

# INDOSHNEWS

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## मेरी कलम से

इंडोशन्यूज की वर्षगांठ अंक को पेश करते हुए मुझे बेहद खुशी है। व्यावसायिक सुरक्षा और स्वास्थ्य की सेवा में इस महत्वपूर्ण न्यूजलेटर ने सोलह साल पूरे किए हैं। संपादकीय बोर्ड को, पत्रिका के पहले प्रकाशन के बाद से ही पाठकों की ओर से कई मूल्यवान सुझाव प्राप्त हुए, जिससे न्यूजलेटर को और अधिक मजबूत किया गया। आशा करता हूँ कि भविष्य में भी, पाठकों, वृत्तिक सहकर्मियों के सहयोग से यह प्रकाशन और अधिक मजबूत बनेगा।

इंडोशन्यूज के इस अंक में अन्य विशिष्टताओं के साथ-साथ दो लेख भी शामिल हैं। पहला अंक उन औद्योगिक जोखिमों से संबद्ध है जो हैंडलिंग, भंडारण अथवा संचालन की त्रुटियों और स्वीकृति प्राप्त सुरक्षा प्रणालियों के उल्लंघन से उत्पन्न होती हैं। अतः उद्योगों को ऐसे संभावनाओं के लिए हमेशा तैयार रहना चाहिए। वर्तमान परिदृश्य में जोखिम प्रबंधन का मुख्य कार्य केवल जोखिम नियंत्रण ही नहीं, बल्कि उद्योगों में उत्पन्न होने वाले सभी प्रकार के जोखिमों के विश्लेषण और नियंत्रण में सहायता प्रदान करना भी है। दूसरा लेख, औद्योगिक वृद्धि के लिए सुरक्षा प्रबंधन सिद्धांतों के व्यवहारिक प्रयोग के बारे में है।

आशा है कि इंडोशन्यूज के इस अंक में दी गई जानकारी से उद्योग जगत के लोग इसका लाभ लेंगे।

## FROM THE DESK

It gives me great pleasure to present this anniversary issue of INDOSHNEWS. This quality newsletter has completed sixteen years in the service of OSH. Since its first Publication the editorial board has received valuable suggestions from the readers to strengthen the newsletter. I hope that with the support of the readers, professional colleagues, the publication will go from strength to strength.

This issue of INDOSHNEWS contains two articles with other features. The first article deals with the Industrial risks may arise while handling, storage or because of operational errors and violation of accepted safety procedures. The industry, therefore, has to be always prepared for such eventualities. In the present scenario the main function of the risk management is to control not only the pure risks but also extend services to the analysis and control of all types of risks arising out in the industry. The second article talks about application of safety management principles for industrial growth.

I hope Industry will harvest benefit from the information carried by this issue of INDOSHNEWS.

Dr. M.Rajaram  
Editor In-chief



## CHEMICAL PROCESS SAFETY THROUGH USE OF SOFTWARES

S.Bharathi

### Abstract

Management of risk is very essential to avoid unwanted circumstances in a large array of areas like industrial fire/explosions, toxic release, irrecoverable mechanical and process failures, workplace injuries/ death and others. The policy-making process, in deciding what and how we might benefit from a risk management, has to essentially recognize the character, strength, and limitations of the tools being used /involved in arriving at a decision. This paper brings out the necessity of reasonably valid and acceptable risk evaluation tools by highlighting the availability of various software tools for the purpose. The past experience suggests that identifying sound, credible and effective reduction priorities and solutions through a variety of possible and practicable methods always leads to better safety results.

### INTRODUCTION

Considering the depth of the technology, scale of chemical process operations, societal demand for effective demonstration of safe operation, timely non-availability of qualified manpower, upward trend of insurance cost and the increasing legislative requirements along with other relevant factors have made the risk managers to resort to various innovative methods to demonstrate their commitment for safe operation of complicated chemical process industries.

Risks voluntarily assumed are ranked differently from those imposed. Statement like risks are "too low to worry about or insignificant or trivial" is likely to cast doubts about the engineering confidence of the management. But risks which are familiar is increasingly accepted than others. The risks that are highly feared or catastrophic in nature are viewed as more dangerous. The danger perception of the same risk is varying at a given time by different stakeholders which is understandable.

The macro / corporate risk management is a complex framework which includes:

- Hazard reduction (Health-based, Technology-based , Risk-balancing ..)
- Control measures (regulations, permits, enforcement..)
- Economic incentives (leads to changes in industrial production decisions and consumer behaviors..)
- Voluntary reductions of risk-producing activities (promotion of pollution prevention, information and education programs.. )

### NECESSITY FOR IMPROVED METHODS

Chemical process industries need to practice risk management program in order to remain competitive and to meet legislative requirements. Even after best possible practices put in place many managements face significant challenges during implementation as risk management involves cross-functional and multi-disciplinary convergence. Further inadequate/inconsistent manufacturing process will always result in lesser quality products, increased recalls, loss of brand name / product reputation and increased liability costs. Management that use slower and conservative methods/tools for risk analyses get inundated with cumbersome documentation, random variations in the manufacturing process and thus making their efforts insignificant or less important while reviewing the decision making process. An effective and

quality risk management plan includes understanding product & process characteristics, perform failure data analysis, apply correct testing, measurement & improved inspection system to reduce deviation of critical process parameters.

### SELECTION OF ACCEPTABLE RISK MANAGEMENT METHOD

The trend is that the managements are determined now than ever to demonstrate their commitment by more acceptable methods of risk management. One such activity is the increasing use of the softwares / software based database in various risk management activities by the managements. They are directly resulting into better and faster results in the sphere of hazard identification, hazard assessment ,hazard communication & consultation , establishing a system for safe & standard operation, reliable maintenance system for highly critical process equipment etc. These benefits are further supplemented by the root causes identified by the managements through scientific accident / incident investigation, carried out in its proper perspective.

Performing a reliable quantitative risk analysis requires data which is of high quality, statistically valid and accurate. This is the desired objective for all of us. The accurate data can be generated from gathering and pooling together the data available from large number of companies, processes, and users of equipment. Quality assurance of the data used in the softwares could be achieved by providing automatic uploading , compare against standard benchmarking of the failure rates of many industries/ manufacturer since the data analysis is centralized and operated on global basis.

### BENEFITS THROUGH USE OF SOFTWARES

The softwares / software based database normally results into or its benefits includes:

- Optimisation of plant layout at the design stage
- Selection of minimum risk for retaining
- Achieving reliable emergency plans with adequate control and mitigation measures
- Use of Inherently safer design / substances
- Increased Environmental protection
- Better demonstration of legislative compliance

The following are the key areas which could be effectively analysed by using appropriate software. The level of non acceptance or the outrage by stakeholders will be



reduced much when the management resorts to best possible evaluation methods.

- Determine what hazards will be accepted (identification)
- Control options available (assessment)
- Elimination or reduction or transfer or retaining unacceptable risks (decision on the results of the evaluation done)

and amalgamation of maximum hazards and data could be is the use of software and software based data management. Therefore it is more important for the safety professional, Design engineers, Process Chemists and plant engineers to have an idea of few software available. The following are some of the brief details of the software/software based database available for them in discharging their process safety responsibility in a better manner. The readers are strongly advised to verify the stated usefulness from authenticated sources.

One of the risk management tools through which faster

**BRIEF INFORMATION ON SOFTWARES**

Name of the software	Brief Technical details	Useful for whom	Web link/reference
SUPERCHEM S-PROGRAM	For pressure relief system design. Simulation for more than one phase flow, modeling of multiphase is possible. Contains a large database of more than 1,200 industrial chemicals which reduces search time.	Design engineers plant engineers & others who are responsible for safe operation of pressure relief systems	<a href="http://www.aiche.org/ccps/ActiveProjects/PERD/index.aspx">http://www.aiche.org/ccps/ActiveProjects/PERD/index.aspx</a>
PERD	This is developed by CCPS to optimize mechanical integrity. Participating companies are provided with dedicated and efficient software tools for data submission for operation of equipments reliability database to support three important functions i.e availability, reliability, and design Improvements. Maintenance strategies and determination of life Cycle Cost possible.	plant engineers, safety professionals, reliability engineers, maintenance professionals	<a href="http://www.aiche.org/CCPS/Publications/Software/index.aspx">http://www.aiche.org/CCPS/Publications/Software/index.aspx</a>
Chemdata	Database of over 36,000 substances and more than 116,000 different chemical names, including pure and trade-name chemicals.	Fire and Emergency services to provide advice in the event of chemical spillages, fires and contamination incidents.	<a href="http://the-ncec.com/chemdata/">http://the-ncec.com/chemdata/</a> and <a href="http://www.environmental-expert.com">http://www.environmental-expert.com</a>
PHA-Pro	The technical information on HAZOP, What If / Checklist, PrHA, LOPA, SIL, HACCP are also available with this to help organization to manage risk policies and programs	Process industries such as oil and gas, chemicals, and Pharma.	<a href="http://www.dyadem.com/resources">http://www.dyadem.com/resources</a>
FMEA-Pro	FMEA-Pro supports Failure Mode and Effects Criticality Analysis (FMECA), Design Verification Planning and Reporting (DVP&R), Process Flow Charts, FMEA-based Reliability Centered Maintenance	Design/ process engineers	<a href="http://www.dyadem.com/resources/brochures/fmea-pro/">http://www.dyadem.com/resources/brochures/fmea-pro/</a>
FMEA-Med	Top-down approach for analyzing pre-event & post-event failures to determine how it can occur and to find the root cause of the failure.	Medical device and pharma manufacturers	<a href="http://www.dyadem.com/resources/">http://www.dyadem.com/resources/</a>
FTA-Pro	Reduces design defects, product recalls and production downtime.	Design /safety / Production engineers/ marketing/ product safety	<a href="http://www.dyadem.com/resources/">http://www.dyadem.com/resources/</a>
SVA-Pro	Helps chemical facilities in improving security systems through Vulnerability Assessments studies, identifying vulnerability risks, Optimizing work time, minimizing work stoppages, reduces undesirable litigation.	Decisions making authorities on security measures to protect employees, community, & environment	<a href="http://www.softscout.com/software">http://www.softscout.com/software</a>



