



NATIONAL SAFETY COUNCIL - WEST BENGAL CHAPTER

52nd National Safety Day Celebration

(Theme : “Our Aim – Zero Harm”)

On

4th March 2023 (Saturday)

At

“Utsav Mancha”

**P3, CIT Road, BRS 10, Kankurgachi, Kolkata,
West Bengal – 700054**

Organised by –

National Safety Council, West Bengal Chapter

In Collaboration with

Directorate of Factories, Government of West Bengal



Special Edition in Safety

(নিরাপত্তা বার্তা)

About National Safety day

The National Safety Day/Safety Week Campaign being spearheaded by the Council since 1971 to mark its Foundation Day (4th March) has significantly contributed in spreading safety awareness in all sectors. The campaign is comprehensive, general and flexible with an appeal to the participating organisations to develop specific activities as per their safety requirements. The Campaign is aimed at renewing the commitment of employees and general public to work safely throughout the year. United Nations Development Program (UNDP) has adopted 17 Sustainable Development Goals (SDG). Occupational Safety and Health (OSH) is reflected in Goal No. 3 of SDG which mainly focuses on “Good Health and Well- being”. NSC aligns its activities towards SDG, through its several initiatives and programs.

The objective of the NSD Campaign is to help industries and other organizations to promote safety, Good Health and Well-being and move towards achieving a zero harm status for the organization. In view of this the theme for NSD-2023 has been derived as **“Our Aim – Zero Harm”**.

About National Safety Council, West Bengal Chapter

The Labour Ministers’ Conference in its 22nd Session held in 1962 recommended:

“A Conference on “Safety in Factories’ should be convened and the question of setting up a National Safety Council for conducting a campaign on accident prevention should be considered”.

The 24th Session of the Standing Labour Committee accepted the proposal concerning the constitution of the National Safety Council (NSC) in February, 1966.

Accordingly, NSC Was set up on 4th March, 1966 by the Ministry of Labour, Government of India. NSC has 12 Chapters in India.



National Safety Council, West Bengal Chapter is one of the 12 Chapters of NSC and function as per its Memorandum of Association and the Bye-laws, as approved by the NSC Board Pursuant with its objective of promoting awareness of safety, health and environment within the state of West Bengal, it develops material, methods, procedures and organizes various seminar, training programme etc. on the safety, health and environmental issues. The activities of the Chapter are governed by an Executive Committee comprising of such number of members as mentioned in the Memorandum of Association and the Bye-laws. The members are elected from the corporate members, Life members and safety experts nominated by the committee.

SAFETY AND HEALTH PLEDGE

“On this day, I solemnly affirm that I will rededicate myself to the cause of safety, health and protection of environment, will do my best to observe rules, regulations, procedures and develop attitudes and habits conducive for achieving these objectives.

I fully realise that accidents and occupational diseases are a drain on the national economy and may lead to disablements deaths, harm to health, damage to property, social suffering and general degradation of environment.

I will do everything possible for the prevention of accidents, occupational diseases and protection of environment in the interest of self, family, organisation, community and the nation at large”.

আজ এই বিশেষ দিনে আমি সত্যনিষ্ঠপূর্বক প্রতিজ্ঞা করিতেছি যে আমি পুনরায় কর্মক্ষেত্রে সুরক্ষা, স্বাস্থ্য এবং পরিবেশ রক্ষার প্রতি নিজেকে সম্পূর্ণরূপে সমর্পণ করিব এবং কর্মক্ষেত্রে নিয়ম, বিধিনিষেধ এবং সঠিক কর্মপদ্ধতি পালনের লক্ষ্যে নিজেকে সর্বতোভাবে যত্নবান এবং অভ্যস্ত করিব।

আমি সর্বতোভাবে বিশ্বাস করি যে দুর্ঘটনা এবং পেশাগত রোগ জাতীয় অর্থনীতির বিকাশকে দুর্বল করে এবং নিয়ে আসে বিকলাঙ্গতা, মৃত্যু, স্বাস্থ্যহীনতা, সম্পত্তি ক্ষয়, সামাজিক বিপন্নতা এবং পরিবেশের অবক্ষয়।

