INDOSHNEWS

Vol.8 No.3
July-Sept. 2003

Published by the Directorate General Factory Advice Service & Labour Institutes, N.S. Mankikar Marg. Sion, Mumbai 400 022. INDIA

Editor-in-Chief
Shri S.K. Saxena

Executive Editor
Shri D.B. Deb

Assistant Editors
Shri T.K. Biswas
Shri J. Sankar

The electronic version of the Indoshnews on the Internet can be accessed at the following address:
www.dgfasli.nic.in

CONTENTS

DGFASLI
Visit us at:www.dgfasli.nic.in
Telephone : PABX 91-22-4092203
Fax : 91-22-4071986

ANNUAL SUBSCRIPTION
Rs. 100 (India)
Rs. 200 (Foreign)

FROM THE DESK

In a recent article, President, Dr. A.P.J. Abdul Kalam, has stated, "…… acquisition, possession and application of knowledge are most important sources" for a bright future for India. He has also stated that "(knowledge) is acquired through education, information, intelligence and experience". We, in DGFASLI, feel that in the area of safety and health at workplace, we have the experience and also the required information. Experience, we have gathered by working in the field for a very long time. The information is collected by us through our own efforts and is also made available to us by international agencies, as, we are the 'CIS National Centre for India'. In the cover feature of this issue, we have tried to give details about the information available on our website. We have also links to other sources where relevant global information is available.

We are in the process of gathering more and more data, not only in the organized sector, but also in the unorganized sectors like agriculture, construction, waste disposal etc. Our endeavour is to constantly update the information, so that, these remain useful for the end users.

Our efforts will be successful only if, the key players, in the field share information with us and access the already available information and use them effectively. Informed decision is the key to every success.

(S.K. SAXENA)
EDITOR-IN-CHIEF

WELCOME TO THE WORLD WIDE WEB OF DGFASLI

S.N. BORKAR

The technological advancement has helped in improving the standard of living of the people on one hand but on the other hand it has brought the risk of hazards and occupational diseases with it . The risks and the hazards are not only limited to the workers working in the industrial premises but also affects the public and the environment. Experience has shown that the accidents, occupational injuries and damage to the environment are preventable. However, this requires information. Information is rarely available at a single source and has to be obtained as and when required from the right source at the right time. Developments in the Information Technology and the Internet have come in as valuable help in providing the right information at the right time. The establishment of the DGFASLI (Directorate General Factory Advice Service & Labour Institutes) website has strengthened the objective.

The DGFASLI website was launched in the year 2001 to reach the masses through the internet channel and contribute to the prevention of occupational injuries and diseases. The website gives information in various areas which are useful for the end users. Some of these areas are:

About DGFASLI

DGFASLI under Government of India, Ministry of Labour is a premier organization entrusted with the job of ensuring occupational safety and health of the workers employed in factories and docks. The organization has 5 Labour Institutes – Central Labour Institute in Mumbai and Regional Labour Institutes at Kolkata, Kanpur, Chennai & Faridabad. The Labour Institutes are socio technical laboratories and are equipped with various testing facilities. The details of each Institute with various technical disciplines and the services offered have been made available for the benefit of the end user in the website.

Statutes

Occupational safety and health is governed by statutes such as Factories Act, 1948 and Model Rules framed thereunder and Dock Workers Safety & Health Regulation 1986 and the rules framed thereunder. The legislations are available section-wise in the website. Along with this, a list of various other Acts such as Mines Act, Environment Protection Act, Indian Boilers Act etc, is also available on the website.

Indoshnet

The INDOSHNET module has information in the form of active server page in respect of the national directory of organization profile. This profile is based on the concept of ILO and has information such as contact address, organization structure , objectives, areas of competence and OSH literature available, OSH references available, databases on OSH, facilities available etc. The information has been furnished category wise viz, government, non-government, industrial organization, workers organization and employer's organization.

DGFASLI organization has been working for more than five decades and has done a lot of work in the field of occupational safety and health. Abstracts of the studies, surveys, research and consultancy reports carried out by the organization have been prepared and put on the web in this module in the form of database. The user can make a search based on minor descriptors or major

descriptors and the result of this is available through active server pages. The resultant document in addition to the summary and abstract also gives the location of the report. The user, if so desires, can get the desired report from the concerned Labour Institute.

OSH Research Projects

This area gives the details of various research projects undertaken by DGFASLI organisation during the Five year plan. The objectives of the projects and major thrust areas covered have also been highlighted.

Advisory Services

This section gives the end users the details of various advisory services offered by the DGFASLI organization. Some of these services include testing of respiratory and non-respiratory personal protective equipment, flame proof equipment approval, Material Safety Data Sheets, National Referral Diagnostic Center,etc.

Indoshnews

DGFASLI is publishing a quarterly newsletter on occupational safety and health and conditions of work known as "INDOSHNEWS" to meet the imperative need for continuous dissemination of information to a large number of people, not having access to the information technology. The newsletter covers important national and international news in the area of safety and health related research and consultancy projects and training, education and awareness programmes. In addition to this, the newsletter also carries technical articles on OSH and conditions of work. This newsletter has been made available on the website (http://www.dgfasli.nic.in)The website also contains archives of all the issues of the INDOSHNEWS published till date.