KY PIPES	Study for Fire Water network requirement in Industry.	Safety and Fire Engineers	<a href="http://www.kypipe.com/">http://www.kypipe.com/</a>
SAFETI	Estimates toxic chemicals travel distance and impact on people.	Risk managers, safety & Health professionals and various authorities.	<a href="http://www.dnv.com/services/software">http://www.dnv.com/services/software</a>
EFFECTS	Calculation of physical effects of an accident by modeling / quantitative assessment of toxic / flammable chemicals.	Risk managers, safety & Health professionals, Plant engineers	<a href="http://www.tno.nl/">http://www.tno.nl/</a>
WHAZAN	Consequence model for over flow of chemicals and its behaviour immediately after release including cloud dispersion.	Risk managers, safety and health professionals, local authorities	<a href="http://www.epa.gov/">http://www.epa.gov/</a>
CHAZOP	Identifies the potential strength and weakness in instrument control, computer system, functional safety of electrical / electronic related items to ensure sufficient redundancy.	Risk managers, safety and health professionals, Insurance authorities.	<a href="http://www.dyadem.com/services/chazop/">http://www.dyadem.com/services/chazop/</a>
ALOHA	Estimates threat zones for hazardous chemical releases like toxic gas clouds, fires & explosion.	Planning Engineers, Insurance Professionals.	<a href="http://www.epa.gov/oem/content/cameo/aloha.htm">http://www.epa.gov/oem/content/cameo/aloha.htm</a>
SIL	Provides system safeguarding for emergency shut downs and deals with Instrument protective functions	Process / instrumentation engineers.	<a href="http://www.prlog.org/">http://www.prlog.org/</a>
LAYER OF PROTECTION ANALYSIS	Used for complex scenario when consequence is too severe for a single event. Do fire risk assessment and reviews existing prevention and protection system	Fire mangers, Insurance managers, safety professionals.	<a href="http://www.primatech.com/software/LOPAWorks2">http://www.primatech.com/software/LOPAWorks2</a>
PHAST	Used for societal risk assessment involving flammable and toxic gases by predictive modeling and forecasting	Financial risk assessors, valuers, cost estimation, project managers, investment decision making authorities	<a href="http://www.dnv.com/services/software/publications/2008/no_2/phastsoftwaresafetyprofessionals.asp">http://www.dnv.com/services/software/publications/2008/no_2/phastsoftwaresafetyprofessionals.asp</a>
HAZOP PRO	Provides data base for Fire, Explosion and Toxic properties of important chemicals	Layout engineers, design / process/safety engineers	<a href="http://software.informer.com/discovered/Hazop_Pro_Bell">http://software.informer.com/discovered/Hazop_Pro_Bell</a>
PRIMAVERA PERTMASTER	Estimates cost & scheduled risk management with techniques for contingency risk response plans.	Sectors like Oil /Gas exploration/ aerospace/ IT/ manufacturing	<a href="http://www.primavera.com">www.primavera.com</a>
SMART PLANT LAYOUT	Helps for meeting plant layout, design requirements, optimal workflow, preliminary design etc. by integrating several elements.	plant engineers and contractors, safety professionals, Local authorities.	<a href="http://www.intergraph.com/learnmore/ppm/engineering-procurement-and-construction/plant-layout.aspx">http://www.intergraph.com/learnmore/ppm/engineering-procurement-and-construction/plant-layout.aspx</a>
SHIFT VISION	Maintain communication process for shift changeovers & creates accurate handover documents for smooth transition. Generates daily, weekly, monthly or yearly reports & the same useful for employees joining after a break to improve their effectiveness	Shift engineers, safety professionals, Utility engineers, Planning engineers	<a href="mailto:info@evision-software.nl">info@evision-software.nl</a>
PTW AND PERMIT VISION	Replaces hard-copy of Permit-To-Work forms and reduces administrative burden .Uses IT*to aid users. Issue /monitor from many locations. Controlling authority gets real-time update on all authenticated permits. Automatically integrates safety precautions to avoid human error.	Maintenance/process /safety engineers	<a href="mailto:info@evision-software.nl">info@evision-software.nl</a>



### CONCLUSION

In today's competitive production environment, corporate decision makers are facing challenges in the management of hazardous facilities to ensure safe production & other activities whilst complying with legislative requirements. As a safety professional, we must continue to advocate and demonstrate that "Good safety means Good business" for which one must use the best available methods and tools to achieve sustainable safety and health performance. In general the use of softwares when integrated with other normally established operational requirements gives reasonable estimates of the risk involved in chemical process by highlighting the manner of probability of occurrence of hazardous events and predicted consequences of such events. However, identification and application of specific software depends upon the hazard potential, engineering confidence of management and plant employees, regulatory requirements and societal concerns. But use of softwares itself will not reduce the risks and improve the risk management activity but the results obtained from them will have to be cleverly analyzed and incorporated in the decision making process.

### REFERENCE

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### CIS: INTERNATIONAL OCCUPATIONAL SAFETY AND HEALTH INFORMATION CENTRE

CIS (from the French name, Centre International d'information de securite et d'hygiene du travail) i.e. International Occupational Safety and Health Information Centre, is a part of the International Labour Office, Geneva, Switzerland.

The mission of CIS is to collect world literature that can contribute to the prevention of occupational hazards and to disseminate this information at an international level. CIS imparts to its users the most comprehensive and up-to-date information in the field of Occupational Safety and Health. The work of CIS is supported by a worldwide Safety and Health information exchange network, which includes over 91 Centres.

Central Labour Institute, Mumbai has been designated as the CIS National Centres of India. CIS can offer you rapid access to comprehensive information on occupational safety and health through its abstracts on latest OSH publications, the CIS Thesaurus and ILO Bulletin 'Safety and health at Work'.

### DGFASLI AT A GLANCE

The Directorate General Factory Advice Service & Labour Institutes (DGFASLI) is an attached office of the Ministry of Labour & Employment Government of India. DGFASLI organization was set up in 1945 under the Ministry of Labour, Government of India to serve as a technical arm to assist the Ministry in formulating national policies on occupational safety and health in factories and docks and to advise State Governments and factories on matters concerning safety, health, efficiency and well-being of the persons at workplace. It also enforces safety and health statutes in major ports of the country.

The Directorate General Factory Advice Service & Labour Institutes (DGFASLI) comprises:

- Headquarters situated in Mumbai
- Central Labour Institute in Mumbai
- Regional Labour Institutes in Kolkata, Chennai, Faridabad and Kanpur

**Vision of DGFASLI:** DGFASLI envisions emerging as an organization of excellence in creating knowledge, formulating policies, standards and practices to ensure safe and healthy workplaces for all in factories and ports.

**Mission of DGFASLI:** The mission of DGFASLI is to render its expertise in occupational safety and health for evolving safe and healthy workplaces in factories and ports through a process of partnership, guidance, regulatory activities in specific sector and information sharing.

DGFASLI organization comprises of its Headquarters situated in Mumbai, Central Labour Institute (CLI) in Mumbai, four Regional Labour Institutes (RLI) in Chennai, Faridabad, Kanpur & Kolkata and eleven Inspectorate of Dock Safety (IDS) offices located at different ports situated all over the country.

DGFASLI organization consists of a multidisciplinary team of around 129 officers (engineers, physicians, industrial hygienists, physiologists, ergonomists, industrial psychologists, commercial artists etc. and 81 technical staff members.

Various specialty divisions/cells under DGFASLI office and Central Labour Institutes in Mumbai include

- a) Factory Advice Service
- b) Dock Safety
- c) Construction Safety
- d) Awards
- e) Statistics
- f) Industrial Safety
- g) Industrial Hygiene
- h) Industrial Medicine
- i) Industrial Physiology & Ergonomics
- j) Staff Training, Productivity & Small Scale
- k) Industrial Psychology
- l) Major Hazards Chemical Safety
- m) Management Information Services
- n) Environmental Engineering and
- o) Communication Division.

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## SAFETY MANAGEMENT SYSTEM FOR SUSTAINABLE INDUSTRIAL DEVELOPMENT

H.V.Chattopadhyay

### Abstracts

*New technologies, Changed functional behaviour of the market, frequent changes of National & International rules and regulations has increased competitiveness amongst industries in many folds. The Sustainable industrial development could be defined as a process of adopting business strategies and activities to meet the needs of the enterprise and its stakeholders while protecting, sustaining and enhancing the human and natural resources that will be needed in the future. This is possible only when the enterprise adopt the long term planning to minimize the all kind of predictive losses. This paper high lights the application of safety management principles in the industrial situations as a loss control management tools.*

### INTRODUCTION

The most unpleasant truth in the industrial scenario is that in spite of several control measures in the design, accidental losses cannot be avoided in the worksite. There is always a chance of such unprecedented losses. These losses are unprecedented because they happen beyond the designed parameters. These losses can be divided into different segments. One of such segments is losses due to unsafe condition and unsafe Act which are generated during the process and the product lifecycle at users end. Now, to limit these unplanned events proper events management is essential in both the sector, process and product lifecycle. Several equations are formed in the market to support the designers so that the losses / failure of the process and product can be controlled at the design stage. But still there is no foolproof system which is balanced in all respect to eliminate such losses at lesser cost in the users end. The main imbalance in this equation is that the industry is less aware of any method by which they can detect the happening of such losses in advance. The detection of such happening requires enough data on happening scenarios. Moreover, the causes of each individual happening are independent elements and are difficult to be formed in a mathematical expression so that probability of happening can be forecasted.

Of course within the limited scope of functioning there are some scientific concepts which contribute a lot in controlling these undesirable events. These event managements are known as Safety Management System and any technique which contribute to control those undesirable events are termed as SAFETY. Hence all accidental loss control devices are SAFETY.

In the beginning of Nineteenth Century, the Industrial revolution had given the trade a new concept 'productivity', a yardstick of industrial development. According to this concept, the increased output against a fixed input or the fixed output against a decreased input is the symptom of industrial development. As a result, lot of Management theories and technical developments are made for best use of industrial resources so that the loss can be minimized and output/input ratio can be increased. But the unfortunate part is that the increase or decrease of productivity as a whole cannot identify the source which has actually contributed for its performance change. This disadvantage had restricted the industrial development within the periphery of the development of process and products only i.e. to increase the productivity the entire effort was given on the modification of the

process and product design only. As a result, in the name of modernization, lot of damage is made on the concept of working environment.

In fact the basic objective of Industrial Revolution i.e. supply of advance facilities in bulk to the trade so that it can reach to the common people and common people can enjoy its fruits at affordable cost, was defeated. To reach the affordable cost industry started making maximum cost curtailment on the designed maintenance system especially in the third world country like us. USE turned into MISUSE and then ABUSE on the control system of design parameters which resulted in more damage on working environment. Industrial Revolution had redefined the term 'SKILL' in industry. Adjustment with the machine pace is the SKILL in modern industry. So, unskilled labours are fully exposed to the Industrial Hazards without any choice which in turn damage the working environment, hence the productivity as a whole. So, modern industrial concept has started searching for a system where the development does not restrict itself within the boundary of modification only but the change of total working environment of the present and near future. Hence, a concept of total development of the working scenario is getting popularity day by day. The sustainable Development is no doubt the answer of that journey of the industry.

### SUSTAINABLE INDUSTRIAL DEVELOPMENT

Sustainable industrial development could be defined as a process of adopting business strategies and activities to meet the needs of the enterprise and its stakeholders while protecting, sustaining and enhancing the human and natural resources that will be needed in the future. The success of a Sustainable Industrial Development of an industry depends on effective participation of all concern: - Employer, Employee, and the Statutory body/Authority. The role of industry in the process of sustainable development is obvious. It relates to changes in production processes and products aimed at improvement of the environmental, economic and social performance of enterprises. Generally, to ensure sustainable industrial development, systematic application of the following measures by industry is needed.

1. Cleaner production and waste minimization.
2. Environmental Management systems (or preferably, integrated environmental, quality, health and safety management systems).
3. Product oriented measures of sustainable industrial development



4. Environmental performance evaluation and sustainability reporting.

The best result could be achieved only by an integral application of these measures. The key issue in this regard is tackling environmental problems in a systematic way in all stages of a product life-cycle and applying both managerial and technical measures.

#### **SAFETY MANAGEMENT SYSTEM**

A Safety Management System (SMS) is a systematic approach for managing safety, including the necessary organizational structures, accountabilities, policies and procedures. An SMS can be likened to a toolbox. It is a toolbox that contains the tools that an organization needs in order to be able to control the safety risks of the consequences of the hazards it must face during the process/services for which the organization is in business. In many cases the organization itself generates the hazards during process. It is important to acknowledge that an SMS itself is neither a tool nor a process. An SMS is the toolbox, where the actual tools employed to conduct the two basic safety management processes (hazard identification and safety risk management) are contained and protected. What an SMS does for an organization is to provide a toolbox that is appropriate, in size and complexity, to the size and complexity of the organization.

#### **THE WORKING TOOLS OF SAFETY MANAGEMENT SYSTEM**

##### **Line Management Responsibility for Averting Accidental Loss**

Line management is directly responsible for the protection of the public, the workers, and the environment. It must start from the top management. This line management should be reciprocative in nature. The directives/commitments issued by the occupier should be carried out by the implementing personnel with proper spirit and objective.