আমি নিজে সর্বতোভাবে, আমার নিজের, পরিবারের, সমাজের প্রতিষ্ঠানের এবং বৃহৎ অর্থে দেশের স্বার্থের জন্য এই দুর্ঘটনা ও পেশাগত রোগ প্রতিরোধে, পরিবেশ রক্ষায় আন্তরিক ভাবে সচেষ্ট হব।



WORKPLACE SAFETY: ZERO HARM STRATEGY - Safety through Behavioural Change

GOUTAM RAY, Chairman, National Safety Council, West Bengal Chapter

Safety is a concept that includes all measures and practices taken in an organisation to preserve and protect the life, health, plant and equipment of the ecosystem. In the workplace, safety is measured through a series of metrics that track the rate of defined incidents such as, near misses, injuries, illnesses, and fatalities. In order to improve these metrics, employers and employees must have adequate awareness and conduct necessary investigations following any incident to ensure that all safety protocols and measures are being followed or to implement new ones if needed. It is important to create SOP (Standard Operating Procedure) to be adhered to at every workplace.

Key to Safe Business

Management plays key role in harnessing safety through its Safety Policy & Strategies. Plants & Machinery, Tools & Tackles, Workplace, Raw materials etc. with inbuilt fail-safe features ensure Safe Work Environment. Workers actually upholds safety through their motivated Safety Performance and thereby creating a Safety Climate. A key feature of a safe work environment will be one that prioritizes and shines a spotlight on employees' well-being. High levels of trust and support, strong communication, encouragement, and compassion are some hallmarks of a good and positive workplace.

Safety Culture

Safety culture has four components: safety values, safety leadership strategies, safety attitudes, and safety performance.

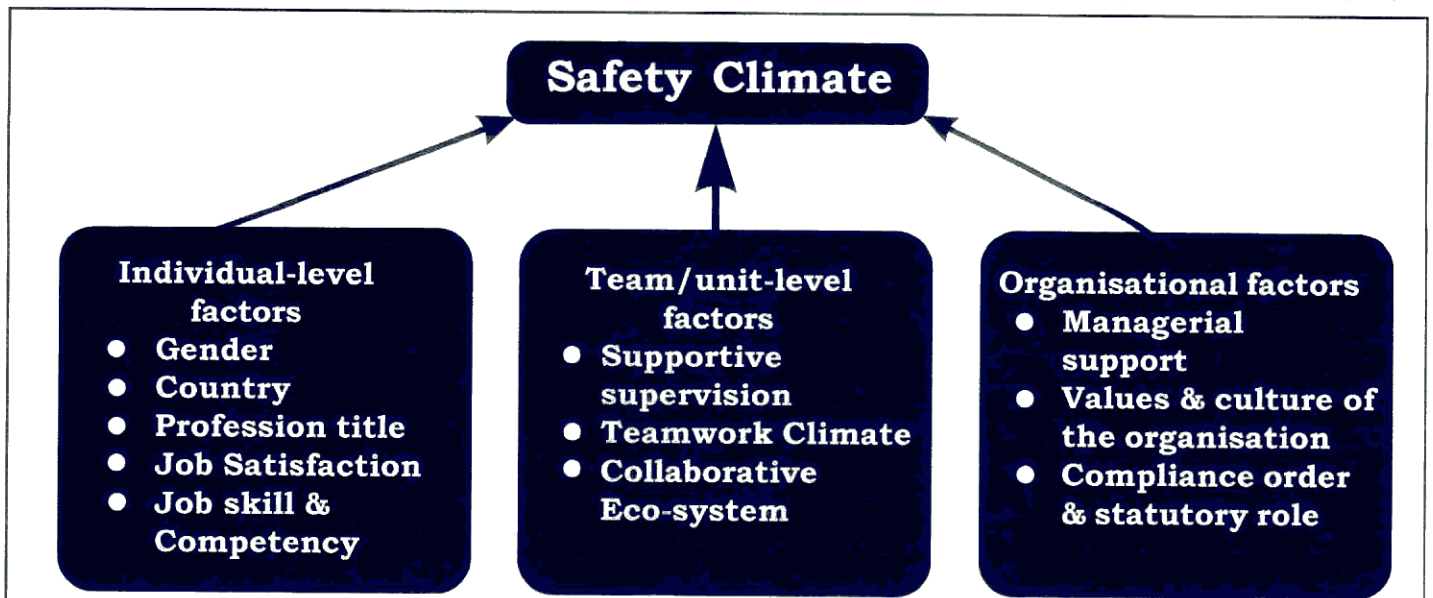
Safety should be viewed as a value embedded, while priorities can change. Safety is fundamental to operational excellence. In order to create a culture of safety, safety must become a personal value where each employee takes responsibility for recognizing and reducing unnecessary at-risk behaviours.