Safety & Health Information

This area gives important safety and health statistics for factories and docks. In addition to this, it also carries the addresses of The Chief Inspector of Factories for all the States and Union Territories of India and addresses of Inspectorate of Dock Safety located in all the major ports of India, the authority to enforce the safety and health statutes in Factories and Ports respectively. Safety and Health posters and video clippings of the films made by DGFASLI are also available in this section of the website.

Training Programmes

This section carries the calendar of the safety and health training programmes conducted by the Labour Institutes at Mumbai, Chennai, Kolkata, Kanpur & Faridabad.

Announcements

Information on National Safety Awards, Vishwakarma Rashtriya Puraskar, brochures and forms for courses on Associated Fellow of Industrial Health (AFIH) and Post Graduate Diploma in Industrial Safety (PGDIS) is available in the announcement section. Interested persons can download this information.

Related Links

Safety and Health information is rarely available at a single source. However, there can be a single source where from other source of information can be made available to the end user. The area of related links provides the end users with a list of world wide website addresses which can be directly accessed throughout the DGFASLI website. Some of the major links include ILO website, Canadian website, Australian Website, etc.

Frequently asked questions

With the increasing awareness, the end users also have lot of queries and clarifications on issues related to occupational safety and health. These queries need to be

properly addressed by providing necessary information and clarifications. For this purpose, a new module on frequently asked questions has been added on to the website so as to provide answers to various queries to the end users and issues related to safety and health. The end user also has facility to put in his questions to the specialists/experts on occupational safety and health**.**

Guest Book

The DGFASLI website believes that nothing is perfect and there is always scope for improvement. The feed back from the end users is always important and useful in improving the content and the quality of information being made available to the end users from time to time. With this objective, a guest book has been provided for the end users so that they can give their comments, requirements etc. In this short period of time, the website has received a number of appreciations, comments and new requirements from the end users.

FUTURE INDOSHNET THRUST AREAS

Inventory of OSH Information

Management of occupational safety and health has become a very vital issue because of the technological advancements and deployment of newer technology and complex processes. The threat of occupational hazards, particularly in chemical and petrochemical industries is of great concern especially for the people who are responsible for policy planning and designing of legal instruments and other interventions for protecting the large workforce employed in this sector. The problems faced by policy planners is the non-availability of timely information on vital areas such as occupational injuries and diseases. The problem can be addressed by establishing a system for the flow of information and creating a national inventory of safety, health and environment (SHE) information. DGFASLI carried out a pilot project in the State of Kerala to identify various sources of information on infrastructure , occupational injuries and diseases and management of SHE at unit and state level.

The information collected in the pilot project, presented a picture of manufacturing activities covered under the Factories Act. This included registered factories as per the National Industrial Code (NIC) classification, employment in these industries, mandays worked, hazardous units notified under the Factories Act and Major Accident Hazard (MAH) installations in the State. The occupational injuries and diseases in these industries, its cause, agency involved, its nature along with the frequency, severity and incidence rate were also calculated. For managing SHE at the unit level, the information on number of safety officers, safety committees, occupational health centers, emergency plans, safety reports, safety audits, etc. required in the factories was collected. At the state level, the number of agencies which are directly and indirectly engaged in protecting the safety and health of workers was also compiled. By building this inventory it is possible to find the resources available for management of safety and health at the State level and also an assessment for the resources required.

DGFASLI has now taken up the task of building national inventories by covering all the states and make this information available through its website so that the policy planners at national, state & unit level get right information for formulating policies and strategies which will go a long way in minimizing work related fatalities, injuries, disabilities and diseases. The inventories on occupational safety and health in respect of the States of Kerala, Goa, West Bengal, Tamil Nadu, UP and National Capital Territory of Delhi have been developed. By the end of 10^{th} five year plan, it is proposed to have a national inventory on occupational safety and health in respect of at least 20 States.

International Chemical Safety Cards

DGFASLI has taken up the task of translating the international chemical safety cards in three Indian languages viz Hindi, Tamil & Bangla. This will help in creating awareness among the workers by providing them useful information in their local language and thereby reducing the occupational accidents and diseases caused by hazardous chemicals. The cards in the Indian languages will be ported on to the website so that they can be freely down loaded by the end users.

With the above information network, DGFASLI, Ministry of Labour is striving to achieve its objective of being **" last word on occupational safety & health information in India."**

S.N.Borkar
Deputy Director(Productivity)
Central Labour Institute,DGFASLI
Sion, Mumbai.400022