##### **Clearly Defined Roles and Responsibilities in Management**

Clear and unambiguous lines of authority and responsibility for ensuring safety shall be established and maintained at all organizational levels within the Department and its contractors. The decision making management staff must be well aware of his responsibilities and authorities.

##### **Competence Commensurate with Responsibilities**

Personnel shall possess the experience, knowledge, skills, and abilities that are necessary to discharge their responsibilities. A system of continuous training and retraining should be established.

##### **Balanced Priorities**

Resources shall be effectively allocated to address safety, programmatic, and operational considerations. Protecting the public, the workers, and the environment shall be a priority whenever activities are planned and performed.

##### **Identification of Safety Standards and Requirements**

Before work is performed, the associated hazards shall be evaluated and an agreed-upon set of safety standard and requirements shall be established which, if properly implemented, will provide adequate assurance that the public, the workers, and the environment are protected from adverse consequences.

##### **Hazard Controls Tailored to Work Being Performed**

Administrative and engineering controls to prevent or mitigate hazards shall be tailored to the work being performed and associated hazards. A document in this regard should be maintained. An organized record keeping system shall be maintained.

##### **Operations Authorization**

The conditions and requirements to be satisfied for operations to be initiated and conducted shall be clearly established and agreed upon.

#### **THE CONTRIBUTION OF EFFECTIVE SAFETY MANAGEMENT SYSTEM ON FACTORS OF SUSTAINABLE INDUSTRIAL DEVELOPMENT**

##### **Cleaner Production**

Cleaner production is a focused approach designed to maximize the efficient use of raw materials, energy and water, and minimize the output of waste and harmful substances. An effective Safety Management System equipped with a guiding principle of balanced priorities and responsibilities along with competence. It promotes the optimal storage and use of raw materials and energy because it believes that WHAT WE HAVE, THAT CAN ONLY LEAK. So it always plead for the storage of material as minimum as reasonably practicable. The optimal use of raw materials reduces the risk of hazard and waste management in turn contributes to economical growth of the company. Hence an effective Safety Management System is a step of Sustainable Industrial development.

##### **ENVIRONMENTAL MANAGEMENT SYSTEMS**

Environmental management system is the overall strategy followed by management in environmental matters. In practice, it means to control or systematically minimize the environmental impact of company's processes, products and services and to find business opportunities in a correct environmental behavior. The definition of Environment includes water, air and land and the inter-relationship which exists among and between water, air and land, and human being and other living creatures, plants, micro-organism and property. Any damage on the environment ultimately returns to the industry itself. A strong line management and assigned responsibility can only protect the environment.

An effective Safety Management System has a strong pillar of Line Management Responsibility. The responsibilities are also documented with pre-identified role of each management functionaries. In earlier days the management responsibilities are considered to be limited to achieve the production target only. Even the maintenance works are considered as the unproductive. An efficient Safety Management System identifies hazards in a process; maintain the designed control



measures; assess the consequences at uncontrolled scenarios and the best possible mitigation system at uncontrolled scenarios. There can be a complete tailored made package suitable to every kind of industry to prevent accidental losses.

#### PRODUCT-ORIENTED MEASURES OF SUSTAINABLE INDUSTRIAL DEVELOPMENT

The main product-oriented measures include eco-design and life cycle management. These measures are aimed at improving the product environmental characteristics, taking into account its entire life-cycle from raw material extraction to production, use and ultimate disposal as well as transportation in different phases of its life cycle. Product Safety Management is part of Safety Management System. Every Product is designed with certain working limitations. The Safe Operating Procedure and Safe Maintenance Procedure are two important management tools of Safety Management System to ensure the Safety of each Product at user end. Product standardization is one of the basic guiding tools for effective Safety Management System.

#### ENVIRONMENTAL PERFORMANCE EVALUATION AND SUSTAINABILITY REPORTING

Many companies with a good environmental performance also want to show their stakeholders that they are working on environmental issues. Often this is done in a public report where the company presents its environmental impacts and the way it deals with environmental matters and continuous improvements. This type of environmental reports should be distinguished from the mandatory environmental reports required by authorities in many countries. There are several Performance evaluation techniques and reporting system used in Safety Management System. In fact different Inspection Techniques, Safety Auditing Techniques, Safety Reports etc. help the industries to assess their environmental impact. These assessment techniques guide the industries future course of action of the company so that the most vulnerable regions are identified and the proper planning of mitigation can be made.

#### CONCLUSION

Lastly, an effective Safety Management System is explicit because all safety management activities are documented, visible and therefore defensible. Safety management activities and the ensuing safety management know-how of the organization are formally recorded in official documentation that is available for anyone to access. Thus, safety management activities are transparent.

The sustainable industrial development is a concept and does not follow any simple and universal definition. It changes over time in response to increased information and society's evolving priorities. Though it is true that there is a growing response among business houses towards this concept yet it is the common opinion of most of the business executives that the principal objective of business is making money. There is always a difference of opinion on choice between financial survival and the investment on Sustainable Industrial Development. The

continuous regulatory pressure from the authority compels the organization to pay for the restoration of damaged environment or necessary control measures to protect the environment. In the mist of this complex business scenario the investment on effective Safety Management System can be an initial footstep towards Sustainable Industrial Development

**H.V.Chattopadhyay**  
**Director (Safety)**  
**Regional Labour Institute**  
**Kolkata**

#### FILM ARCHIVE ON OCCUPATIONAL SAFETY, HEALTH & ENVIRONMENT AT CENTRAL LABOUR INSTITUTE, MUMBAI

The Government of India declared the National Policy on Safety, Health and Environment at Workplace on 28<sup>th</sup> February 2009. One of the goals of the National policy is to build and sustain preventive safety and health culture in the country in order to eliminate the hazards at workplace and to enhance the well being of employees in all the sectors of economic activities in our country. To attain this goal, one of the steps taken by Directorate General Factory Advice Service & Labour Institutes (DGFASLI) is to develop a **Film Archive on Occupational Safety, Health and Environment at Central Labour Institute in Mumbai.**

All the Film Producers, Organisations, Industries, Industrial Association, Trade unions, Professional bodies, Government and Non-Government organisations, Educational Institutes etc. are invited to enlist their films on Occupational Safety, Health & Environment (OSHE) in CD, DVD format etc. with the Film Archive for preparing a directory of OSHE films.

Interested Agencies/Individuals may please fill-up the proforma and send to:

**The Director General,**  
**DGFASLI**  
**Central Labour Institute,**  
**N.S.Mankiker Marg, Sion, Mumbai 400022**  
or

E-mail at [editorindosh10@gmail.com](mailto:editorindosh10@gmail.com).

The proforma may be downloaded from DGFASLI website at [www.dgfasli.nic.in](http://www.dgfasli.nic.in).

#### QUOTABLE QUOTES

**"Protect your hands...Use your head."**

**"Safe Operators are Smooth Operators"**

**"Safe today - Alive tomorrow"**



## DGFASLI MEGA EVENTS

### ONE DAY SEMINAR ON AVENUE FOR ACHIEVEMENT OF EXCELLENCE IN OSH FOR THE EXECUTIVE/MANAGEMENT OF INDUSTRIES, INSPECTOR OF FACTORIES, SAFETY OFFICERS, SAFETY PROFESSIONALS AT GUWAHATI, ASSAM ON MARCH 17, 2012.

One day seminar on Avenue for Achievement of Excellence in OSH for the Executive/Management of Industries, Inspector of Factories, Safety Officers, Safety Professionals at Guwahati, Assam organised by RLI, Kolkata, DGFASLI, in collaboration with Directorate of Factories, Government of Assam. The objectives of the seminar were to enhance awareness and to provide an opportunity to interact with professionals and experts on OSH activities in preparing avenue for better achievement and goals.



Left to right - Shri Samiran Das, Addl. Chief Inspector of Factories, Government of Assam, Shri U. K. Das, Director (Safety), Regional Labour Institute, Kolkata, Smt A. Talukdar, IAS, Jt. Secretary to the Government of Assam, Department of Labour & Employment, Shri C. Purkayastha, Chief Inspector of Factories, Government of Assam, & Shri G. C. Bora, Addl. Chief Inspector of Factories, Government of Assam.

Shri C. Purkayastha, Chief Inspector of Factories, Government of Assam welcomed all dignitaries, participants and delegates for attending the seminar and Shri Samiran Das, Addl. Chief Inspector of Factories, Government of Assam explained the programme perspective.

Shri U. K. Das, Director (Safety), RLI, Kolkata gave brief overview of the activities carried out by the RLI, Kolkata on behalf of DGFASLI and made the delegates aware about various technical sessions to be held.

The programme was formally inaugurated by Smt. A. Talukdar, IAS, Jt. Secretary, Labour & Employment Department, Government of Assam by enlightening lamp followed by inaugural speech.

During the seminar two technical sessions were organized. The first speaker of the first session was Shri G. C. Bora, Addl. Chief Inspector of Factories, Assam. He delivered a talk on "Accident Scenario and Statutory Compliance of SHE Legislation".

In addition to the above, the following three more papers presented by the speakers:

*Innovative Policy Planning, Operation, Standardization and Statutory Compliance to face the global challenges* by U. K. Das, Director, Regional Labour Institute, Kolkata.  
*Role of Employees in achieving Safety & Health Goal* by Shri Pradip Das, Safety Officer, Emami Ltd., North Guwahati.

*Safety and Health Provisions in Factories Act* by Shri D. C. Roy, Inspector of Factories, Guwahati.

During the second technical session, the following papers were presented.

*Hazard Identification and its Prevention and Control* by Shri H. Chattopadhyay, Deputy Director (Safety), Regional Labour Institute, Kolkata.

*Safety Measures by Management for reduction of accident* by Shri H. Hazarika, Deputy General Manager, Supreme Industries Ltd. EPIP, Amingaon, Kamrup.  
*Role of workers for prevention of accident as perceived by own experience* by Shri Biren Kalita, President, United Workmen, Union, Guwahati, Refinery, IOCL, Noonmati, Guwahati.

The programme was concluded with vote of thanks given by Shri Bharat Prasad Borthakur, Law Assistant to the Labour & Employment Department, Govt. of Assam.

### ONE DAY PROGRAMME ON OSH AWARENESS IN TEA MANUFACTURING INDUSTRIES FOR THE MANAGERIAL STAFF AND WORKERS OF TEA MANUFACTURING INDUSTRIES AT DIBRUGARH ASSAM ON MARCH 27, 2012

On March, 27<sup>th</sup> 2012 a one day programme on "OSH Awareness in Tea Manufacturing Industries" for the Managerial Staff and Workers of Tea Manufacturing Industries at Dibrugarh, Assam organized by RLI, Kolkata DGFASLI, in collaboration with Chief Inspector of Factories, Assam.



Left to right - Shri H. Chattopadhyay, Deputy Director (Safety), Regional Labour Institute, Kolkata, Shri U. K. Das, Director (Safety), Regional Labour Institute, Kolkata, Shri Bhaskar P. S. D. O. Dibrugarh District, Assam, Shri C. Purkayastha, Chief Inspector of Factories, Government of Assam, & Shri Samiran Das, Addl. Chief Inspector of Factories, Government of Assam.

The objective of the programme was to implement National Policy on Safety, Health and Environment.



## DGFASLI MEGA EVENTS

Workplace by OSH Stakeholders and to improve the OSH awareness for betterment of OSH management and improvement of productivity in tea manufacturing industries.

Shri M. I. Khan, Sr. Inspector of Factories, Government of Assam welcomed all dignitaries, participants and delegates for attending the training programme and Shri Samiran Das, Addl. Chief Inspector of Factories, Government of Assam explained the programme perspective.

