles remain a very powerful method of effecting change.

Safety and health information sharing and learning must never stop nor be delayed, both within an organisation and across the worldsteel membership. There are new ideas developed to eliminate, reduce or control risks – most of the best ideas are simple and are surprisingly easy to implement.

The six recognised organisations can be very proud of the improvements that they have made within their business. They have gained tremendous confidence from their success and demonstrate their leadership by communicating programmes to the worldsteel membership and by providing data to support the safety metrics survey and the SSOs.

Henk Reimink

Director

Safety, Technology and Environment

World Steel Association

WORLDSTEEL SAFETY AND HEALTH PRINCIPLES

The industry is committed to the goal of an injury-free, illness-free and healthy workplace.

1. All injuries and work-related illness can and must be prevented.
2. Managers are responsible and accountable for safety and health performance.
3. Employee engagement and training is essential.
4. Working safely is a condition of employment.
5. Excellence in safety and health drives excellent business results.
6. Safety and health must be integrated into all business management processes.

ARCELORMITTAL TUBARÃO - BRAZIL

Quality of life programme

The implementation of the quality of life programme was triggered by an analysis of employees' health at ArcelorMittal Tubarão, which showed that many of them had high risk factors and this in turn was generating significant absenteeism.

The programme has continuously been reviewed in the light of scientific changes. The Health Management System aimed at developing preventive actions focused on health, safety and the well-being of the employees and their families, in a continuous search for a healthier life and a zero accident environment.

The main sustaining processes of the Health Management System are: the Program for Medical Control of Occupational Health (PCMSO) and its interfaces with the other legal programmes; the Quality of Life Program (PRO-VIDA); the Ergonomic Program and the Emergency Program.

The programme is run by a multidisciplinary team comprising doctors, nurses, ergonomists, psychologists, phonoaudiologists, physiotherapists, dentists and nurse technicians who adopted as basic principles the anticipation of occupational, lifestyle or work related risks. Continuous education is the pillar for the actions as well as promoting self-management of health aiming at short, medium and long term results.

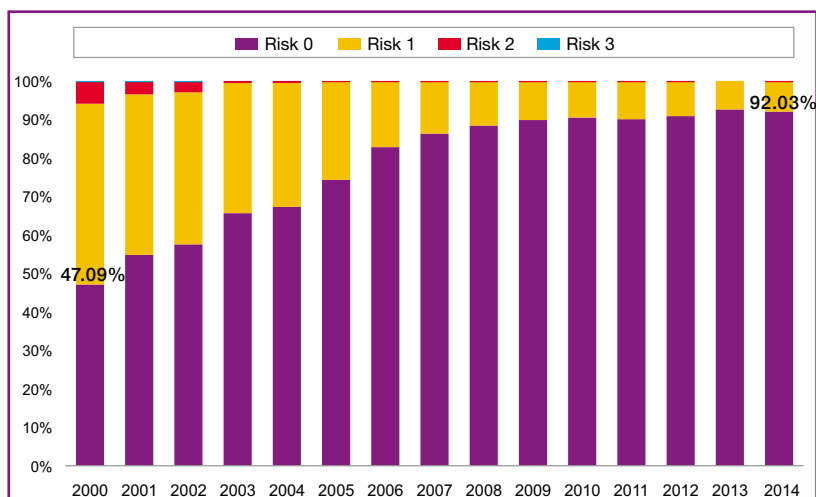
For example, in 2000, ArcelorMittal started a campaign to last five years aimed at reducing smoking. The target was reached in 2010 with none of its employees' smoking during working hours.

As can be seen in the graph, when put together, the set of actions from the programme resulted in the improvement and stabilisation of employee's health indicators which reflected on productivity. Healthier employees work better and reduce absenteeism and work-related accident rates. ArcelorMittal Tubarão currently has 92.0% of employees at the best health profile (zero risk) and 94.4% of the employees at zero risk for dental hygiene.