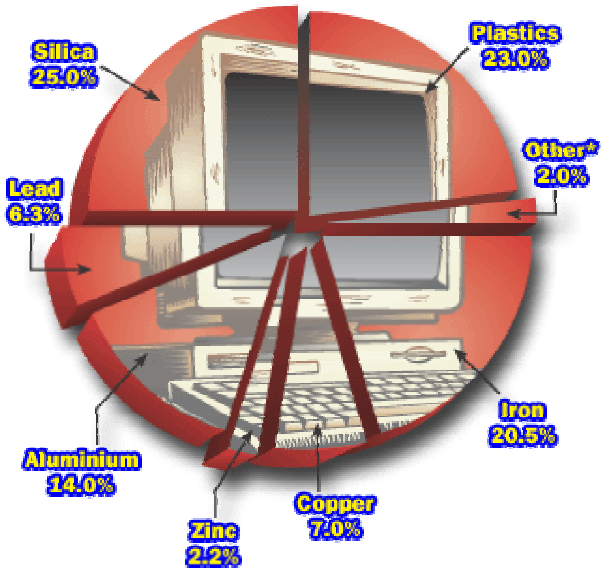
SAFE DISPOSAL OF OBSOLETE COMPUTERS

S.P.RANA

The world is rapidly becoming awash in computer junk, and no one knows what to do with it. The problem, experts say, is only expected to get worse. Computers generally become obsolete in eighteen months or less. As a result, old computers, printers and related equipment are lying in the backyard of every home and industry. The problem may increase significantly in coming time if, as some industry and environmental experts predict, millions of computer owners decide it's cheaper to buy a new personal computer rather than try to make their old one upgraded. So where are all these old PCs, laptops, printers and other computer-related equipment going? No one knows for sure, but the indications are that most are gathering dust in closets, storage and garages because their owners don't know what to do with them.

Common sense says that eventually people will clean their closets and their computer junk will hit the waste stream. That will create a real environmental threat because computers contain lots of hazardous materials and are not easily recyclable.

WHAT IS IN A COMPUTER



A lot many chemicals are used to manufacture a PC, about half of them are toxic. Modern electronic computer equipment contains different materials such as:

- Lead and cadmium in computer circuit boards,
- Lead oxide and barium in computer monitors' cathode ray tubes,
- Mercury in switches and flat screens,
- Brominated flame retardant on printed circuit boards,
- Cables and plastic casing,
- Photo-active and biologically active materials and chromium in the PC's steel exterior,
- Plastic computer casings coated with toxic fire retardant,
- Copper, aluminum, brass, silver, CFC (Freon), phosphors, tungsten, lithium, nickel, fillers, stabilizers, plasticizers, etc.

Electronic equipment, mainly computers, are going to be one of the largest known sources of heavy metals, toxic materials and organic pollutants in municipal trash waste.

THE PROBLEM

Indeed, personal computer technology is creating health and environmental problem of growing dimensions. Cathode ray tubes (CRTs), circuit boards, batteries, and mercury switches contain hazardous materials, such as lead, mercury, cadmium, and chromium. These materials are considered dangerous, especially when incinerated. When computer monitors are broken in the process of landfill, the lead in the glass can seep into groundwater.

Regulators, corporations and environmental groups around the globe are struggling to decide how to dispose of a seemingly endless supply of PCs and who should be held responsible for keeping tons of hazardous waste out of the environment.

For an every added year, the pile of old PCs keeps growing, and volume is only the beginning of the ecological issues posed by decaying PCs.

Not only the bulky CPUs and related parts will be taking up valuable landfill space, some of the internal components are made from toxic materials that should not be deposited in a landfill.

PROBLEM IN FOREIGN COUNTRIES

U.S. manufacturers are selling 367 lacs new computers a year, about 80 percent of them for domestic consumption.

The National Safety Council (USA) estimated that 206 lacs personal computers were become obsolete in USA by 1998; of those, only 11 percent - about 23 lacs units were recycled. Other 13 lacs old pieces of computer equipment were refurbished, mostly by charities. It has also estimated that about 315 lacs PCs will be obsolete by 2004. The Council estimates that, in 2002 alone, the number of PCs becoming obsolete will outrun the number of new PCs hitting the market by some 34 lacs.

Overall, the Environmental Protection Agency (EPA) of USA estimated, computers and other electronic equipment account for about 2200 lacs tons of waste per year in the United States.

In USA, the computers are disassembled into piles of plastic, metal and circuit boards. The Cathode Rate Tubes are recycled. Metals are sent to smelters, where they are remade into cars, cans and even new computer cases. Plastics can be reused in everything from pothole fill to dashboards. The remaining parts, mostly containing hazardous materials are sent for landfill.

INDIAN SCENARIO

The PC revolution, which started in India in the late 80s, has already gone through two decades, starting from the humble 8088 to today's Pentium V machines.

The obsolete computer problem to a great extent is related with the PC penetration in India. Among the regions, western India has the highest overall PC penetration (69%) among different establishments. South India interestingly has the lowest overall penetration though a bulk of IT majors are based in the region. The general reach in large establishments is quite high in all regions. But the pattern changes when it comes to SMEs with the PC penetration varying from 52% in the north to 63% in the west. Nearly 72% of the PC-owning establishments are in the "metros" with the rest in other cities. Of these 28% are in Mumbai while 24% are in Delhi.

The actual sales of PCs since 1984 adds up to 610 lacs, but many of those PCs have been discarded due to obsolescence and no longer figure in the installed base. Studies reveal that annual PC will cross 50 lacs in 2004.

Although the 50 lacs figure is just over one percent of the global installed base of PCs, the rate at which the PC industry is growing it is very important and essential to take a notice for its safe disposal. These landmarks will fuel

further problem, as the old PCs will become obsolete by virtue of time.

EFFORTS OF INDUSTRIES

The industry has been responding to the problem primarily by trying to design new computers so that they are more easily taken apart for recycling. Most major manufacturers have made adjustments in their products.
The industry is also studying ways to reduce use of toxic materials, but in some instances there may be "no technically viable substitutes". For example, the flame retardant used on computer casing and lead in computer monitors can't be substituted by less hazardous material. IBM announced recently that it would start making a new line of personal computers in which the plastic in the central processing unit is 100 percent recycled.