Shri U. K. Das, Director (Safety), RLI, Kolkata gave brief overview of the activities carried out by the RLI, Kolkata on behalf of DGFASLI and made the participants aware about various technical sessions to be held. The programme was formally inaugurated by Shri Bhaskar Pego, S. D. O. Dibrugarh District, Assam by enlightening lamp followed by inaugural speech.

In the pre-lunch session of the programme, four speakers who represented Government, Employees, and Employers presented papers.

The first paper of the first technical session presented by Shri Samiran Das, Addl. Chief Inspector of Factories, Assam on Accident Scenario and Statutory Compliance of SHE, Legislation in Tea manufacturing Industries.

Shri U. K. Das, Director (Safety), Regional Labour Institute, Kolkata presented a paper on *SHE Management and Accident Prevention Programme in Industries*.

*Safety measures by Management for Reduction of Accident* presented by Shri Anil Kakoty, Group Engineer, APEEJAY Group of Industries, Talap.

Occupational Safety & Health Awareness in Tea Manufacturing Industries presented by Shri Uddhab Sarma, Ret., E. D. of Warren Tea Company.

Safety & Health Provision in Factories Act presented by Shri Samiran Das, Addl. Chief Inspector of Factories, Assam.

In the post-lunch session, the following two papers were presented by the expert members.

*Common Causes of Accident and use of PPE in Accident Prevention* presented by Shri H. Chattopadhyay, Deputy Director (Safety), Regional Labour Institute, Kolkata.

*Role of Employees in Achieving Safety & Health Goal Safety and Health requirement for Contract Labourers* presented by Shri S. K. Morayya, Manager (P&A), B.V.F.C.L., Namrup

The programme was concluded with vote of thanks given by Shri Anjan Das, Inspector of Factories, Labour & Employment Department, Govt. of Assam.

**THE 28TH CONFERENCE OF INSPECTORS OF DOCK SAFETY HELD AT NEW MANGALORE PORT ON JANUARY 30 AND 31, 2012.**

The Conference was inaugurated by Dr. P. Tamilvanan, Chairman, New Mangalore Port Trust. In his inaugural address, he said that the New Mangalore Port is committed to follow all the safety guidelines issued by Director General Factory Advice Service & Labour Institute. He further expressed that the New Mangalore Port Trust is planning to include safety measures in the ongoing enterprise recourse planning project under implementation at port.

The function was presided by Dr. M. Rajaram, Deputy Director General and Head Of the Department, DGFASLI, Mumbai. In his presidential address he highlighted the need for simulator to be included in the port operations training. The key note address was delivered by Shri. S. B. Mathur, DDG, DGFASLI, Mumbai. In his key note address, he emphasized the need for educating the working class in the port sector to follow safety norms so as to reduce accidents in the port operations.



Seated from left: Shri. S.N. Borkar, Director (Safety) & member secretary, Dr.P.Tamilvanan, Chairman, New Mangalore Port Trust., Shri. T.S.N. Murthy, IRS Dy. Chairman, New Mangalore Port. Shri. S. B. Mathur, DDG, DGFASLI, Mumbai. Dr. M. Rajaram, DDG and HOD, DGFASLI, Mumbai delivering the presidential address.

Shri. T.S.N. Murthy, IRS Dy. Chairman, New Mangalore Port Trust., in his special speech underlined the importance of adaptation to change, which is important for successful implementation of safety measures. The Conference was attended by all the Inspectors of Inspectorates of Dock Safety from all Major Ports in India.

**THE 11TH ADVISORY COMMITTEE MEETING WAS HELD ON FEBRUARY 09 AND 10, 2012 AT VOC PORT, TUTICORIN.**

Shri. S.N. Borkar Director (Safety) & member secretary welcomed all the Advisory Committee members and other invitees. The Meeting was inaugurated by Shri A. Subbiah, IAS, Chairman, VOC Port Trust, and Tuticorin.

In his inaugural address, he said that the human life was the most important pillar and safety & health cannot be compromised for the growth. He stressed that DGFASLI was committed in ensuring the safety & health of the dock workers. The key note address was delivered by Dr. M. Rajaram, Deputy Director General and Head of the Department, DGFASLI and Chief Inspector Dock Safety. In his address he said that the growth in the cargo traffic has led to associated problems such as increase in transport and road accidents, which has posed new



## DGFASLI MEGA EVENTS

challenges for the safety & health professional. The vote of thanks was delivered by Shri. G. Nijalingappa, Dy. Director(s), IDS Chennai. The Meeting was attended by Advisory Committee members representing employers of Dock workers, Ship Owners, Trade Unions, Ministry of Shipping and Ministry of Labour & Employment. Various national level issues such as amendment to the Dock Workers (Safety, Health, and Welfare) Act, 1986 and Regulations 1990, Safety Performance Report of the employer in the light of the new stevedoring Policy declared by the Ministry of Shipping, Training, and Medical examination of dock workers and other issues related to Safety, Health and Welfare of Dock workers were deliberated in the Meeting.



Seated from left Shri A. Subbiah, IAS, Chairman, VOC Port Trust, and Tuticorin., Dr. M. Rajaram, DDG, & Head of Department, DGFASLI and Chief Inspector Dock Safety., Shri. G. Nijalingappa, Dy. Director(s), IDS Chennai Shri. S.N. Borkar Director (Safety) & member secretary delivering the welcome address .

### SEMINAR ON ROLE & STRATEGY OF SAFETY PROFESSIONALS FOR EFFECTIVE IMPLEMENTATION OF NATIONAL POLICY ON SAFETY, HEALTH & ENVIRONMENT AT WORKPLACE ON MARCH 21, 2012.

Regional Labour Institute, Kanpur organized a seminar on *Role & Strategy of Safety Professionals for Effective Implementation of National Policy on Safety, Health & Environment at Workplace* on 21<sup>st</sup> March 2012 at RLI, Kanpur.



Chief Guest Shri Sita Ram Meena, I.A.S. Labour Commissioner, Uttar Pradesh is inaugurating the seminar. Seated from left Dr. Brij Mohan, Dy. Director (IH) Regional Labour Institute, Kanpur Shri S.B. Mathur Deputy Director General, DGFASLI, Mumbai. Dr. Avneesh Singh, Director (Psychology) Regional Labour Institute, Kanpur / Faridabad

The seminar was inaugurated by Labour Commissioner of U.P Shri Sita Ram Meena, IAS. While addressing the inaugural session he said that occupational safety & health is a joint responsibility of the management & workers. The safety professionals & Government functionaries have very important role to catalyse and activate the OSH system. He said development is a process where hazards are also hidden. If it integrate humanistic approach, it minimizes the hazards. He appreciated the initiative of the Regional Labour Institute, Kanpur to organize this seminar & suggested that in future such type of seminar should also be organised for entrepreneurs to give momentum to the activities in line with National Policy.

Shri S.B. Mathur Deputy Director General, DGFASLI Mumbai, presided the inaugural session. During his presidential speech Shri Mathur highlighted the major thrust areas of National Policy on Safety, Health and Environment at Work place and shared the initiatives taken by DGFASLI for the National policy. He emphasized the need to differentiate between the Policy & the standards/ Acts or Regulations & accordingly the stake holders must evolve their working procedure.

Dr. Avneesh Singh, Director (Psychology) Regional Labour Institute, Faridabad delivered the welcome address and presented the current scenario of OSH in industries in organised and unorganized sector, prevailing hazardous working conditions during ship breaking work at Alang causing injuries to workers & polluting the maritime belt.

Dr. Brij Mohan, Dy. Director (IH) Regional Labour Institute, Kanpur presented vote of thanks to all those who supported and cooperated in organising the seminar. The seminar was attended by Two Hundred & One delegates from Hundred & Forty One organizations.

The seminar comprised of two technical sessions and safety exhibition. The brief of the each session is given as follows:

The first technical session was devoted on National Policy on Safety, Health and Environment at Workplace - Philosophy, Statutes & Standards and was chaired by Shri S.B. Mathur Deputy Director General, DGFASLI, Mumbai. The eminent safety professionals and government functionaries were the speakers of the sessions and they presented following technical papers: *National Policy on Safety, Health and Environment at Workplace - Concepts and Principles* by Shri H. Vishvanathan, Director (Safety), DGFASLI, Mumbai.

*Statutory Compliance Mechanism on Occupational Safety & Health in India* by Shri M.N, Siddiqi, Ex -Director of Factories, Uttar Pradesh.

*Role of Standards in Industrial Safety & Health* by S.S Gautam, Industrial Safety & Health Consultant. (Former Director (I.H Division), Central Labour Institute, DGFASLI Mumbai.)

Second technical session was on *Strategy of Safety Professionals for Effective Implementation of National Policy on Safety, Health & Environment at Workplace*



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was chaired by Shri M.N. Siddiqi Ex Director of Factories, Uttar Pradesh. The eminent speakers from research and industrial establishment presented following papers in the session:

*Research Priorities In Occupational Health* by Dr A.K. Srivastava Senior Principal Scientist & Head, Epidemiology Division, CSIR-Indian Institute of Toxicology Research, Lucknow.

*Strategy of Safety Professionals for Effective Implementation of National Policy on Safety, Health & Environment at Work* by Shri Raju Kalra Deputy General Manager Energy, Environment, Safety & Health & Engg Services LG electronics India Pvt. Ltd Greater Noida and *Challenges of Safety Professionals & Their Strategy in Present Scenario* by Shri Ajendra Agrawal, Cluster Manager L&T Construction, Hyderabad.

After end of each technical session question & answer session was organised. The delegates interacted with speakers and experts and raised several questions on various dimensions of OSH management and National Policy on safety, health and environment at work place.

### SAFETY EXHIBITION

During seminar, Safety exhibition was also organised. The safety exhibition displayed various latest safety appliances used for personal protection by the workers, fire fighting equipments and books on OSH. The safety exhibition was also inaugurated by Labour Commissioner U.P Shri Sita Ram Meena, IAS & he visited each stall. The delegates of the seminar keenly visited the various exhibition stalls. Several manufactures/ suppliers of safety appliances participated and displayed their product in the safety exhibition.

### INDOSHNET

Ministry of Labour, Government of India, is developing a National Network on Occupational Safety and Health information system known as INDOSHNET. Directorate General Factory Advice Service & Labour Institutes (DGFASLI), an attached office of the Ministry of Labour will act as a facilitator of the network system. The objective of the network is reinforcement and sharing of national occupational safety and health (OS&H) information on no-profit no-loss basis with a view to pooling our information resources for mutual benefit. The sharing of information will not only confine to the national level but also includes international sources. The communication of information will be through e-mail as well as postal/courier services. DGFASLI invites industrial organizations, institutions, industry associations, trade unions, professional bodies and non-governmental organizations having information on OS&H and willing to share the same with orders at the national and international level to participate as members of the network. Interested agencies may please write for proforma of organizational profile to **The Director General, DGFASLI, Central Labour Institute, N.S.Mankiker Marg, Sion, Mumbai 400022** or E-mail at [editorindosh10@gmail.com](mailto:editorindosh10@gmail.com).

