Short Term Course
on
Industrial Safety Engineering

December 21-23, 2012
at
IIT Kharagpur Kolkata Campus
HC Block, Sector – III
Salt Lake City, Kolkata – 700106

Organised by
Department of Industrial Engineering
and Management
Indian Institute of Technology Kharagpur
Kharagpur 721 302, WB, India

Introduction

Today industries, particularly in India, are facing stiff challenges in meeting the safety and health requirements of the employees and there are reasons for it. First, the changes in work organizations and technologies pose serious problem of workplace accidents. The employees are subjected to the known and unknown risk of occupational injuries and illnesses. Second, the growing societal demand for better quality of work life in the on-suit of OSHAS18001 and SA8000 made people aware of the situation on a positive note which needs to be satisfied by the employer. Finally, increase in competition from global players in terms of quality, productivity, and safety keeps organizations awakening for their sustainability. Under this changed scenario, industries and organizations in India need to develop and device ways and means to improve their workplace in terms of safety, health and environment.

The movement for improving quality world-wide over the last 100 years shows that suitably educating employees on quality management principles and empowering them for excellence in quality prove excellent result. This can be true for safety improvement too. Industries should take initiatives to strengthen safety systems they own through design/redesign, education and training, and instituting safety measures including safe behaviors of the employees. The lacuna persists in designing safety programmes are (i) not inherited in engineering design, (ii) not involved the key process owners, and (iii) not supported by organization. The reason for non-inclusion of these key characteristics is the lack of knowledge and skill to conceptualize safety issues during system design. As such, a course on "Industrial Safety Engineering" is utmost required to train industry professionals and stake holders on the various aspects of safety engineering and management.

The Indian industries and business enterprises in general have also been aware of the potential benefit of having safe workplaces in terms of increased production, improved productivity and better quality. Today, achieving benchmark safety level is a pride for any organization and has a brand value for business excellence and all out organizational performance. A well-trained group of professionals cutting across different functions and departments of an organization is a prime necessity in order to achieve the goal of industrial safety engineering principles and practices. IIT Kharagpur, being an internationally recognized technical institution of India having a number of experts with proven knowledge, expertise, and research experiences in industrial safety engineering, systems safety design and control and risk management, offers this short term course on Industrial Safety Engineering for business and industry professionals.

Academicians with proven knowledge, industrial experience, and demonstrable ability in teaching, consultancy, research and training in the field of industrial safety engineering and related areas will deliver and demonstrate lectures, tutorials, laboratory experiments, and cases in the short term course.

Objectives of the Course

The primary objectives of the course are as follows:

- Exposing participants to the fundamentals of safety engineering and management.
- Building, in the participants, confidence and faith in safety related measure-ments, monitoring, methodologies, tools and techniques within risk management framework.
- Creating knowledge base amongst the participants in diversified areas, such as hazard identification, risk assessment, risk mitigation and responses, system safety analysis, design for safety, and human error quantification and control.
- Providing exposure to practical problems and their solutions, through case studies and live projects in the field of safety engineering and management.

Course Contents

The course will address the following main issues/ topics:

i) Issues in safety engineering, team building, effective supervision, blue-print for organization-wide safety.
ii) Hazard identification, PHA, HAZOP, FMEA, FMECA, FTA, PRA and accident scenario modelling.
iii) Quantitative risk assessment, cost of accident, risk mitigation approaches.
iv) Human error and safety considerations.
v) Safety by design, hazard control hierarchy, safety function deployment.

Course Schedule

9 am to 5 pm with 2-hour lunch break on each day. The morning session will start at 9.00 am and will end at 12.30 pm. The afternoon session will commence at 2.30 pm and will continue till 5.00 pm. The morning sessions consist of lectures; tutorials and cases will be demonstrated in the afternoon sessions.

Training Methods

The training methods consist of lecture sessions, hands-on-exercises, discussion on cases and live problems.

Eligibility

Executives and engineers from manufacturing industries, iron and steel, aluminium, thermal power and mining industries are eligible for this course. Engineers from service and infrastructure sector like ports, petroleum refinery, oil depots, petroleum and gas pipelines, scientists from research laboratories, consultants, and teachers from the technical institutes are also eligible for the course.

Course Coordinators

Prof J Maiti
Principal Coordinator, Department of Industrial Engineering and Management,
IIT Kharagpur

Prof P K Ray
Coordinator, Department of Industrial Engineering and Management,
IIT Kharagpur

Address for Communication

All queries regarding the course may be addressed to:

Prof J Maiti
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IIT Kharagpur, West Bengal 721 302
Tel: 03222 – 283750 (O), 283751 (R)
Fax: 03222 – 282272 / 255303
Email: jmaiti@iem.iitkgp.ernet.in
jhareswar.maiti@gmail.com

Application and Fee

The interested participants are requested to apply to the principal coordinator by filling in the Registration Form provided with the brochure. The total number of seats is restricted to 30. The participants will be selected on "first-cum-first-served" basis out of the eligible candidates.

The fee for the three-day programme is Rs. 20,000/- per participant. Payment is to be made through a bank draft drawn in favour of "CEP-STC, IIT Kharagpur" payable at Kharagpur. The course fee includes course materials and participation fee.

The participants will require to arrange their own accommodation at Kolkata, if necessary. However, working lunch will be provided to the participants on each day of the course.

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(December 21-23, 2012)

Registration Form

1. Name: _____
2. Affiliation: _____
3. Educational Qualification: _____

   _____
4. Address for Correspondence: _____

   _____

   _____

   _____

   Telephone: (O) _____

   (R) _____

   (M) _____

   E-mail: _____
5. Bank Draft Details:
   Draft No. _____ Date _____
   Amount Rs. _____
   Bank _____ Branch _____

_____
Signature of the participant

_____
Signature of the Sponsoring Authority

(with seal)