All the programmes implemented are simple in their composition and execution and can be perfectly applied to other companies with minor adjustments to the culture of the company.

People are now self-managing the quality of life programme at an independent stage within the health and safety parameters.

This is an ongoing process as, despite the significant number of recently hired employees, there was no negative impact on the health profile results, which remained stable.



Risk	Profile	Action
Risk 0 (Zero)	Best profile	Maintain lifestyle
Risk 1 (One)	Minor profile deviation	Improve lifestyle
Risk 2 (Two)	Medium profile deviation	Change lifestyle
Risk 3 (Three)	High profile deviation	Change life-style urgently

Employee health profile evolution

In a move to create a greater culture of safety in the work place, the CELSA Huta Ostrowiec site in Poland decided to implement a programme called Brother's Keeper. The programme involves employees volunteering to go into groups of two, where they then complete their tasks, on a daily basis, to ensure neither gets hurt. Families and children were invited to the kick-off of the programme and encouraged to request feedback from their family workers.

The programme has resulted in a rapid acceptance of safety feedback at all levels and contributed in reducing injury rates in one year by more than 60%.

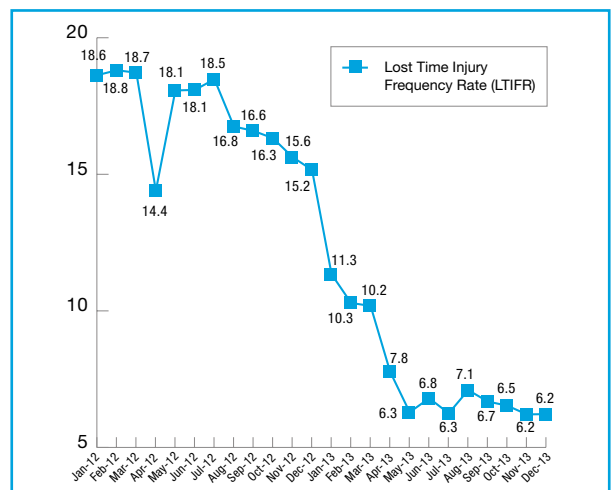
Each worker who participates in the programme accepts the commitment to safeguard their colleague at all times and to ensure that they do not have an accident or become exposed to risks. The 'rules of play', that are explained to the personnel who wish to join the programme include:

- Feedback must be focused on people's behaviour, must be constructive, and be communicated respectfully and assertively
- Information does not have to be reported to a supervisor
- The pairs are selected by mutual choice and can be dissolved by either team member.

The programme includes basic training in identifying situations of danger and engaging in assertive communication techniques. Once the programme begins, there is continuous monitoring of the level of commitment from all participants. Finally, a review or assessment of the programme is organised in order to discuss the outcomes, the difficulties and the solutions learned along the way.

As a result, many positive outcomes have been identified, including:

- An increased awareness among all staff on safety and health issues and hazards therefore reducing the dependency on supervisors
- Increased communication between staff on all issues especially those that can sometimes cause controversy or even indifference
- To help staff reflect on their own unsafe actions after they have corrected a colleague
- Strengthening links of friendship and cohesion among the group through developing communication skills, teamwork and empathy
- Enabling the speeding-up of the transition from a reactive or dependent culture to an interdependent one where teamwork and the sense of responsibility of care, not only for oneself, but also for others is strongly encouraged.



LTIFR: Employees and contractors

Health, Safety and Environment (HSE) management system

A strong HSE Management System has been established at Essar Steel India Ltd., Hazira, based on the health and safety policy of 11 safety mandates leading to a Lost Time Injury Frequency Rate (LTIFR) of 0.18 for 2013. There are three essential codes to emphasise that health and safety is at the centre of the business planning, designing and decision making process. They are:

- Fatality prevention tool
- HSE cardinal rules
- HSE code of conduct



Employees and contractors who participated in a mass safety rally in the Safety Month celebrations, 2013

Personnel safety

Throughout the organisation, safety marshals have been appointed to oversee safety at critical loading points and areas of high safety hazards. With their work and the involvement of plant managers, the education and teaching of best practices is prevalent at high risk points.