PROBLEM ON IMPLEMENTATION

- Ideally computer manufactures should design for the environment but they don't.
- It is harder to collect and recycle computers from individuals than to collect from company warehouses.

- If system for total incineration of whole PCs is developed, the chances of release of hazardous substances like mercury, cadmium, lead and other toxic chemicals into the air can not be ruled out.
- Dumping computers into landfills isn't any better. Lead and mercury could slowly get into groundwater.
- A liner system and a collection system to keep anything from migrating away from the landfill into water can be developed but the problem of land and maintenance is still there.

HOW TO RECYCLE A COMPUTER

1. Dismantle to recover usable parts

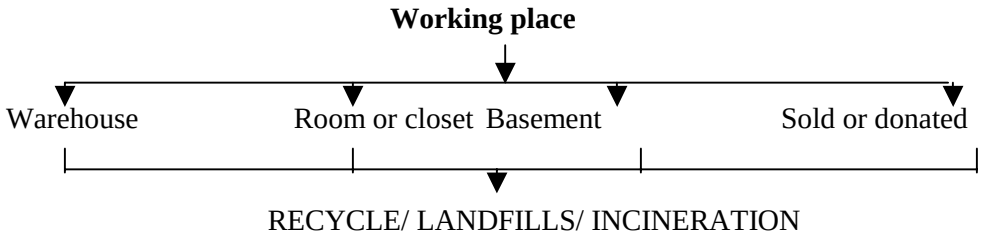
Chip market prices are dropping. Nowadays a 20mb hard drive is not being used anywhere. Cost factor of labour engaged in dismantling should be taken into account.

2. Separate out the metals, plastic and glass etc

Managing hazardous waste is a problem and a feasible and viable solution is to be worked out. Transporting each material to a different processing facility needs high volume of each material to make it cost effective.

Recycling properly is labour intensive and will cost money. How to dispose of and recycle according to concerned regulatory authority requirement is a great challenge.

FINAL DESTINATION OF OLD COMPUTERS



If the computers are to be sold by bid or auction, usually many computers at a time will be required in a package deal. To sweeten the deal, a company will put in a few good computers along with the obsolete ones. Purchaser will take the good ones and get rid of the others. In fact, one will try to push the disposal onto someone else. To give it to someone will only prolong disposal for short term.
Finally the computers can be taken for recycle, land fills or incineration

POSSIBLE SOLUTIONS

Given such important health, safety and environment issues, one can say that main concern is with proper safe disposal, an issue that defies easy solutions.

- Once the machines are past, the point of being resold to the other or donated to charitable groups, that means recycling.
- Separating the materials to be processed for reuse from the hazardous materials.
- Developing a system for computer and other related equipment disposal. Some amount can be taken from the consumers to shoulder a large part of the burden for those initiatives to succeed.
- Companies should be asked to launch recycling and reuse programmes aimed primarily at consumers.
- Ideally computer components should be designed with a concern for the environment so that these can be recycled.
- Computer manufactures are required to take back & recycle / reuse the old computer from the consumers when they buy a new one.

REFERENCES:

(i) Annie Berthold-Bond, “Dealing with obsolete computers”

(ii) Information Technology Services, University of Hawaii, “Disposal guidelines for obsolete computer equipment”

(iii) National Safety Council, May 1999, "Electronic Product Recovery and Recycling Baseline Report: Recycling of Selected Electronic Products in the United States”

(iv) IDC (India), "Exploring the IT goldmines: Indian Homes"

Shri S.P. Rana
Assistant Director (Safety)
Central Labour Institute, DGFASLI
Sion, Mumbai.400022

SAFETY AUDIT IN A CHEMICAL INDUSTRY

This Safety Audit was carried out by Central Labour Institute, Mumbai in a chemical industry.

OBJECTIVE

The objective of the study was to study systematic and documented evaluation of the occupational safety and health system and procedures.

METHOD OF STUDY

The audit team made a field visit of three days. During the field visit, all shops, departments and places of activities were covered by the audit team. The relevant documents were obtained pertaining to safety system. The compliance to statutory requirement were also checked and verified. Personal interviews were held with the workers, managers and senior executives regarding maintenance of safety and health norms at workplace. The management system and technical system elements of safety audit covering 36 elements of the organizational activities/techniques/systems were observed to identify strength and weakness with respect to existing standard. Some important recommendations are given on the basis of findings as appended below:

RECOMMENDATIONS

- S.H.& E policy has to fix responsibilities of supervisors, managers, contractors and transporters for safe functioning of activities. It should include the need of periodic health assessment of the employees. The policy should integrate health and safety while dealing with purchase of plant/equipment and other items and activities where periodical medical examination is required for the workers.

- Head of H.S.E department should be a qualified Safety Officer as required under the statutes. He should acquire the qualification "Diploma in Industrial Safety" from a recognized institute/organization within three years of his appointment in H.S.E department. This will further strengthen the activities of the Safety Department.

- Safety Hand Book (pocket size) should be prepared bilingually by the Safety Department containing Do's and Don'ts of the activities carried on in various departments along with general safety tips. This should be made available to all employees. The Safety Department officer should make random inspection of the workplace activities and make the workers more aware of S.H.E at work

- The management should maintain the status of the safety officers, who is also the head of the Safety Department and on par with heads of other departments like Production, Maintenance, Stores etc. This will enable him to discharge his functions effectively. Moreover, it is statutory requirement which management should comply with.