## डीजीफासली की एक झलक

कारखाना सलाह सेवा और श्रम संस्थान महानिदेशालय (डीजीफासली) भारत सरकार के श्रम और रोजगार मंत्रालय का एक सम्बद्ध कार्यालय है। कारखानों और गोदियों में व्यावसायिक सुरक्षा और स्वास्थ्य से सम्बन्धित राष्ट्रीय नीतियां बनाने में एक तकनीकी पक्ष के रूप में मंत्रालय की सहायता करने के लिए तथा कार्यस्थल पर कामगारों की सुरक्षा, स्वास्थ्य, दक्षता और कल्याण संबंधी मामलों पर राज्य सरकारों और कारखानों को परामर्श देने के लिए भारत सरकार के श्रम मंत्रालय के अधीन डीजीफासली का गठन १९४५ में किया गया था। यह देश के प्रमुख पत्तनों पर सुरक्षा और स्वास्थ्य विधानों का प्रवर्तन भी करता है।

कारखाना सलाह सेवा और श्रम संस्थान महानिदेशालय (डीजीफासली) की संरचना में निम्नलिखित शामिल है:-

- मुंबई स्थित मुख्यालय
- मुंबई स्थित केंद्रीय श्रम संस्थान
- कोलकाता, चेन्नई, फरीदाबाद और कानपुर स्थित क्षेत्रीय श्रम संस्थान

डीजीफासली की संकल्पना:- सभी के लिए कारखानों और पत्तनों में कार्यस्थल पर सुरक्षा और स्वास्थ्य सुनिश्चित करने के लिए ज्ञान का सृजन, नीतियां बनाने, मानक और व्यवहार में उत्कृष्ट संगठन के रूप में स्थापित होना डीजीफासली की संकल्पना है।

डीजीफासली का उद्देश्य:- डीजीफासली का उद्देश्य भागीदारी, मार्गदर्शन, विशिष्ट क्षेत्रों में नियामक क्रियाकलापों के माध्यम से कारखानों और पत्तनों में सुरक्षित और स्वस्थ कार्यस्थल के लिए व्यावसायिक सुरक्षा और स्वास्थ्य में सुविज्ञता उपलब्ध कराना, और सूचनाओं का आदान-प्रदान करना डीजीफासली का उद्देश्य है।

डीजीफासली संगठन में मुंबई स्थित मुख्यालय, मुंबई स्थित केन्द्रीय श्रम संस्थान, चेन्नई, कानपुर, कोलकाता और फरीदाबाद स्थित चार क्षेत्रीय श्रम संस्थान तथा मुंबई, जवाहर लाल नेहरू पोर्ट, कांडला, मारुंगांव, न्यू मैंगलोर, चेन्नई, तूतीकोरिन, कोच्चि, विशाखापट्टनम, कोलकाता और पारादीप स्थित ग्यारह गोदी सुरक्षा निरीक्षणालय हैं। डीजीफासली संगठन में लगभग १२९ अधिकारियों ( इंजीनियर, फिजीशियन, औद्योगिक हाइजिनिस्ट, शरीर वैज्ञानिक, एर्गोनॉमिस्ट, औद्योगिक मनोविकित्सक, कर्मशियल आर्टिस्ट आदि ) और ८१ तकनीकी कर्मचारी सदस्यों का बहुआयामी दल है। डीजीफासली और केन्द्रीय श्रम संस्थान, मुंबई में विभिन्न विशिष्ट प्रभाग/स्कंध सम्मिलित हैं। यह संगठन आगे, विकास और बढ़ती मांग को पूरा करने के लिए तत्पर है। विकासशील देश में जहां विभिन्न और जटिल प्रक्रिया उद्योग बड़ी संख्या में विद्यमान है वहां कामगारों की सुरक्षा और संरक्षण एक कठिन कार्य है। तकनीक, औद्योगिक समाज की साख और समर्पित कर्मचारियों की शक्ति से सज्जित संगठन आने वाले कल की चुनौतियों को पूरा करने में सक्षम है। यह कार्यस्थल को सुरक्षित बनाने के लक्ष्य के लिए कृतसंकल्प है।

वेबसाइट : [www.dgfasli.nic.in](http://www.dgfasli.nic.in) देखें।



**CENTRAL LABOUR INSTITUTE: MUMBAI**

During the first quarter from January 2012 to March 2012, Central Labour Institute carried out several activities of which important ones are given below.



**Studies/Surveys**

*Study of Illumination Level Measurement at Yeast Manufacturing Industry in Maharashtra* (Chandra, S, Environmental Engineering Division)

*Study of Ventilation Thermal Heat Stress Level Assessment at Yeast manufacturing Industry in Maharashtra* (Chandra, S, Environmental Engineering Division)

*Study of Noise Level Assessment at Yeast Manufacturing Industry in Maharashtra* (Chandra, S, Environmental Engineering Division)

*Assessment of Airborne Asbestos Fibers in the Work Place Environment in the Bakery Yeast Production Factory in Maharashtra* (A. Sree Ramulu, Industrial Hygiene Division)

*Assessment of Quality of Compressed Breathing Air in Marine Safety Manufacturing Equipments at Maharashtra* (A Sree Ramulu, Industrial Hygiene Division)

*HAZOP study at LPG Yard of Vehicle Manufacturing Industry in Maharashtra* (Pal P.B& Sharma S.C, Major Hazard & Chemical Division)

*Survey at Maharashtra on Improvement in Working Conditions and Higher Productivity at Work Place at small /medium scale industries (MEENA, R.N., Staff training/ productivity)*

**Training Programme**

The Industrial Hygiene Division conducted three-day training programme on *Selection & Quality Assurance of Effective Use of PPE* from February, 22 to 24, 2012. The training workshop was attended by thirteen participants from seven organizations.

The Industrial Hygiene Division conducted three-days training programme on *Safety, Health & Environment Management in Fertilizer Industry* from March, 14 to 16, 2012. The training Workshop was attended by eleven participants from a organization.

**Workshop/Seminar/Conference**

The Productivity Division conducted a three-days training workshop on *Productivity & Quality Improvement through Effective Employee Participation* from January, 17 to 19,

2012. The programme was attended by nineteen participants from the industry.

The Major Hazard & Chemical Safety conducted a three-day's workshop on *Hazards & Operability study* from February 22 to 24, 2012. Nine participants from seven organisations participated in the programme.

**REGIONAL LABOUR INSTITUTE, KANPUR**

During the first quarter from January 2012 to March 2012, Regional Labour Institute carried out studies, training programmes etc. which are described here.



**Studies/Surveys**

*Safety Audit in Pulp & Paper Industry in Uttarakhand* (Pandey, G.S., Safety Division; Bhattacharya, C., Industrial Medicine Division,)

*Survey in Pharmaceuticals Plant in Sikkim* (Brij mohan (I.H Division) & Chakraborty, A.K., (Safety Division)

*Survey in Government Fruit Preservation Factory, Sikkim* (Brij Mohan(I.H Division) & Chakraborty, A.K. (Safety Division,)

**Training Programmes**

The Institute conducted one-year post diploma course on *Industrial Safety* from July 18, 2011 to March, 30, 2012. Forty nine students representing thirty nine organizations completed the course.

The Institute conducted a five-days training programme for Trade Union representatives on *Management of Industrial Safety, Health & Environment in Industries* was conducted from March 12 to 16, 2012. Twenty six participants representing seven organizations participated in workshop.

**Workshop/Seminar/Conference**

The Institute conducted a three-day's workshop on *Safety Engineering & Management* from January 17 to 19, 2012. Eleven participants representing six organizations joined for this course.

**Paper/Presentations/Talks**

Shri A.K.Chakraborty, Asstt. Director (Safety) delivered a talk on *Basics of Accident Prevention* in the programme conducted by Controller of Safety, Ordnance Factory, Kanpur on January 20, 2012.

Shri Karunesh Shrivastav, Addl. Asstt. Director (Safety) delivered a talk on *Material Handling* in the programme



## INSTITUTE NEWS

conducted by Controller of Safety, Ordnance Factory, Kanpur on January 20, 2012.

Dr. Brij Mohan, Dy. Director (Industrial Hygiene) presented a paper on *Environment Monitoring at work place* in the Seminar on *Occupational Safety & Health in Factories* at Tejpur, on February 24, 2012.

### REGIONAL LABOUR INSTITUTE, CHENNAI

During the first quarter from January 2012 to March 2012, Regional Labour Institute carried out studies, training programmes etc. which are described below.



#### Studies/Surveys

*Construction Safety Audit at a Thermal Power Plant in Taminadu* (Elangovan, R.K., Rengaraj, C., Vasu, G., Safety Division)

*An Industrial Hygiene Survey at a Refinery in Andhra Pradesh* (Mishra, S.B, Dhende, K.B, Industrial Hygiene Division)

*Safety Audit at a Chemical Industry in Puducherry* (Elangovan R.K., Safety Division)

*On-Site Emergency Plan and Risk Analysis Study in the LPG Bottling Plant of a Refinery* (Elangovan, R.K., Safety Division)

#### Training Programme

The Institute conducted an in-plant training programme on *Occupational Safety and Health* on January, 09, 2012. The programme was attended by thirty participants.

The Institute conducted a one month certificate course on *Occupational Safety and Health for supervisors of Hazardous process* from February 01 to 29, 2012. The programme was attended by fifteen participants.

The Institute conducted a two-days training programme on *Management of Hazardous Substances* on February 27 and 29, 2012. The programme was attended by nineteen participants.

The Institute conducted a three-days training programme on *Occupational Safety and Health in Engineering Industries* from May 13 to 15, 2012. The programme was attended by nine participants.

The Institute conducted a one-day in-plant training programme for Safety Committee Members of Tamilnadu

Petro products Ltd. on March 07, 2012. The programme was attended by seventeen safety committee members.

The Institute conducted an in-plant training programme on *Occupational safety and Health* at M/s Hindustan Petroleum Corporation Ltd. Terminals and Depots, Chennai on March 7, 2012. The programme was attended by fifteen Officers of the organisation.

#### Paper/Presentations/Talks

Dr.R.K.Elangovan, Director (Safety), delivered a talk on *National Policy on Safety, Health and Environment at Workplace and Latest developments in Safety Management with Specific References to Chemical Industries* for the Senior Executives of M/s. Bharat Petroleum Corporation Ltd., Kochi Refinery, Ambalamugal, Kerala on Jan 6, 2012. The Programme was attended by sixty management executives and supervisors.

Dr.R.K.Elangovan, Director (Safety), delivered a lecture on *Safety and Fire Safety in Building Construction* on January 25, 2012 in the XVI training course on *Cost Effective Technology in Building Construction* for thirty Middle and Junior level PWD Engineers at PWD Kattida Maiyam, Tamilaga Arasu Building Research station, Chennai.

Dr.R.K.Elangovan, Director (Safety), delivered a talk on *"Ensure Safe and Healthy Working Environment — A Fundamental Human Right"* in the 41<sup>st</sup> National Safety Day Celebration organized by M/s. ONGC, Chennai, on March 04, 2012. The programme was attended by eighty participants.

Dr.R.K.Elangovan, Director (Safety), delivered a key-note address on *Legal Provisions and Framework on Safety in Indian Perspective* in the 41<sup>st</sup> National Safety Day of India organized by M/s. Larsen & Toubro Ltd., Convention Centre, Manapakkam, Chennai on March 04, 2012. The programme was attended by one hundred participants.

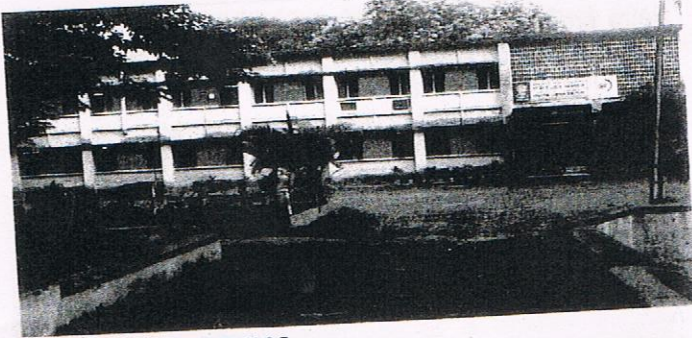
Dr.R.K.Elangovan, Director (Safety), delivered a lecture-cum presentation on *Occupational Safety and Health* in Safety Week Celebration held in Ordnance Clothing Factory, Avadi, Chennai, on March 09, 2012. The programme was attended by sixty participants.