Competency assessment

Competency assessments is in place for all contractors working in the facility. Cranes are a lifeline to a steel industry. In order to ensure safety of all machinery and equipment, competency assessments and certified trainings are carried out

for riggers and crane operators. Also a Height Pass Structure is being used to ensure the necessary health and safety procedures are communicated to all employees who are working at a height. Furthermore, all contractors are encouraged to participate in workshops, training programmes and meetings on a regular basis.

Behaviour based safety journey

At the plant, a number of events are held to facilitate and continually remind employees of the importance of health and safety in the workplace. Such events include: Safety and Fire Week celebrations, Safety skits/street plays, mass safety rallies, Safety Month and Environment Day celebrations.

In order to spread the awareness of fire and safety amongst employees, Fire and Safety Parks have been developed to inform employees of the fire hazards in the plant. Moreover, employees are shown the systems in place at the plant to best deal with accidents and to ensure their own safety is not at risk.

From an environmental perspective, an occupational health and industrial hygiene system has been set up enabling identification and ways to control potential chemical, physical and other workplace hazards by evaluating processes and facility designs.

Conclusion

Every employee of Essar Steel has a role to play in establishing an injury free, safe and healthy workplace and the above initiatives have greatly contributed to improve the safety and health standards in the company.

Going forward, Essar Steel is determined to sustain this level of health and safety excellence and continues to focus on key leading health and safety indicators to make their workplace the safest possible with the cooperation of all stakeholders.

It is a fact that people's behaviour is key in the process to prevent accidents and near misses. The challenge is: 'How to guarantee an effective implementation, giving to the company and its leaders an effective way to follow up the implementation of the Safety Behaviour Management?'

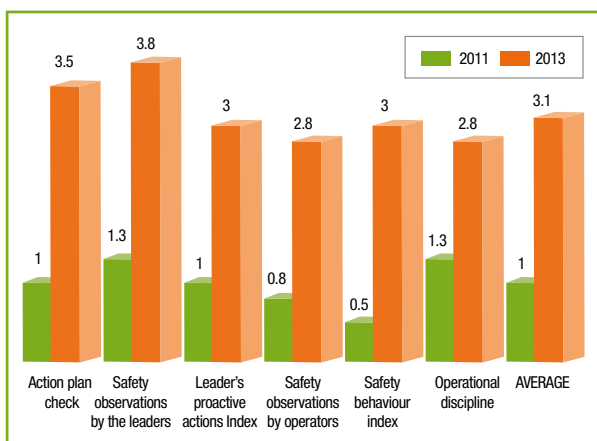
For each of the check points listed in the table below, a specific evaluation ruler was developed, therefore, establishing clearly how much Gerdau expects to increase in each one, in order to achieve the excellence level of '5'.

Using this methodology, Gerdau's safety corporate team assessed each plant, twice a year, to check their status and generate a specific report, recognising improvements and guiding the strategy and actions moving forward.

After each assessment, the leaders received a specific report, showing the levels obtained in each check point, the description of what is being correctly done and specific recommendations on how to go ahead.