- One management member in the H.S.E committee either the Factory Medical Officer or the Safety Officer should be declared to act as member secretary and perform all the desired functions. The workers' representative in the H.S.E committee should be elected and not nominated.

- Accident report format should be printed in quadruplicate colours viz. yellow, white, pink and grey. The yellow form should be retained by the concerned department where the accident has taken place, the white

and the pink forms may be forwarded to safety and personnel department respectively while the grey form to be sent to the Medical Department for information and record. The formats should be duly signed by the Factory Medical Officer and the Departmental Head where the accident has happened.

ENVIRONMENTAL STUDY IN A WHELL AND AXLE PLANT

A follow up environmental study in a Wheel and Axle Plant was conducted by Regional Labour Institute, Chennai.

OBJECTIVE

The study was conducted with the objective to assess the levels of airborne dust, fumes and gases e.g. CO etc. in work environment, measure noise levels and to suggest remedial measures wherever necessary to improve the environmental conditions.

OBSERVATIONS

This plant is engaged in the production of wheel and axle assembly for Locomotive, Wagons and Passenger Coaches. Various engineering operations e.g. electric arc furnace, pouring, moulding, machining, etc are carried out in the wheel shops. Concentrations of metallic dust near electric arc furnace, wheel casting, etc. were found well within their PLE whereas the concentration of metallic dust near slag off station and crane operator's cabin exceeded the PLE. The average concentration of metallic dust in melting and pouring area were found to range from 3.1 to 8.9 mg/m^3 which is marginally higher than observed in the previous study and within PLE in most cases. The concentration in a few cases was found to exceed the permissible level.

The average concentration of siliceous dust at different locations in mould room area were found as 3.1 to 20.0 mg/m^3 for total dust and 1.4 to 9.6 mg/m^3 for respirable dust. All these concentrations are quite high as compared to their PLEs.

The average concentration of welding fumes near scrap cutting operations in pre-conditioning bay was found as 31.5 mg/m^3 which is also very high compared to the PLE of 5 $mg/m^{3.}$

The noise levels in many areas e.g. electric arc furnace area, sprue wash, compressor room, diesel pump in water pump house, diesel generating station, cope and drag grinding, billet casting in Axile shop etc.were found higher than 90 dBA.

RECOMMENDATIONS

- Remedial measures were suggested to control the air borne dust levels which include closing of openings near the exhaust fans in the shed, modification of the duct of the local exhaust provided with electric arc furnaces, provision of exhaust fans in the shed over the slag off and pouring station etc.

- Proper and regular maintenance of all the noise machines were suggested to control the noise levels.

- Remedial measures were suggested to minimize the workers exposure to high sound level which include use of good quality ear plugs/ear muffs among all the workers engaged in noisy areas.

- Remedial measures were suggested to improve work environment.

- On 11.1.2003,during 2nd shift, wooden logs were being discharged by a stevedore at a Port with the help of ship's crane. When a sling of logs was being discharged with the help of ship's crane, the sling load swung towards the main deck and hit a winch driver. He fell down on the port side main deck and died on the spot.

  Investigation of the accident revealed that the accident had taken place due to violation of regulation 117 read with Regulation 7(4)(b) of the Dock Workers (Safety, Health and Welfare) Regulations, 1990 and prosecution is being filed against the employer.

- On 27.12.2002, during 1st shift, wooden logs were being discharged at a Port berth on to trailers by the help of ship's derrick.

  When a sling load of logs from the hold was discharged, the logs dashed against an unregistered worker and he fell down into the dock basin and died on the spot.

  Investigation into the accident revealed that it had taken place due to log hitting the injured and his subsequent fall into the dock basin. The logs rolled down as the sling was not positioned on to the trailer. Moreover, the deceased was standing between the ship and the trailer at the time of the discharge of the logs. Further, it was observed that the employer contravened Regulation 57(4), 91(1), 91(6) and Regulation 116 of the Dock Workers Safety, Health & Welfare) Regulations, 1990.

TRAINING PROGRAMME ON SAFETY,HEALTH & ENVIRONMENT MANAGEMENT IN PROCESS INDUSTRIES

PROGRAMME PERSPECTIVE

The process industries have high hazard potential and every activity needs to be properly monitored and controlled. Integration of many unit processes and unit operations in a single plant enhances its complexity. It is essential and important to initiate and carry out systems of inspection and checking to ensure that various operations in the plant are performed in an efficient and safe manner. Due to the potential of major accidents in various operations and storages, it is a need of the hour to develop a safety management system in the company. We cannot ignore that sooner or later, we will be affected by the damage to the environment. To reduce the environmental impacts caused by the industrial processes, products and services, a systematic addressing of the issue will result in achieving better results and this approach can be achieved through an Environment Management System. An Environment Management System is essential to an organisation's ability to participate and meet growing environmental expectations and to ensure ongoing compliance with national and international requirements. Safety,Health and Environment audit is a tool by which the organisation's OSHMS & EMS and procedures can be evaluated by a systematic and documented verification process.