Dr.R.K.Elangovan, Director (Safety), delivered a talk on *Preventive Measures to avoid accidents in Effluent Treatment Components and Desludging Operations* in a training programme on Occupational Health and Safety for ETP / CETP Operators held at Vellore on March 28, 2012. The programme was attended by five hundred participants.

### REGIONAL LABOUR INSTITUTE, KOLKATA

During the first quarter from January 2012 to March 2012, Regional Labour Institute carried out the following activities which are described here.





**Training programmes**

The Institute conducted a two-days training programme in three batches on *Industrial Safety* for the DIS students of Asian Workers Development, Institute, Rouekela,, Odisa, from January, 09-10, 12-13 and 16-17, 2012 respectively. One hundred and eleven participants attended the programme.

The Institute conducted a two-days training programme on *Industrial Safety* for the DIS students of Dr. Ambedkar Memorial Institute of Industrial safety Rouekela,, Odisa, from January, 30 to 31, 2012. Thirty participants attended the programme.

The Institute conducted a two-days training programme on *Industrial Safety* for the DIS students Koel institute of safety, Rouekela,, Odisa from February, 14 to 15, 2012. Forty two participants attended the programme.

The Institute conducted a five-days training programme on *Awareness Programme on Hygiene in Factories, Ports and Construction Industries* for the supervisors & workers and contract labourers from February, 01 to 03, 2012. Fourteen participants from twelve private industries attended the programme.

The Institute conducted a five-days training programme on *Safety, Health & Environment at Workplace* for supervisors and senior workers from February, 20 to 24, 2012. Nineteen candidates from four organizations attended the programme.

The Institute conducted a two-day training programme on *Industrial Safety* for the DIS students of Chinmay Institute of Fire & Safety Engineering, Rouekela,, Odissa from March, 05 to 06, 2012. Thirty seven participants attended the programme.

The Institute conducted three-days training programme under plan scheme on *Positive attitude, Team work on OSH and its Impact on Productivity* for supervisors and senior workers from March 21 to 23, 2012. Twenty six participants attended the programme.

The Institute conducted Five days training programme on *Refresher Course for Plant Medical Officers* from March 26 to 30, 2012. Thirty five medical officers from twenty two private industries attended the programme.

The A.F.I.H. course commenced from January 01, 2012 and successfully completed on February 28, 2012. Three candidates attended the course.

**Paper/Presentation/Talks**

Dr. S. K. Haldar, Dy. Director (Medical), delivered talk on *Occupational Health Management* in one day seminar on *Occupational Safety and Health in Factories* in Tezpur, Assam on February 24, 2012.

Shri U. K. Das, Director (Safety), presented a paper on *Innovative Policy, Planning, Operation, Standardization and Statutory Compliance to face the Global Challenges* in one seminar on *Avenue for Achievement of Excellence in OSH* for the Executive/Management of Industries, Inspector of Factories, Safety Officers, Safety Professionals at Guwahati, Assam organized by DGFASLI, Mumbai in collaboration with Directorate of Factories, Government of Assam on February 17, 2012.

Shri H. Chattopadhyay, Dy. Director (Safety), presented a paper on *Hazard Identification and Its Prevention and Control* in the seminar on *Avenue for Achievement of Excellence in OSH* for the Executive/Management of Industries, Inspector of Factories, Safety Officers, Safety Professionals at Guwahati, Assam organized by DGFASLI, Mumbai in collaboration with Directorate of Factories, Government of Assam on February 17, 2012.

Shri U. K. Das, Director (Safety), presented a paper on *SHE management and Accident Prevention programme in Industry* in the seminar on *OSH Awareness in Tea Manufacturing Industries* for the Managerial Staff and Workers of Tea Manufacturing Industries organized by DGFASLI, Mumbai in collaboration with Chief Inspector of Factories, Assam at Dibrugarh, Assam on March 27, 2012.

Shri H. Chattopadhyay, Dy. Director (Safety), presented a paper on *Common causes of accident and use of PPE in Accident Prevention* in the seminar on *OSH Awareness in Tea Manufacturing Industries* for the Managerial Staff and Workers of Tea Manufacturing Industries organized by DGFASLI, Mumbai in collaboration with Chief Inspector of Factories, Assam at Dibrugarh, Assam on March 27, 2012.

Shri U. K. Das, Director (Safety), presented a paper on *SHE Management and Accident Prevention programme in Industry* in the seminar on *OSH Awareness in Tea Manufacturing Industries* for the Managerial Staff and Workers of Tea Manufacturing Industries organized by DGFASLI, Mumbai in collaboration with Chief Inspector of Factories, Assam at, Jorhat, Assam on March 29, 2012.

Shri H. Chattopadhyay, Dy. Director (Safety), presented a paper on *Common causes of Accident and Use of PPE in Accident Prevention* in one day seminar on *OSH Awareness in Tea Manufacturing Industries* for the Managerial Staff and Workers of Tea Manufacturing Industries organized by DGFASLI, Mumbai in collaboration with Chief Inspector of Factories, Assam at Jorhat, Assam on March 29, 2012.



**Assessment of Airborne Asbestos Fibers in the Work Place Environment at a Bakery Yeast Production Factory at Maharashtra (A. Sree Ramulu, Industrial Hygiene Division, Central Labour Institute, Mumbai)**

The factory is Manufacturing of Bakery Yeast Production. Factory's roof and shades covered with asbestos cement sheets in some plants, such as Bakery Ingredient Plant, Yeast Extract Plant, Yeast Manufacturing Plant, Utility Plant, Water Recycling Plant and DGS Room. In these plants airborne samples of asbestos fibers were collected and assessed. The airborne concentration level of asbestos fibers in work environment is found within its TLV. It is needed to improve proper housekeeping in packing and storage areas. Regular Industrial Hygiene Monitoring of airborne contaminant in the plants should be continued in order to assess the efficiency and efficacy of control measures. Periodic medical examination of the concerned employees is also advised to be conducted. In the intervening time, use of all the appropriate personal protective equipment (PPE) such as, dust respirators, protective gloves may ensured amongst the employees.

**Assessment of Quality of Compressed Breathing Air in Marine Safety Manufacturing Equipments unit in Maharashtra, (A Sree Ramulu, Industrial Hygiene Division, Central Labour Institute, Mumbai)**

It is a marine safety equipment manufacturing unit. One of their activities is to fill the compressed air in cylinders for SCBA. The quality of air is tested for contamination of carbon monoxide, Carbon Dioxide, Oil Mist, Humidity, temperature, particulate matter, etc. On the basis of test report, it is found that the quality of compressed breathing air is well within their specified limits. Hence the compressed air is recommended for filling the cylinders for SCBA.

**Study of Illumination Level Measurement at Yeast manufacturing Industry in Maharashtra (Chandra, S, Environmental Engineering Division, Central Labour Institute, Mumbai)**

The study was conducted on selected locations. The objectives of the study were to identify the areas having weak or faulty illumination levels and to suggest the way and means to improve the illumination levels for enhancing safety and efficiency of the workers. The instrument used during the field study was Exttech Digital Light Meter. The observations were taken during day as well as night hours. The results observed were compared with the lighting standards under National Building Code, Factory Act 1948 and Maharashtra Factory Rules. It was noted that the general illumination levels were less than the prescribed limit during night at few locations in the plant. The suggestions including increasing the exact numbers of luminaries, lowering height of the lamps wherever it is essential and proper maintenance of luminaries i.e. cleaning the glass covers and reflectors.

**Study of Ventilation, Thermal Heat Stress Level Assessment at Yeast manufacturing Industry in Maharashtra (Chandra, S, Environmental Engineering Division, Central Labour Institute, Mumbai)**

The objective of the study was to identify the of Thermal Heat stress and ventilation level at different

locations in the factory and to suggest the ways and means to improve the ventilation and thermal conditions. The equipment used during the collection of data was Quest Temp Area Heat Stress Monitor. The factory is engaged in manufacturing yeasts the culture of micro-organisms which is used for bakery industries. The observations were collected from different selected locations. The results observed were compared with the Factories Act, 1948 and Maharashtra Factory Rules, 1963. It was noted that the general ventilation and thermal climatic conditions were slightly beyond the permissible limit value at few locations. Suitable recommendations were given in the report wherever it was found necessary. The suggestions included the provision, exhaust fans, wall mounted air circulators etc.

**Study of Noise Level Assessment at Yeast Manufacturing Industry in Maharashtra (Chandra, S, Environmental Engineering Division, Central Labour Institute, Mumbai)**

The objective of the study was to identify the noise prone area, machinery, equipment and to suggest the ways to control the noise level with in permissible limit for eliminating the occupational disease like high blood pressure, hearing loss etc. among the workers. The equipment used during the study was the sound level meter with octave filter for Sound frequency analysis. The study reveals that the noise level was found beyond prescribed permissible limit values at most of the locations. The report contains the recommendations for minimizing noise level exposure and means of the engineering control and use of Personal Protective Equipment with a view to protect all concerned Engineers Workers/Technicians/who are working on the shop floor. Working community in industries is exposed to different types of hazards. These hazards adversely affect the health of the exposed persons. The application of industrial principles can bring about remarkable improvement at the work place. The hazards at the workplaces should be properly identified, evaluated periodically so that effective control measures can be devised to protect the health of the workmen. Health problem associated in the handling or manipulation of hazardous industrial chemicals such as Pesticides, Solvents, Epoxy Resins, Polyurethane foams and paints, Fluorocarbons & Dyestuffs are presented in the report. Monitoring workplace air as to evaluate the exposure of chemicals, Hierarchy of strategies to control chemicals and Use of Personal Protective Equipment are also highlighted in thereport.

**HAZOP study at LPG Yard of Vehicle Manufacturing Industry in Maharashtra (Pal, P.B., Sharma, S.C, Major Hazard & Chemical Division, Central Labour Institute, Mumbai)**

The LPG is received from IOC through road tankers (capacity of 12 KL each) is unloaded and transferred it to LPG mounted Bullet (each of 75 tons capacity). Compressors are provided to compress LPG vapours into liquid and used in unloading LPG from tankers to the bullets. The report reveals that the study lists ninety six recommendations pertaining to vaporizer system, Alarm system, NRV valve, pressure and temperature sensors are given. LPG storage tank sprinkler system, solenoid valve, discharge valve check NDT testing and many other



## ABSTRACTS

suggestions concerned with the up-dation of P&I diagrams and development of adequate Safe Operating procedures. Alarms, trips and interlock have been suggested at several places.

### **Safety Audit at a Shipyard in Goa (Bharathi, S., Safety Division, Central Labour Institute, Mumbai)**

This audit was conducted for identifying the areas for improvement and to meet the regulatory and non-regulatory requirements. The parameters as mentioned in Occupational Safety and Health Audit BIS: 14489 were covered under the scope of audit and recommendations finalized. Various health & safety improvement plan / targets like improvement of communication, layout, and acquiring of various SHE related certifications like OSHAS were recommended. Repairing of corroded structures, floor damage and other sources of danger were brought out for immediate rectification. Revision of manuals for day-to-day usage and compilation of safe operative procedures recommended. Skill development programme, specialized safety training programme, training for contract employees were recommended for reviewing. Removal of root causes, revision of work permit, improvement on existing emergency preparedness, management of welding cables, noise control measures, discarding of copper slab blasting, improved arrangements for storage and handling of gas cylinders, a system of inspection for the pipelines, strengthening of the procedure for testing and examination of various lifting machines / tackles, visit by factory medical officers into production areas / yards, distribution of existing fire loads, better planning for mock drills, better management temporary electrical connections, enforcement of strict compliance by contracting agencies were among the other recommendations made.