A safety strategy is a high-level plan that is designed to help workers meet one or more workplace safety goals. A Health & Safety strategy is a series of outcomes, actions and measures (KPIs) that an organization can implement to improve its performance in terms of the health and safety of employees, customers and other stakeholders.

A safety attitude refers to the perceived behaviour that is given to safety considerations within an organization. It is a holistic term that includes corporate policies, management attitudes, and worker's beliefs about safety within the workplace. With the change in the behaviour pattern, Safety Performance improves leading to a better safety climate. Safety performance means realized or actual safety accomplishment relative to the organization's safety objectives. Safety performance improvements in an organization can increase its resistance or robustness and lower the risk of accidents.

Safety Climate

We can see the components of the Safety climate in the chart below. While Organisational factors can be monitored through management interventions, Team/ Unit-level factors depends on team synergy which again is linked with Individual level factors of the constituent members. Hence it is imperative that individual behaviour plays a significant role in safety management.



Approach to Safety

4 Ps of Safety: Positive, Proactive, Preventative, Predictive.

- **Positive:** Laying the foundation for a thriving culture hinges on creating an environment where employees feel safe to report. The more reporting you have, the more you have an accurate, 360-degree picture of incidents in your workplace.

- **Proactive:** Being proactive sets organizations up to improve on continuous framework. Employees and organizations both play a part in being proactive about workplace safety, instead of taking reactive approach to set aside the issue.

- **Preventative:** With the help of various technological solutions and procedures in places, organizations can drill into contributing factors to workplace incidents and put steps to prevent them. It is always advised to follow the principle of "Prevention is better than cure".

- **Predictive:** Predictive measures have to center around technology and gadgets. A solid culture of reporting is also a key factor in preventing and predicting incidents. Regular condition monitoring also helps building predictive skill and accuracy.

Establishing Safety

4 Es of Safety: Education, Encouragement, Engineering and Enforcement.

- **Education:** Education is a significant part of the strategy that will ensure to promote a safe environment and workplace. Education involves the teachings about safety rules and creates awareness of the benefits and goals of safety in the community and workplace. Education informs on workplace safety practices, and gives the chance to exercise what is learned.

- **Encouragement:** Encouragement is all about being safe and having Reward & Recognition system. Encouragement is just one of the main strategies that safety specialists use to secure interests in the field of workplace health and safety.

- **Engineering:** Simply put, engineering helps to create a safe working environment. You can combine Engineering with education and encouragement to address the specific needs of your company's environmental, health and safety (EHS) program. It's a broad concept used to describe the design, development, implementation, operation and maintenance of both quality control programs and physical safety measures of employees.



- **Enforcement:** Enforcement is a key component of work and environmental safety as it reinforces the laws that serve to protect the organisation. The primary role of enforcement is to reduce incidents, save lives, and facilitate a hazard-free and efficient work environment. Every organization may have well laid down consequence management system.

Implementing Safety

ABC of Safety: Action, Behaviour, Control.

- **Action:** A safe action means staying alert and focused on the job at hand. An individual employee's action towards safety, the environment or customers will determine what they will or won't do.

- **Behaviour:** Safe behavior means taking safety guidelines and practices seriously. Behaviour is a significant factor in determining a business culture.

- **Control:** Control means taking responsibility and keeping your work area clean and orderly. Many organizations are now moving away from compliance for legislative requirements and towards a safety culture. It requires a commitment from senior executive management, and effective communication across the company. Cooperation, collaboration and communication all play a vital role in developing an authentic safety culture.

Behaviour-based Safety

Behaviour-based safety is a process that creates a safety partnership between management and employees that continually focuses people's attentions and actions. The primary goal of a BBS program is to positively reinforce safe practices by proactively identifying naturally inclined unsafe behavioural patterns in humans and ensuring that timely interventions are in place to encourage individuals or groups to continuously conform to EHS best practices. The effectiveness of a properly implemented BBS system is undeniable in curbing unsafe acts. Here are a few challenges to avoid while implementing a BBS program:

Failure to apply positive reinforcement: It is natural for people to elicit a certain behaviour, be it safe or unsafe acts, if it provides some form of benefit. In the workplace, taking a risk may save time, effort and in some cases ease into our comfort zone. With no leading indicators to affect change, the behavioural pattern will continue to manifest. Behavioural change should stem from positive reinforcement and safety culture that imbibes open communication and facts.