OBJECTIVE

To enhance the competence of the participants to develop an Occupational Safety, Health and Environment Management System in their organizations by familiarizing them with

- Statutory Obligations
- Hazard Identification Techniques
- Occupational Safety and Health Management System (OSHMS) & Audit
- Environment Management System (EMS) & Audit

HIGHLIGHTS

- Statutory Obligations
- Management of hazardous chemicals
- Techniques of Hazard identification
- OSHMS – OHSAS 18001
- Hazardous Waste Management
- Safety Audit
- EMS-ISO 14001
- Pollution Abetment Techniques
- EMS Audit

PARTICIPANTS

Supervisors, Engineers, Production Executives, Managers, Environment Officers and Safety Officers of Process Industries .

MODE OF TRAINING

- Audio Visual
- Syndicate Exercises
- Case Studies

Conducted by:

MAHCA Division,
Central Labour Institute,
Sion, Mumbai.400022

INTERNATIONAL OCCUPATIONAL SAFETY AND HEALTH INFORMATION CENTRE (CIS)

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 affiliated National Centres and 38 CIS collaborating Centres. Central Labour Institute, Mumbai has been designated as the CIS National Centre of India.

CIS can offer you rapid access to comprehensive information on occupational safety and health through:

- Microfiches on original documents abstracted in CIS DOC (CISILO)
- ILO CIS Bulletin "Safety and Health at Work"
- Annual and 5-year indexes
- The CIS Thesaurus
- The list of periodicals abstracted by CIS

EXCERPT FROM CIS DOC

Title: New methods and data sources for measuring economic consequences of workplace injuries.

CIS ACCESSION NUMBER
CIS 02-622

ABSTRACT

Evaluation of programmes and policies to reduce the incidence of workplace injuries require that the consequences of injury be estimated correctly. Data availability is often the largest obstacle to this estimation. This article reviews the literature on the consequences of workplace injuries for both workers and employers, focusing on data sources, including administrative data from different public agencies, public-use survey data, primary data collection, and linked employee-employer databases. Recent advances in the literature on the economic consequences of workplace injuries for workers have been driven to a great extent by the availability of new data sources. It is expected that these new data sources should lead to rapid advances in the understanding of the economic consequences of workplace injuries for both workers and employers. This paper was presented at a conference on the social and economic consequences of workplace illness and injury.

Note:

For details write to CIS National Centre for India, Central Labour Institute, Sion, Mumbai 400 022.

The Library & Information Centre of Central Labour Institute has unique collection of Material Safety Data Sheet of about 1,20,000 chemicals/materials taken from Canadian Centre for Occupational Health & Safety. MSDS provides extensive coverage over safety perspective with detailed evaluation of health, fire and reactivity hazards. It also provides precaution as well as recommendation on handling, storage, personal protective equipment, accidental release, etc.

PRODUCT NAME(S) : MERCURIC CHLORIDE

POTENTIAL HEALTH EFFECTS

Inhalation:Causes irritation to the respiratory tract. Symptoms include sore throat, coughing, pain, tightness in chest, breathing difficulties, shortness of breath and headache. Pneumonitis may develop. Can be absorbed through inhalation with symptoms to parallel ingestion. Vapor inhalation can burn the mucous membrane of the nose and throat.

Ingestion:Highly Toxic! Average lethal dose for inorganic mercury salts is about 1 gram. May cause burning of the mouth and pharynx, abdominal pain, vomiting, corrosive ulceration, bloody diarrhea. May be followed by a rapid and weak pulse, shallow breathing, paleness, exhaustion, central nervous system problems, tremors and collapse. Delayed death may occur from renal failure.

Skin Contact: Causes irritation and burns to skin. Symptoms include redness and pain. May cause skin allergy and sensitization. Can be absorbed through the skin with symptoms to parallel ingestion.

Eye Contact: Causes irritation and burns to eyes. Symptoms include redness, pain, blurred vision; may cause serious and permanent eye damage.

Chronic Exposure: Chronic exposure through any route can produce central nervous system damage. May cause muscle tremors, personality and behavior changes, memory loss, metallic taste, loosening of the teeth, digestive disorders, skin rashes, brain damage and kidney damage. Can cause skin allergies and accumulate in the body. Repeated skin contact can cause the skin to turn gray in color. Teratogen: can damage the developing fetus and decrease fertility in males and females.

Aggravation of Pre-existing Conditions: Persons with nervous disorders, or impaired kidney or respiratory function, or a history of allergies or a known sensitization to mercury may be more susceptible to the effects of the substance.

FIRST AID MEASURES

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Ingestion: Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Explosion: Explosive conditions are created by friction, heat, or impact with phosphorus, antimony, arsenic, silver salts, sulfides, acetylene, ammonia and oxalic acid.

Fire Extinguishing Media: Water, dry chemical, foam or carbon dioxide. Do not us a solid stream of water, since the stream will scatter and spread the fire. Do not allow water runoff to enter sewers or waterways.

Special Information: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

ACCIDENTAL RELEASE MEASURES

Ventilate area of leak or spill. Clean-up personnel require protective clothing and respiratory protection from dust.

Spills: Pick up and place in a suitable container for reclamation or disposal in a method that does not generate dust. Sprinkle area with sulfur or calcium polysulfide to suppress mercury.