Action Plan Check	Leaders develop an effective Action Plan, based on the methodology of the Behaviour Manual (Gap critical analysis).
Leader's Safety Behaviour Observations	Leaders using the specific methodology to observe and reflect on deviations and commitment of the employees to adopt safe behaviour.
Leadership Proactive Actions Index	Leaders must demonstrate their commitment in managing safety on a daily basis (felt leadership), successfully carrying out their responsibilities.
Operators (peer to peer) Behaviour Observations	Operators develop risk awareness based on a specific methodology, building cooperation and trust among team members and developing risk perception (Brother Keeper concept).
Safe Behaviour Index (SBI)	<ul style="list-style-type: none"> • Demonstrates the safety culture evolution, based on verifying adherence to HSE standards when performing tasks in a certain route. • Higher the KPI, better the level of team awareness and operational discipline.
Operational Discipline	<ul style="list-style-type: none"> • Procedures and rules are understood and diligently followed by all. • Leaders should recognise safe practices and manage deviations, based on our methodology (understanding errors versus violations and using decision tree to guarantee fair decisions).

Description of each point of the evaluation



Evolution of the Safety Behaviour Assessment at special steel plants in Brazil (2011-2013)



TATA STEEL EUROPE - IJMUIDEN - THE NETHERLANDS

Hand injury reduction

The engineering department at Tata Steel Europe's IJmuiden site in the Netherlands launched a programme entitled 'Time out for hand injuries' which aimed at sustainably reducing the number of hand and finger injuries, as it had accounted for 60% of all injuries in the past two years. Previous investigations showed behaviour to be the dominant cause and therefore the plan focussed on three key strands:

- Raising awareness
- Personal consequences of injury
- Delivering identified improvements

Symbolism and innovation also played an important part as the programme's symbol consisted of a large hand compiled from painted handprints of the employees.



Poster showing activities with symbol of employees' painted hands

What was done

Every employee attended an innovative and interactive workshop which included having

their preferred writing hand bandaged to make it inactive and then having to try three simple tasks - signing their name, opening a drink can and a biscuit wrapper. Furthermore, participants heard from fellow employees who have sustained a hand injury and what effect it has had on them and their family. They also had a discussion session with a hand surgeon who explained that even a finger blow with a hammer can cause long term damage. Finally, a commitment between the management and employees to not accept the current situation was agreed (this was done in a very imaginative way by putting their handprint on a large poster) and hence for all employees to report incidents and implement improvements.

To deliver these improvements local workshops were organised where problems were discussed and opportunities for improvement shared. The type and quality of gloves was one example used and employees were empowered to find, evaluate and prescribe a more suitable glove.

What have the results been

In the first year, hand and finger injuries which were predominantly first aid cases, dropped from 29 in 2012/13 to 17 in 2013/14, a 42% reduction. Moreover, all injuries dropped 30% and recordables by 66%. The programme has also led to a cost saving of €100,000 per annum. In total over 100 improvement ideas were submitted with most implemented by the employees.

All injuries can be eliminated and while using tried and tested techniques to address behaviour some innovation makes the change far more engaging and sustainable. This example has been transferred to other parts of Tata Steel and these methods are easily transferable to other worldsteel member companies.



Employee taking part in hand injury reduction campaign



The poster was later used to make a billboard displayed on site

With the aim of preventing accidents or incidents in the Supply Chain Department, Ternium implemented the Logistic Safety Preventive Action Plan. The participation and commitment of all members of staff were required to put this plan into action, generating a common vision of prevention in the company. Different logistic safety practices were applied with regard to training, standardised securing loads tools, fall prevention platform designs, mobile equipment and warehouse safety practices.

First steps in safety of Supply Chain Department

An analysis of all incidents with no injury and safety deviations that occurred in the Supply Chain Department was carried out. The analysis, showed four main areas that needed addressing:

- Securing loads
- Working on platforms
- Loading and unloading
- Warehouse and coil yard personnel access

How Ternium addressed the issue

Ternium implemented several different logistic safety practices to address the detected problems.

The company developed the Truck Driver Safety Regulation which became mandatory for all truck drivers. More than 3,500 truck drivers were trained during 2013 through classroom field practice, specific logistics video and e-learning training.

In order to prevent the recurrence of accidents and incidents when performing the load securing tasks, Ternium eliminated the mechanical tensioner device and established the use of a safer ratchet turnbuckle device as obligatory in all plants. Regarding the risks on platforms, nine different platform designs were developed, and more than 100 were installed in all facilities. All of them include a fall prevention safety device and allow truck drivers to easily and safely gain access to the truck platform.



