

An industrial establishment promises foremost to pay attention to safety to surrounding community and society. TOYO ensures that loss of human life must be absolutely prevented and applies all efforts and initiatives to Safety. The time and value for safety aspects are given top most priority.

“Safety” is the prime brand of TOYO. In order to boost this brand universally, we are strongly promoting many safety measures and shall actively strive to consolidate a firm Safety Culture.



Safety





Safety Record

We would like to present TOYO Safety record 2008–2012 as follows.

Total Recordable Incident Rate (TRIR) shows continuous downward trend, and it indicates decreasing of number of incidents. TOYO group aims for zero accident as a safety management objective. Hence our target is to further reduce Lost Time Incident Rate (LTIR) and Total Recordable Incident Rate (TRIR).



TOYO Safety record over the past 5 years (ILO base)

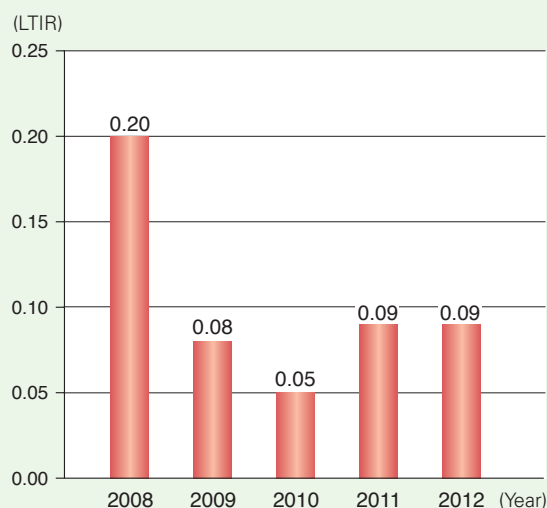
Year (Jan to Dec)	Employee Worked Man-Day (Thousands)	Employee Worked Man- Hours (A) (Thousands)	Number of Incident					LTI Rate (*1)	Total Recordable Incident Rate (*2)
			Fatalities	Lost Time Incident	Medical Treatment (No Lost Time)	LTI Total (B)	Recordable (C)		
2008	13,106	130,287	5	21	247	26	273	0.20	2.10
2009	16,769	164,344	4	9	156	13	169	0.08	1.03
2010	12,012	117,295	1	5	56	6	62	0.05	0.53
2011	8,521	80,783	1	6	12	7	19	0.09	0.24
2012	12,739	120,760	3	8	16	11	27	0.09	0.22

*1: Lost Time Incident Rate (LTIR) = (B) × 1,000,000 / (A)

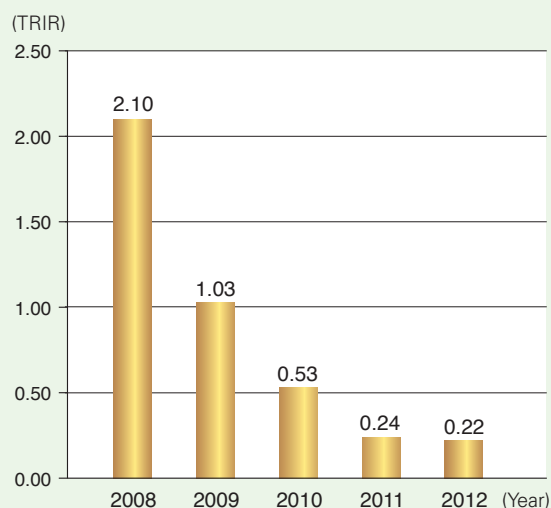
*2: Total Recordable Incident Rate (TRIR) = (C) × 1,000,000 / (A)



Lost Time Incident Rate (LTIR)



Total Recordable Incident Rate (TRIR)





Safety Culture in TOYO Group

TOYO Group Safety Meeting

TOYO is aiming to provide uniform level safety management irrespective of countries and regions where it operates.

In order to promote safety culture within TOYO, the designated head of HSSE of TOYO Group Companies conduct periodical meetings at pre-decided location, exchange experience and ideas, maintain close communication for improvement of safety management activities.



TOYO GROUP HSSE MEETING in Korea

Following TOYO Group Companies participated.