US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

HANDLING AND STORAGE

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect from physical damage and direct sunlight. Isolate from incompatible substances. Follow strict hygiene practices. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

EXPOSURE CONTROLS /PERSONAL PROTECTION

Personal Respirators (NIOSH Approved): If the exposure limit is exceeded and engineering controls are not feasible, a full face piece particulate respirator (NIOSH type N100 filters) may be worn for up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids. glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face piece positive-pressure, air-supplied respirator.

WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection: Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

NOTE

The above details constitute part information of MSDS taken from Canadian Centre for Occupational Health and Safety. For complete MSDS write to MIS division, Central Labour Institute, Sion, Mumbai.400022. MSDS on about 1,20,000 chemicals/materials are available with Central Labour Institute. Computer printout will be supplied on nominal charge basis.

CENTRE MULLS MORE BENEFITS FOR UNORGANISED SECTOR

The Centre is trying to ensure more protection for the millions of workers in unorganized sector and is readying a Bill that would give them some advantages.

A draft Unorganised Sector Workers' Bill 2003, has been sent to all States and Union Territories for their views before it is brought before Parliament. The Bill tries to regulate the employment and conditions of service and provide for health benefits, safety, social security. Workers will be entitled to benefits from the age of 14 to 60. The Centre is looking at some schemes and these could relate to medical care, sickness benefit, employment injury benefit, invalidity benefit, maternity benefit, old age benefit including pension, family benefit and survivors' benefit. The Bill also has a provision for constitution of a 'Lok Sharamik Panchayat' for resolving disputes in the unorganized sector.

An Unorganised Sector Workers' Central Board could be formed to advise the Centre on administration and coordination of the Act at the national level. The Board will also advise the Centre on application of the Act to a particular class of workers or classes of workers in any scheduled employment or classes of employment and their employers. It will suggest policy formulation for the conditions of service, health, safety, welfare and social security of workers.

The Board will receive government grants and loans and ensure administration of the fund. It is likely to be headed by the Union Labour Minister. The Vice Chairperson will be the Minister of State for Labour. Others will represent workers, the government and NGOs. A third of the members will be women. Similar state-level organizations will be formed in different states.

Source: The Statesman

TRAINING PROGRAMMES
OCTOBER TO DECEMBER 2003
CENTRAL LABOUR INSTITUTE ,SION,
MUMBAI-400 022

Programme title	Contact person
Diploma in Industrial Safety	Director (Safety) & Incharge Indl. Safety Division
Workshop for Safety Committee Members	Director (Safety) & Incharge Indl. Safety Division
Management Development Programme on Industrial Safety Management	Director (Safety) & Incharge Indl. Safety Division
Training programme on Testing and Examination of Lifting Appliances & Pressure Vessels	Director (Safety) & Incharge Indl. Safety Division
Safety,Health & Environment Management in Fertilizer Industry	Director (Indl.Hygiene)&Incharge Indl.Hygiene Division
Selection and Quality Assurance for Effective use of PPE	Director (Indl.Hygiene)&Incharge Indl.Hygiene Division
Risk Assessment in Process Industries	Director (Indl.Hygiene) & Incharge Major Accident Hazard Control Advisory Division
Hazard & Operability (HAZOP) studies	Director (Indl.Hygiene) & Incharge Major Accident Hazard Control Advisory Division
Training programme on Personal Growth & Group Dynamics	Director (Staff Trg.) & Incharge Staff Training Division
Training Workshop on Team Building for Safety, Health & Welfare at Work	Director (Staff Trg.) & Incharge Staff Training Division
Occupational Health Hazard of VDT users in Office & Workplace-its remedial measures through Ergonomics-approach	Director (Physiology) & Incharge Indl.Ergonomics Division
Industrial Heat Stress & Heat Disorders-its Evaluation & Management for ensuring Safety, Health & Productivity at Work	Director (Physiology) & Incharge Indl.Ergonomics Division

Programme title	Contact person
One month specialised certificate Course for Supervisors working in Hazardous Process Industries	Director (Staff Trg.) & Incharge Staff Training Division
Physiological Basis of Manual Material Handling Operation for Accident Prevention & Productivity	Director (Physiology) & Incharge Indl. Physiology Division
Fatigue & Rest Allowance - its application in industry for Safety, Health & Protection	Director (Physiology) & Incharge Indl. Physiology Division
Handling Problem Behaviour for Employees	Director (Indl.Psychology) & Incharge Indl.Psychology Division
Leadership for Safety, Health & Productivity	Director (Indl.Psychology) & Incharge Indl.Psychology Division
Training programme on Occupational Health & Environmental Medicine	Director (Medical) & Incharge Indl. Medicine Division
Quality & Productivity Improvement through Effective Employee Participation	Director (Productivity) & Incharge Productivity Division
Material Effectiveness for Higher Productivity & Quality	Director (Productivity) & Incharge Productivity Division
Noise & Heat Hazards and their Control in Industry	Director-in-charge, Environmental Engineering Division

TRAINING PROGRAMMES
OCTOBER-DECEMBER 2003
REGIONAL LABOUR INSTITUTE , LAKE TOWN
KOLKATA-700 089

Programme title	Contact person
Safety Audit	Director Incharge
Safety & Health for Workers	Director Incharge
Quality Assurance in Chemical Works for Supervisory Workers	Director Incharge
Appreciation course on Industrial Hygiene	Director Incharge
Specialised certificate course for Supervisors engaged in Hazard industries	Director Incharge
Refresher course on Occupational Health for Plant Medical Officers	Director Incharge
Training programme on Chemical Safety	Director Incharge