To prevent accidents during the loading and unloading activities, the truck drivers' safe zone obliges all truck drivers to stay in the safe zone, a visible position for the mobile equipment operator. In addition, a "Truck Driver Work in Progress Safety Sign" is placed as a safety preventive standard. All mobile equipment operators, including forklift and overhead crane operators, are trained to ensure that the truck drivers are not working in the platform and are located in the safe zone.

Finally, with the objective of preventing accidents of personnel while they are in a warehouse or in a coil yard, Ternium introduced an overhead crane transit path, prohibiting employees to walk on that path unless they have received permission to do so from the mobile equipment operator who can locate where they are at all times.

The implementation of the Logistics Safety Preventive Action Plan achieved a great improvement on safety metrics in the Supply Chain Department. With the effort of management and employees, more than 90% reduction on the Lost Time Injury Frequency Rate was achieved from 09/2010 to 2013/2014, highlighting the success of the plan.

Conclusion

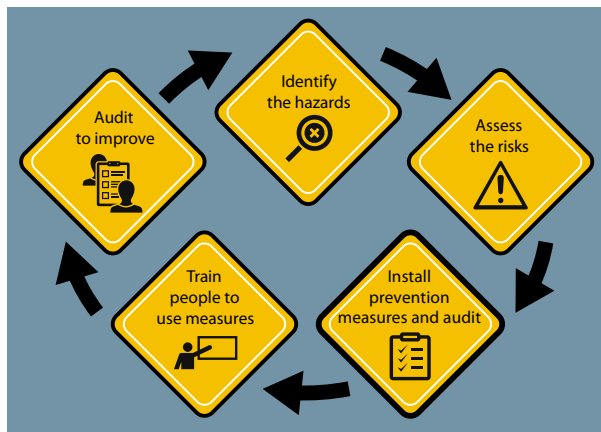
The Logistics Safety Preventive Action Plan is a clear example of a commitment between leaders, operators and contractors towards generating a stronger safety culture. Training, communication and improved technology allow a greater interdependency between the organisational areas, with significant improvements in the employees' safety conditions.



Reiterating its commitment to the safety and health of the people who work in the steel industry, worldsteel held its first Steel Safety Day on 28 April 2014.

This safety initiative coincided with the World Safety Day held by the International Labour Organization and aims to engage the entire steel industry as well as all related organisations with a cross section of employees and service providers, potentially involving as many as four million people worldwide.

The 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 steel industry worldwide. The 2014 audit focused on identifying the hazards leading to the main causes of safety incidents within the steel industry and setting up an action plan to manage the hazards and risks for each site.



worldsteel safety system

The five most common causes of safety incidents and preventative measures are as follows:

- ☑ Moving machinery – before any machinery is cleaned, serviced or adjusted all sources of energy including gravity must be isolated, locked, or pinned to prevent movement.
- ☑ Falling from heights – training should be provided on how to use protective equipment and work safely at heights.
- ☑ Falling objects – measures must be taken to prevent objects from falling and all people should be evacuated from areas where this remains a possibility.
- ☑ Asphyxiation or gassing – people should be trained to ensure they can test for and eliminate dangerous gasses in confined spaces.
- ☑ Cranes – daily checks must be carried out on cranes before use to maintain reliable operation.

More than 480,000 people from 373 sites participated in the safety audit on 28 April including 39 member companies, representing 53% of worldsteel members' production. The companies carried out the audit across the entire employee group from CEOs to engineers to managers, operators and service providers.

The audit revealed that 75% of safety hazards have mitigation plans for the five main causes of serious safety incidents. The initiative not only provided the companies with an opportunity to review their existing safety measures but also make plans for new hazard situations found as a result of the audits, reducing further safety risks.