Failure to engage participation: To ensure a culture of active participation, companies need to make their staff feel like valued contributors to safety culture and take to rewarding safe acts.

The emerging science of behaviour change and specific frameworks, create opportunities to integrate the valuable insights from diverse disciplines using a framework that has cross-disciplinary appeal.



সুরক্ষা দিবসের “থিম” - কিছু ভাবনা

দেবব্রত রায় চৌধুরী,

(ভাইস চেয়ারম্যান, NSC W.B. Chapter)

আমরা যারা কলকাতায় থাকি তাদের কাছে “থিম” শব্দটা সুপরিচিত দুর্গাপূজার কল্যাণে। NSC (ন্যাশনাল সেফটি কাউন্সিল, ইন্ডিয়া) প্রত্যেক বছরই জাতীয় সুরক্ষা সপ্তাহের একটি “থিম” নির্বাচন করে। কিন্তু দুর্গাপূজার “থিম” এর সঙ্গে এর একটা মৌলিক পার্থক্য আছে। Safety Week এর “থিম” এর কার্যকারিতা কিন্তু সময়ের সঙ্গে সঙ্গে ফুরিয়ে যায় না। অর্থাৎ আমি বলতে চাইছি ২০২২ সালে যে “থিম” ছিল অর্থাৎ ‘Nurture young minds - develop, Safety Culture’ সেটা কিন্তু বর্তমান সময়ে ও সমান প্রাসঙ্গিক। দীর্ঘদিন ট্রেড ইউনিয়ন এবং NSC-র সঙ্গে জড়িত থাকায় আমার ব্যক্তিগত অভিজ্ঞতা থেকে বলতে পারি যে তরুণ প্রজন্মের মধ্যে সুরক্ষা ভাবনা না জাগাতে পারলে কিন্তু হবে না। বিশেষ করে আমার মনে হয় প্রতিবছর ITI, পলিটেকনিক থেকে বিপুল পরিমাণ ছাত্র বৃহত্তর কর্মক্ষেত্রে প্রবেশ করছে তাদের একটা বড় অংশের মধ্যেই কিন্তু সেফটি সম্বন্ধে সাধারণ ধারণাটুকু থাকে না। নতুন কাজের জায়গাতেও অনেক ক্ষেত্রে উপযুক্ত নিরাপত্তা সংক্রান্ত প্রশিক্ষণ দেওয়া হয় না। যার ফলে এরা অনেকেই দুর্ঘটনার শিকার হন। কাজেই ITI, পলিটেকনিক এমনকি ইঞ্জিনিয়ারিং ছাত্রদের ফাইনাল ইয়ারে অবশ্যই তাদের পাঠক্রমে নিরাপত্তা সংক্রান্ত প্রাথমিক ধারণাটুকু থাকা দরকার সমাজের স্বার্থে, এ ব্যাপারে আমি সবার দৃষ্টি আকর্ষণ করছি। সবশেষে ২০২৩ সালের থিম **Our Aim-Zero Harm** প্রসঙ্গে একটি কথাই বলি যে, স্বামী বিবেকানন্দ বহু বছর আগেই বলেছিলেন ‘Be good-do good’ অর্থাৎ ভালো হও ভালো করো। আমাদের লক্ষ্যই হলো নিজের, পরিবারের, প্রতিষ্ঠানের এবং সর্বোপরি এই দেশের যেন কোন রকম ক্ষতিসাধন না হয় আমার কোন কর্মপদ্ধতির দ্বারা। এটাও একটা শাস্ত্রত বাণী।

কাজেই পূর্ববর্তী বছরগুলির থিমকে ভুলে গিয়ে নয় সেগুলিকে মর্যাদা দিয়েই নতুন থিমের উদযাপন করতে হবে।

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Considerations on safety before start up of chemical factories

— Santanu Banerjee, Joint Director of Factories, W.B.

Recently few dangerous occurrences have taken place during start up of chemical factories after prolong shutdown. The following guidelines may be considered for safe start up.