### **Survey at Maharashtra on Improvement in Working Conditions and Higher Productivity at Work Place at small /medium scale industries (R.N.MEENA, Staff Training/ Productivity, Central Labour Institute, Mumbai)**

The survey was conducted at Rich Graviss Products Pvt. Ltd. J-177, M.I.D.C, Dist. Pune -411 026 in association with DISH, Govt. of Maharashtra, at one small scale industry manufacturing the food product. So many safety & health hazards were observed on the floor by the survey team. The team suggested various low cost improvements in the areas of House Keeping, Personal protective Equipment, Electrical Connection, Unsafe Practices, Fire and First Aid, Environment, Exhaust System, Storage and Handling of Chemicals, Electrical Hazards, Seating Arrangement, Illumination and Welfare. Recommendations were given about how the working conditions could be improved for minimizing the risks & hazards associated in the working areas.

### **An Industrial Hygiene Survey at a Refinery in Andhra Pradesh (Mishra, S.B, Dhende, K.B, Industrial Hygiene Division, Regional Labour Institute, Chennai)**

Industrial Hygiene Survey was conducted with the objective to assess the airborne levels of contaminants i.e. Hydrogen Sulphide, Sulphur di-Oxide, Carbon

SPM and to suggest remedial measures wherever necessary to improve the environmental conditions. The company is engaged in the production of various petroleum products by refining the crude oil. This is one of the major Refineries with a capacity 9 MMTPA. The samples of various airborne contaminants were collected and analysed using standard methodology. The results indicated that the concentration of most of the airborne contaminants e.g. Ammonia, Hydrogen Sulphide, Sulphur Di-Oxide, Carbon Monoxide, Hydro Carbons and SPM in almost all the areas were found well below their respective PLEs. This is, perhaps, attributed to the fact that the plant as a whole is well maintained. Further, as most of the units are located in open air, the minor gaseous leakages, if any, are quickly dispersed in air. Concentration of Ethyl Mercaptan was slightly exceeded its TLV-TWA in the two locations of Mercox unit, which may be due to the leakage in process equipment e.g. valves, pumps, glands joints etc. Certain remedial measures have been suggested to keep the TLV levels of Ethyl Mercaptan under control and to further improve the environmental conditions.

### **Safety Audit at Chemical Industry in Puducherry (Elangovan R.K., Safety Division, Regional Labour Institute, Chennai)**

Safety Audit was conducted at Chemical Industry with a view to identify the hazards so that the management can devise suitable procedures and methods for enhancing safety in the industry. The Safety Audit was conducted as per BIS: 14489:1998. The major findings of the study includes topics like safe access, static electricity protection, electrical safety, MSDS, pipeline safety, colour coding, preparation of SOPs and SMPs, chemical safety, safety communication, safety in material handling, Process Safety Management On-site and Offsite Emergency Planning and mock drills.

### **On-Site Emergency Plan and Risk Analysis Study in the LPG Bottling Plant of a Refinery (Elangovan, R.K., Safety Division, Regional Labour Institute, Chennai)**

On-site Emergency Planning has been prepared for the plant in conformance with the Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989. A Risk Analysis Study was conducted for the above ground and mounded bullets. HAZOP Study was also conducted for the plant to identify the operable hazards in LPG Unloading, storing and handling. The recommendations include conduction of mock drills, ensuring procedures for adhering and complying with legal requirements, colour coding and implementation of various risk management programmes in industries.

### **Safety Audit at Pulp & Paper industry in Uttarakhand (Pandey, G.P., & Bhattacharya, C., Regional Labour Institute, Kanpur)**

The audit was conducted in a Paper & Pulp industry. The objective of the study was to conduct the audit to maintain systematic, critical study all potential hazards involving plant personnel, storage, operation and maintenance to evaluate Safety & Health performance of the plant. The recommendations include review of training needs. Safety performance may be included as one of the points in Annual Performance, Planning & Review Form for the



## ABSTRACTS

employees, All the supervisors involved in hazardous processes should be trained, It is recommended that the medical department should have the ILO Standard radiographs for classification of pneumoconiosis, It is recommended that the onsite emergency plan should be reviewed and modified when any expansion or modification takes place in the factory, Thickness monitoring of the pipelines handling corrosive etc should be periodically checked & should be recorded in a register, Improvement of overall house-keeping of the plant is recommended.

### **Survey in Government Fruit Preservation Factory, in Sikkim (Brij mohan & Chakraborty, A.K., Regional Labour Institute, Kanpur)**

Survey was conducted in the factory to check the occupational safety & health system among the industries of the State of Sikkim in randomly selected units. Based on the observations, recommendations were given to improve working conditions in the factory. Workstation design, improvement in ventilation & housekeeping are some of the recommendations of the survey.

### **Survey in Pharmaceuticals Plant in Sikkim (Brij mohan & Chakraborty, A.K., Regional Labour Institute, Kanpur)**

Survey was conducted in a Pharmaceutical Unit to check the occupational safety & health system among the industries of the State of Sikkim. Based on the observations, recommendations were given to improve working conditions in the factory. The main recommendations of the survey were to ensure integrity of bonding and earthing on equipments /pipelines carrying flammable substances, periodic check of AHU and local exhaust systems, work monitoring of airborne contaminants at regular interval, maintenance of record of the periodic medical examination of the employees along with their medical history, inspect and maintain fire extinguishers as per BIS Code (IS: 2390:1992) & need based training programmes for different levels of employees

## SAFETY SLOGANS

"It's better to be Safety Conscious than Unsafe and Unconscious"

"You get the level of safety that you are prepared to walk past"

"Safety is the seam that joins the fabric of life. Don't let a loose thread bring it all undone."

"Don't be a fool, use the proper tool."

"Don't be safety blinded, be safety minded."

"Don't fix the blame, fix the problem!"

## इंडोशनेट

भारत सरकार का श्रम एवं रोजगार मंत्रालय व्यवसायिक सुरक्षा और स्वास्थ्य सूचना प्रणाली पर इंडोशनेट नामक राष्ट्रीय नेट वर्क का विकास कर रहा है। श्रम मंत्रालय का एक संबद्ध कार्यालय, कारखाना सलाह सेवा एवं श्रम संस्थान महानिदेशालय इस नेट वर्क प्रणाली के सफल कार्यान्वयन में सहायता देता है। इस नेट वर्क का उद्देश्य व्यवसायिक सुरक्षा और स्वास्थ्य संबंधी राष्ट्रीय जानकारी सुदृढ़ करना और लाभहानि रहित आधार पर इसका आदान-प्रदान करना है ताकि हमारे समग्र सूचना स्रोतों का परस्पर लाभ के लिए उपयोग हो सके। आपस में सूचना या जानकारी की यह सहभागिता केवल राष्ट्रीय स्तर तक ही सीमित नहीं होगी बल्कि इसमें अंतर्राष्ट्रीय स्रोत भी शामिल होंगे। इस जानकारी का आदान-प्रदान ई-मेल के साथ-साथ डाक/कुरियर सेवा द्वारा किया जाएगा। यदि औद्योगिक संगठनों, संस्थानों, उद्योग संघों, मज़दूर संघों, व्यवसायिक निकायों और गैरसरकारी संगठनों के पास व्यवसायिक सुरक्षा स्वास्थ्य संबंधी कोई जानकारी हो और वे राष्ट्रीय और अंतर्राष्ट्रीय स्तर पर उक्त जानकारी बाँटना चाहते हों तो कारखाना सलाह सेवा एवं श्रम संस्थान महानिदेशालय की ओर से इस नेट वर्क के सदस्य के रूप में भाग लेने के लिए उनका स्वागत है। इच्छुक इकाइयों संगठनात्मक रूपरेखा संबंधी प्रोफार्मा के लिए महानिदेशक, कारखाना सलाह सेवा एवं श्रम संस्थान महानिदेशालय, केंद्रीय श्रम संस्थान भवन, एन.एस.मंकीकर मार्ग, सायन, मुम्बई-४०० ०२२ से संपर्क करें।

टिप्पणी : जिन इकाइयों ने हमारे पहले आग्रह के संदर्भ में संपर्क किया है और निर्धारित प्रोफार्मा में रूपरेखा भेज दी है, दोबारा आवेदन न करें।

## INVITING ARTICLE FOR INDOSHNEWS

INDOSHNEWS is a quarterly newsletter that facilitates exchange of ideas and data developed through research, study and surveys in the areas of occupational safety and health. DGFASLI invites articles from individuals, industry, industrial associations, trade unions, professional bodies etc. having information on OS&H and willing to share the same with others at the national and international level.

1. Manuscripts for publication should be typed in double space within 3 to 4 A4 size sheets only on one side of the paper and sent in duplicate to the Editor-in-Chief.
2. Once the manuscripts are accepted for publication, publisher reserves the right to make editorial changes as may be necessary to make the article suitable for publication; and publisher reserves the right not to proceed with publication for whatever reason.
3. Authors should take care to ensure the accuracy of data and reference.



**TRAINING CALENDAR FOR THE YEAR 2012: DGFASLI**

**TRAINING CALENDAR FOR THE YEAR 2012: DGFASLI**

**CENTRAL LABOUR INSTITUTE**

**N.S.MANKIKER MARG, SION, MUMBAI – 400022**

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**Visit us at: [www.dgfasli.nic.in](http://www.dgfasli.nic.in)**

S.No	Title of the Programme	Period	Coordinator (Technical)
1.	Collaborative Training Programme with NSC-Maharashtra Chapter on Industrial Safety	February 08-10	Milind Barhate
2.	Fitness in Industry to improve Safety, Health & Productivity at Work	February 14-16	Subhash Chandra
3.	Workshop on Selection and Quality Assurance for Effective Use of PPE	February 22-24	Mrs. M.K. Mandre
4.	Workshop on Hazards & Operability (HAZOP) Study	February 22-24	SC.Sharma
5.	Workshop on Internal Safety Audit for Factory Managers/Plant Engineers/Safety Officers	March 05-07	S. Bharathi
6.	Workshop on Industrial Ventilation	March 19-21	Subhash Chandra
7.	Effective Participative skills for safety committee members	April 03-05	R.N.Meena
8.	Workshop on Industrial Noise	April 23-25	Subhash Chandra
9.	Basic Course for Inspectors of Factories	April 9 - 27	S. Bharathi
10.	Workshop on Dispersion Modeling and Impact Assessment of Major Toxic & Flammable Releases	April 11-13	S.C.Sharma
11.	Safety, Health and Environment Management in Chemical Industry	April 24-26	A.Sree Ramulu
12.	Safe Handling of Chemicals for Safety Committee Members	May 16-18	S.C.Sharma
13.	Heat Stress & Ventilation – Its Evaluation & Management for Ensuring Safety, Health & productivity at Work	May 21-23	Subhash Chandra
14.	Effective Supervision for Results in SHE at Work.	June 19-21	R.N.Meena
15.	Impact of Environmental Pollutants & their Control at Workplace	June 26-28	Subhash Chandra
16.	Advanced Diploma in Industrial Safety (ADIS)	July, 2012 to May, 2013	S.Bharathi
17.	Motivation for Safety, Health & Productivity	July, 18-20	R.N.Meena
18.	Safety & Health Management in Process Industries	July, 25-27	S.C.Sharma
19.	Occupational Hazards in use of computer & VDT Appliances in shop floor, its evaluation & management for safety, health and productivity at work	August, 06-08	Subhash Chandra
20.	Recognition and Evaluation of Chemical Hazards at Workplace	August, 07-09	A.Sree Ramulu
21.	One Month Specialized Certificate Course of Supervisors working in Hazardous Process Industries	August, 27 to September, 27	R.N.Meena
22.	Fitness in Industry to improve Safety, Health & Productivity at Work	September, 04-06	Subhash Chandra
23.	"Occupational Health Practices" for Nurses, Health / Medical Assistants	September, 10-14	Dr.S.S.Waghe
24.	Collaborative Training Programme with NSC-Maharashtra Chapter on Industrial Safety	September, 26-28	Milind T.Barhate
25.	Workshop on Selection and Quality Assurance for Effective use of PPE	October, 03-05	Mrs.M.K. Mandre
26.	Advanced Trg. Prog. For Industrial Doctors	October, 08-12	Dr.S.S.Waghe
27.	Workshop on Industrial Noise	October, 09-11	Subhash Chandra
28.	Workshop on Hazard & Operability (HAZOP) Study	October 17-19	S.C.Sharma
29.	Making Safety Committee more Effective	October 29-31	R.N.Meena
30.	Refresher Course for Senior Inspectors of Factories	October 29 to November 09	S.Bharathi
31.	Ergonomics-A tool for Ensuring Safety, Health & Productivity at Work	November 06-08	Subhash Chandra
32.	Collaborative Training Programme with NSC Maharashtra Chapter on Industrial Safety	November 20-22	Milind T.Barhate
33.	Impact of Environmental Pollutants & their Control at Workplace	November 20-22	Subhash Chandra
34.	Productivity & Quality Improvement through Employee Participation	November 21-23	R.N.Meena