This audit also reconfirmed that many steel companies have excellent safety programmes in place and implement rigorous practices on a daily basis. However, when it comes to safety, anything less than 100% is not acceptable, and the steel industry has to make sure every company and

related organisation has effective and adequate safety measures in place.

The steel industry has already seen a steady and notable reduction in the rate of injuries. The combined Lost Time Injury Frequency Rate (LTIFR*) in the steel industry has decreased from 4.55 in 2006 down to 1.61 in 2013. This represents a significant reduction of over 64%.

The core aspects of successful safety programmes are:

- Proactive engagement of all employees and contractors.
- Strong leadership and direct involvement from management.
- Sharing of information and experience within the industry.

“The steel industry’s ultimate goal is to create an injury-free, illness-free and healthy workplace with zero incidents. Save the date of 28 April in your business plan in future years and be ready for the next Steel Safety Day.”

- Edwin Basson

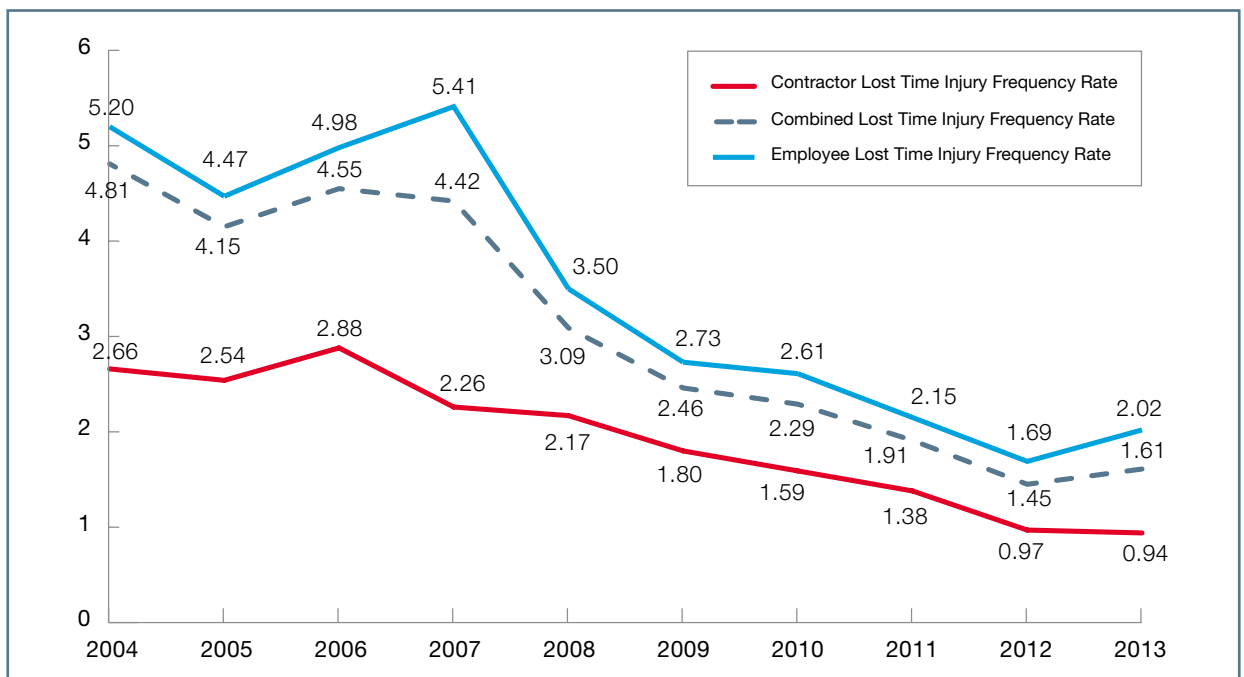
Director General

World Steel Association



The five main causes of safety incidents

Global Lost Time Frequency Injury Rates*



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

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