TRAINING PROGRAMMES
OCTOBER-DECEMBER 2003
REGIONAL LABOUR INSTITUTE , NO.1,SARDAR PATEL ROAD
ADYAR, CHENNAI-600 113

Programme title	Contact person
Diploma Course in Industrial Safety	Director Incharge
Training Programme on Major Accident Hazard Control In Industries.	Director Incharge
Certificate course in Safety and Health for Supervisory Personnel engaged in Hazardous Processes	Director Incharge
Workshop on HAZOP	Director Incharge

TRAINING PROGRAMMES
OCTOBER-DECEMBER 2003
REGIONAL LABOUR INSTITUTE, SARVODAYA NAGAR
KANPUR- 208 005

Programme title	Contact person
Diploma Course in Industrial Safety	Director Incharge
Training programme on Occupational Health	Director Incharge
Workshop on HAZOP	Director Incharge
One month certificate course on Safety & Health	Director Incharge
Training programme on Industrial Safety & Health	Director Incharge
Training programme on Effective Supervision in Managing Safety, Health & Better Environment	Director Incharge

TRAINING PROGRAMMES
JANUARY TO DECEMBER 2003 (TENTATIVE)
REGIONAL LABOUR INSTITUTE
S.C.F-46, SECTOR 19, PART-II MARKET, FARIDABAD

Programme title	Contact person
Effective Supervision in Managing Safety, Health and Environment	Deputy Director (Indl.Psy.)
Team Building for Safety, Health and Welfare	Deputy Director (Indl.Psy.)
Personal Growth & Group Dynamics	Deputy Director (Indl.Psy.)
Safety in Engineering Industry	Deputy Director (Indl.Psy.)
Management of Human Factors at Work	Deputy Director (Indl.Psy.)

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 service. DGFASLI invites industrial organisations, institutions, industry associations, trade unions, professional bodies and non-governmental organisations having information on OS&H and willing to share the same with others at the national and international level to participate as members in the network. Interested agencies may please write for proforma of organisational profile to Director General, DGFASLI, Central Labour Institute Bldg., N.S. Mankikar Marg, Sion, Mumbai 400 022.

Note: Those who have responded to our earlier communication and sent organisation profile in the prescribed format need not write again.

NATIONAL REFERRAL DIAGNOSTIC CENTRE

Early detection and diagnosis of occupational health disorders and occupational diseases is one of the most important factors in the prevention and control of adverse health effects on workers due to various factors - physical, chemical, biological and psycho-social. The Industrial Medicine Division of Central Labour Institute, Mumbai runs a National Referral Diagnostic Centre (N.R.D.C.) for early detection and diagnosis of occupational diseases and recommends necessary measures for prevention/control of occupational health problems/occupational diseases. The diagnostic centre is well equipped for medical examination of the exposed workers and facilities are available for carrying out special investigation, e.g. Pulmonary function tests, Audiometry, ECG, Titmus vision test, Biological monitoring, etc. Medical professionals including Factory Medical Officers, ESI Doctors, Medical Inspectors of Factories and Certifying Surgeons, Doctors from Medical Colleges and Hospitals can refer suspected cases of occupational diseases to N.R.D.C. for diagnosis and advice. The communication should be addressed to the Director General, DGFASLI, Central Labour Institute Bldg., N.S. Mankikar Marg, Sion, Mumbai 400 022 for further details.

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. No photographs can be published.**

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.**

GOVERNMENT OF INDIA, MINISTRY OF LABOUR
DIRECTORATE GENERAL FACTORY ADVICE SERVICE & LABOUR INSTITUTES

The Directorate General Factory Advice Service & Labour Institutes (DGFASLI) is an attached office of the Ministry of Labour, Government of India. DGFASLI organisation 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

The Central Labour Institute in Mumbai functions as a socio-economic laboratory and is a national institute dealing with the scientific study of all aspects of industrial development relating to the human factors.

Over the past 33 years the Central Labour Institute has constantly grown not only in size but also in stature and has earned national and international recognition. It has been recognised by the International Labour Organisation as a Centre of Excellence in training on Occupational Safety and Health in the Asian and Pacific Region. It also functions as a National Centre for CIS (International Occupational Safety and Health Information Centre) and the Centre for National Safety and Health Hazard Alert System. At the national level, apart from providing research and training support to the Government and functioning as a technical arm of the Ministry of Labour, the institute provides comprehensive and multi-disciplinary services to the Industrial Port sector through studies, technical advice, training and dissemination of information. It also runs National Referral Diagnostic Centre for early detection of occupational disorders and thereby controls and prevents them. It has a modern Audio Visual Studio fully equipped with sophisticated video production equipment to produce quality U-matic video films on Safety and Health. The Regional Labour Institutes are a scaled-down version of the Central Labour Institute and cater to the needs of their respective regions.

The organisation is poised to grow further, and meet the increased demands on it. In a developing country with a large number of industries having diverse and complex nature, the task of protecting safety and health of workers is an uphill task. Armed with the technology, good-will of the industrial society and the strength of the dedicated staff, the organisation is well prepared to meet the challenges of tomorrow. It is committed to the goal of making the workplace safer.

Visit us at : www.dgfasli.nic.in