1. Ensure that operations involved in the start-up procedure are supervised and supported by experienced technically trained personnel during start-up and they are sufficiently trained on the control system that they will be operating.
2. Proper PPE shall be ensured for worker engaged in the initial cleaning and start up process to address leakage/presence of toxic gases.
3. Identify all potential hazards due to lock down and based on the Safe Operating Procedure (SOP) shall be prepared and shall be strictly followed.
4. All type of work permit systems shall be strictly followed.
5. Ensure electrical cables and electrical equipments are in good working condition and free of defects. Also make sure the functioning of all circuit breakers like ELCB, MCB etc.
6. Do not bypass critical safety devices while trouble shooting during start up.
7. All movable machinery/equipment must be de-energised or disengaged and locked out during cleaning, servicing, adjusting or setting up operations.
8. All lifting machineries and lifting tackles shall be checked before operation.
9. Ensure proper working of all emergency systems before starting up of plant.
10. Ensure adherence to all relevant start up procedure and work instructions during start-up.
11. All factory building shall be properly ventilated before admitting any personnel. This should be checked and verified by a designated Safety Officer or in his absence by competent senior personnel of the factory.
12. All closed storage tanks floating roof and underground storage tanks shall be checked for toxic gases and accumulated pressure due to formation of gases before hooking upto process lines.
13. Proper working of all safety relevant systems including Pressure gauges, level gauges, Safety valves, pressure relief valve etc. of all underground storage tanks, Overhead storage tanks, Reaction vessels, and pipelines shall be ensured and calibration if required shall be conducted before start-up operations.



14. Process pipe lines shall be safety flushed for clearing toxic fumes and vapours to be neutralized, (which may have accumulated) and all line shall be leak tested before taking into use.
15. Ensure proper working of all detection systems including sensors for toxic gases and flammable gases.
16. Wherever possible emergency services shall be kept on standby or Onsite emergency plan to be activated for meeting unforeseen situation. During cleaning/start-up of plant.

It is the duty of occupier to observe all reasonably practicable measures to ensure health, Safety and Welfare of all workers and persons residing in vicinity of Factory. The above instructions are not exhaustive in nature and they are only guidelines. If any additional precautions as may be necessary should be adopted by the factory management for safety of workers in the factories after prolonged shutdown.

1. **Safety Instructions for Closed Factories :-**

1. In view to secure adequate safety Measures in place appropriate numbers of trained and competent safety supervisors/workers must remain present in Chemical Factories.
2. Regular safety inspections of all storage tanks and vessels of Toxic, Inflammable. Explosive chemicals shall be carried out.
3. Proper functioning of cooling systems, agitation and pressure relief systems shall be ensured.
4. Chemicals like styrene which goes on polymerisation on prolonged storage shall be added with required quantity of Inhibitors on regular intervals.
5. Firefighting systems, Emergency utility systems like chilling, refrigeration and cooling systems shall be maintained in good condition.



SAFETY AUDIT IN CONSTRUCTION INDUSTRY

..... Partha Bagchi, Assistant Director of Factories, W.B.

The 'Construction Industry' has always been a mass employer recruiting from all sections of the Society. But, the volume, nature of work and intensive involvement of large scale manual labour, have, over the years, been the principle cause of frequent accidents at construction sites, despite introduction of newer raw materials, improved techniques and modern machinery.

With the cost, complications, completion time of a project,— shooting up with each accident, often compromising on the creditability and profitability factors of a company in today's highly competitive market, the Employers / Construction Companies / Business Houses have been forced to take note of the situation and develop their own Safety Management System as an integral part of their Business Policy along with Quality Management System. The Government has also enforced certain legislative measures to provide safety guidelines for the construction industry.

In India, the Health, Safety and Welfare aspects of the Workers employed in the Construction Industry are governed under - The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act 1996 and the Rules framed there-under. Subsequent to the enactment of these Rules, it has become obligatory on the part of an Employer of an Establishment employing 50 or more 'Construction Workers', to prepare a written statement of policy in respect of safety and health of building workers which should include the techniques and methods for assessment of risk, safety, health and environment and remedial measures thereof and subsequently carry out and examine the implementation of the safety norms.