**TRAINING CALENDAR FOR THE YEAR 2012: DGFASLI**

35.	Associate Fellow of Industrial Health (AFIH) Course for Doctors	December 03,2012 to February 28,2013	Dr. P.P. Lanjewar
36.	Workshop on Monitoring of Work Environment and its control in Industries	December 04-06	A.Sree Ramulu
37.	Training Methodology for Trainers	December 12-14	R.N.Meena
38.	Workshop on "Safety Reports"	December 19-21	S.Bharathi
39.	Safety in Storage Handling and Management of Hazardous Substances in Process Industries	December 17-19	S.C.Sharma

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S.No	Title of the Programme	Period	Coordinator
1.	Workshop on Safety Engineering & Management	January, 17-19	G.S. Pandey
2.	Seminar on Role of Safety Professionals for implementation of National policy on Safety , Health & environment at Workplaces	February, 15	Dr. Brij Mohan
3.	Advanced Training Programme on Occupational Health for Plant Medical Officers	March, 19-23	Dr. Champak Bhattacharya
4.	Management of Industrial Safety, Health & Environment in Industries	March, 12-16	G.S. Pandey
5.	Training Prog. on Prevention & Control of Fire In Industries	April, 11-13	Karunesh Shrivastava
6.	Training Prog. on Safety & Health in Sugar Industries	April, 25-27	Dr. Brij Mohan
7.	Orientation Prog. on Occupational Health for Non Medical Executives	June, 27-29	Dr. Champak Bhattacharya
8.	Workshop on Chemical Safety for Safety Committee Members	July, 3-6	Dr. Brij Mohan
9.	Post Diploma Course on Industrial Safety	July,2012 to March, 2013	Karunesh Shrivastava
10.	Training Programme on Testing & Examination of Lifting Machines & Pressure vessels	August, 27-31	G.S. Pandey
11.	Orientation Programme on Occupational Health for Para Medical Staffs	September 12-14	Dr. Champak Bhattacharya
12.	Training Programme on Safety & Law	September 25-27	A.K. Chakraborty
13.	One Month Certificate Course on safety & Health	November 1-30	A.K. Chakraborty
14.	Workshop on safety Audit	December 12-14	A.K. Chakraborty
15.	Training Programme On Safety & Health on Process Industry For Inspectors Of Factories	December 17-21	Dr. Brij Mohan

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S.No	Title of the Programme	Period	Coordinator
1.	National Seminar on Challenges and Strategies in the Effective Implementation of National Policy on Safety, Health and Environment at Work Place.	January, 20	Dr.R.K.Elangovan
2.	Management of Hazardous Substances	February 01 – 03	Dr. S.B. Mishra
3.	One Month Certificate Course for Competent Supervisors in Hazardous Process Industries	February 01 – 29	Dr. S.B. Mishra
4.	Effective Participation of Safety Committee Members	March 13 - 14	K.Balasubramanian
5.	Lifting Machinery and Lifting Tackles	May 22 - 23	K.Balasubramanian
6.	One year Diploma Course in Industrial Safety	July 2012–Apr.13	Dr.R.K.Elangovan
7.	Occupational Safety and Health in Construction Industries	July 17- 18	K.Balasubramanian
8.	Workshop on Monitoring of Work Environment	August 08 - 10	Dr. S.B. Mishra
9.	Major Accident Hazard in Industries for Inspectors of Factories	September 18 - 21	Dr. S.B. Mishra
10.	Safety Audit	October 09-10	Dr.R.K.Elangovan
11.	Heat Stress	November 08 - 09	Dr. S.B. Mishra

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S.No	Title of the Programme	Period	Coordinator
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## TRAINING CALENDAR FOR THE YEAR 2012: DGFASLI

1.	Awareness Development programme on Environment at Workplace in Factories, Ports and Construction Industries	February, 02-03	Dr. S. N. Banerjee
2.	Safety & Health Awareness programme for Members of Safety Committee	February, 20-24	Shri S. Dutta Chowdhury
3.	Refresher Course on Occupational Health for Plant Medical Officers	March, 26-30	Dr. S. K. Haldar
4.	Management of Physical Hazards and Hazardous Wastes in Industries	April, 23-27	Dr. S. N. Banerjee
5.	Safety in Construction Industry	May, 07- 11	U. K. Das
6.	Safety, Health & Environment at Workplace	May, 21-25	H. Chattopadhyay
7.	Safety and Fire Fighting Management in Industries	June 18 - 22	U. K. Das
8.	One year Diploma in Safety Engineering Course	July 16, 2012 to June 30, 2013	
9.	Safety, Health & Environment at Workplace.	July 23 - 27	H. Chattopadhyay
10.	Training Programme on Chemical Safety	August, 06-10	U. K. Das
11.	Identification, Evaluation and Control of Hazards in Industries	August, 22-24	Dr. S. N. Banerjee
12.	Safety & Health Awareness programme for Members of Safety Committee	September, 03-07	H. Chattopadhyay
13.	Safety Audit in Factories, Ports & Construction Industries	September, 24-28	U. K. Das
14.	Occupational Health and environmental Medicine for Medical & non-medical executives of the industries"	October, 08-12	Dr. S. K. Haldar
15.	Industrial Safety	October 29 to November 02 & November, 05-09	S. Dutta Chowdhury
16.	Workers Development Programme on Health	November, 21-23	Dr. S. K. Haldar
17.	One Month Specialized Certificate Course in "Safety & Health" for Supervisory working in Hazardous Industries	November 19 to December 18, 2012	H. Chattopadhyay
18.	Associate Fellow of Industrial Health	December 01, 2012 to February 28, 2013	Dr. S. K. Haldar

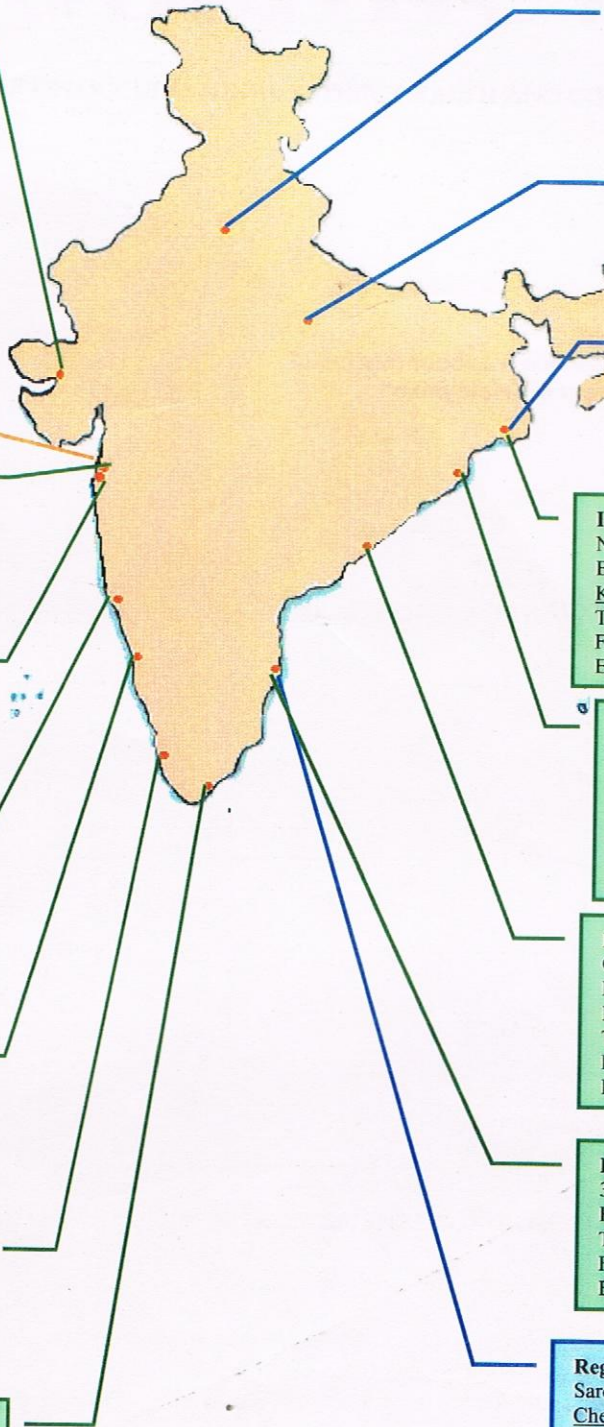
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**E-mail Address: [rlifaridabad@yahoo.com](mailto:rlifaridabad@yahoo.com)**

S.No	Title of the Programme	Period	Coordinator
1.	Occupational Stress Management	January, 17-19	S.M. Chaugule
2.	Chemical Safety at Workplace	February, 15-17	M.R. Rajput
3.	Management of Safety Health and Environment at Workplace	April, 21-24	S.K. Dwivedi
4.	Environmental Hazards and their Management at Work Place	May, 23-25	S.M. Chaugule
5.	Occupational Hazards and their Management	July, 18-20	Rajeev Shukla
6.	One Year Post Diploma in Industrial Safety (PDIS)	July, 2012 to May, 2013	S.K. Dwivedi
7.	Developing Positive Safety Culture	August, 21-23	Dr. A. Singh
8.	Management of Safety, Health and Environment at Workplace	Sept., 11-14	S.K. Dwivedi
9.	Storage, Handling & Management of Hazardous Substances	October, 17-19	M.R. Rajput
10.	Occupational Safety in Construction Industry	November, 6-9	M.R. Rajput
11.	Occupational Safety and Health in Construction Industry	Nov., 20-22	Rajeev Shukla

- Training programme brochures will be mailed sufficiently in advance, specifying the dates of commencement of course, its venue etc., to the organisations as per mailing list available.
- Course-coordinator may be contacted for details such as training programme dates, venue, programme contents, level of participants, course fee and its payment etc.
- Admission to the course will be restricted to 20 participants on First-Come-First-Served basis. Participants are not allowed to attend the training course without written confirmation by the course-coordinator.
- Limited Hostel Accommodation on sharing and chargeable basis will be available on 'First-Come-First-Served' basis.



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