- Toyo-Japan
- Toyo-Korea
- Toyo-China
- Toyo-Malaysia
- Toyo-India

■ Safety Campaign

TOYO holds "Safety Campaign" at all its group companies and construction sites for promoting safety awareness for one month starting 1st July every year and various safety programs take place during this period.



Major Campaign Program

- Message of CEO and top management of respective TOYO group company
- Display of Poster, Banner, Flag
- Display of Personal Protection Equipment
- Introduction of safety activities in relation with accident at construction sites
- Lecture on working at height
- Documentary show
- Morning Radio exercise
- Various Training Exercises
- Safety Award



Safety award at construction site during campaign



Mass Safety meeting during campaign



Opening event of Safety Campaign in TOYO group company



Safety Management Rules and Education

TOYO-Group Standards

Throughout TOYO group companies, there exists TOYO-Group Standards to ensure that safety management is implemented at the same level irrespective of country and region.

TOYO-Group Standards specify minimum safety level to be followed, like minimum allocation of safety staff, requirements of safety protection and so on.

In all regions of the world, we have implemented equal level of safety management standards.



■ Training of HSSE Manager

In recent years, specially for mega projects, there is an increase in demand of exclusive HSSE managers. HSSE Manager has overall responsibility of HSSE matters related to the project in addition to the main contact point with client for HSSE related matters.

TOYO is promoting to cultivate HSSE Managers in cooperation with group companies.

In TOYO group, for example, HSSE manager employed by Toyo-India may act in similar capacity across other TOYO group company.



Training session for HSSE Manager

■ Education of Site Management

Leadership of PM/FM/CM

- There would be no improvement in safety system if PM/FM/CM do not possess strong willingness.
- Site Workers are looking at safety attitude of top leader.
- Maintaining site safety leads to improvement of quality of construction and shortens the schedule, thereby aiding to cost-down efforts.

Leadership behavior and qualities

1. To acquire basics of safety.
2. To identify completely safety issues in the design, procurement, construction and commissioning.
3. To understand subordinate's character and ability.
4. To allocate suitable safety role to all subordinates.
5. To realize and shoulder own responsibility.





Lessons Learned from Accidents

It's quite unfortunate to report that some lost time incidents occurred at TOYO Group construction site in the past. Among them, some cases regarding stumbling of workmen and tumbling of goods/tools, falling of object are reviewed below as case studies.

■ Stumbling/Tumbling

● Situation

On fourth-floor landing of a steel tower for Reactor, a worker tried to pass across the lower scaffolding leg which was meant for paint repair and stumbled. His left knee got smashed against the steel board which was kept temporarily, as he tumbled. On hospitalization and subsequent X-ray test, it was revealed that he had suffered fracture on left knee.

● Causes

- Improper placement on access way
- Lack of awareness toward the safety access
- Lack of housekeeping
- Lack of warning-sign board

● Countermeasures

(1) At the construction site

- Checked and rectified unsafe conditions especially for the scaffolding
- Marked clear access
- Proper housekeeping initiated
- Installed a warning sign board

(2) At the Head Office

- To prevent similar accident, the incident report was issued immediately and head office alerted this incident to all construction sites.
- Issued instruction to comply strictly with procedures, implementation of KYK (Hazard Prediction Activity) to site





■ Accident Due to Flying, Falling of Objects

● Situation

During dismantling of scaffolding inside flat bottom tank (diameter: 10m, height: 16m), passing the dismantled scaffolding pipe from worker on 7th floor to that on 4th floor, the worker did not catch the pipe due to which the scaffolding pipe (diameter: 50mm, length: 1m, weight: 5kg) fell for about 5m below and hit head of a worker's standing on 1st floor. The worker suffered head injury.

● Causes

- Workers did not comply the set procedure of taking dismantled pipe with rope.
- No Tool Box Meeting
- No Work Permit
- Foreman instructed the commencement of the work without noticing the change of work contents.

● Countermeasures

(1) At the construction site

- Complied with procedures and imparted safety aspects
- Reliable implementation of TBM
- Re-orientation of the foreman
- Started Conducting meeting during change of work for proper understanding of next work

(2) At the Head Office

- For prevention of similar accident, the incident report was issued immediately and head office alerted this incident to all sites.
- Instruction for compliance with procedures at site
- Prepared instruction for conducting meeting at the time of change of work