Reference: - Rule 39(1) & 39 (1)(b)(iv) of the Building and other Construction Workers (Regulation of Employment and Conditions of Service) Central Rules, 1998 and the West Bengal building and other Construction Workers (Regulation of Employment and Conditions of Service) Rules, 2004.

Safety Audits are a form of hazard identification, risk analysis and evaluation in which systematic investigation is carried out in order to determine the extent to which the precautions and system in accordance with the legal requirements, safety management system, safety manuals, code of practices etc. are present and the areas for improvement and implementation, to make the safety policy effective and efficient. It asks whether the system or the safety precautions **Exists, Adequate and Used.**

IS 14489:2018 defines Occupational Health and Safety audit as "A systematic, objective, documented and independent evaluation to determine whether the activities conform to the requirements of the Occupational health and safety systems and procedures."



One of the differences between the Safety Audits and Inspections carried out by the employee of an organization is that audit examines the existence, adequacy and use of safety management system through physical inspection, interviews and document checks and identifies Organization failures which are the root causes of accidents, whereas the role of inspection is often limited by time and other constraints to identification of unsafe act and conditions which might be the immediate causes of an accident.

Objectives of Safety Audit

The purpose of Safety Audit includes the following

- I. To determine the extent of establishment's compliance with the applicable statutory regulations & code of safety practices;
- I. To determine the extent of conformity with the management systems;
- II. To evaluate the quality and effectiveness of the safety program;
- III. To determine and identify the possibilities for further improvement; improvement;
- V. To prepare a data system which will furnish the adequate information on system;
- VI. To take remedial measures to rectify non compliances or deficiencies to main accident-free environment;

It should be carefully noted that audit should be conducted by unbiased personnel. Audit should be carried out through meticulously drafted 'Checklists' and its results should be recorded and made available to all concerned personnel. The objective of conducting safety audit should never be to impose penalty but it should be directed towards taking remedial measures to rectify irregularities, non-compliances or deficiencies identified during the Safety audit.

Types of Audits

There are two types of audits, external and internal.

External audits are those carried out by agencies external to the organization to be audited, Internal audits are those carried out by the employees selected by the management. Such employees may be selected preferably from those who are not attached to the construction site for which the audit to be carried out.

It is preferred that both types of audits should be conducted for overall improvement and compliance of statutory regulations

Advantages and Disadvantages of Internal and External Audit are given below.



Internal Audits	External Audits
Advantages	Disadvantages
Internal audits are cheaper	External audits are more expensive
Internal audits are easier to arrange	More time is required to organize external audits
Auditees might find auditors less threatening during internal audits	External auditors are more formal and therefore may feel more threatening to auditees
Disadvantages	Advantages
Internal auditors may be more influenced by internal relationship and may be biased	External auditors are not influenced by internal relationship and therefore are not biased
Conclusions of internal audit may not be taken seriously by the Organisation	Conclusions of external audit are taken seriously by the Organisation because of increased formality and experience of the external auditors
Internal auditors may be so familiar with the Organisation that assumptions influence conclusions	External auditors are not so familiar with the Organisation and therefore ask obvious questions rather than making assumptions

Structure of audit program

Audits are generally structured i.e they are designed in such a manner that it is carried out with purpose and are conducted according to planned arrangement. Indian Standard **IS14489:2018** has been relied upon to device audit strategy and audit questionnaire.

Scope of Safety Audit in Construction Industry

The scope of the safety audit in construction Industry is limited to the safety and health of workers employed in the construction work defined under BOCW Act.

The Audit is carried out as per IS 14489:2018 and examines the various Legislative requirements such as the BOCW Act, 1948 and the state Rules, Environment(Protection) Act, 1986 and Rules made there under and other applicable Statutes.

Role of Safety Officers in Safety Audit

1. To develop a monitoring system for implementation of audit recommendation
2. To communicate the content of the audit report to appropriate personnel in the establishment
3. To check and evaluate the effectiveness of action taken on audit recommendation
4. To advise on follow up audit for reviewing implementation of the audit recommendation

Conclusion

Safety audit is basically a tool for accident prevention. However it is the attitude of the management and the visibility of leadership towards safety that guide the implementation of safety norms at construction site. Therefore the recommendation and observation reported in the safety audit should be viewed seriously and should be implemented rather than filing it as another document only. All will agree that there is no better feeling than executing a construction project in time, maintaining high quality and without accident.