



INDIAN SAFETY ENGINEER

QUARTERLY JOURNAL OF SAFETY ENGINEERS ASSOCIATION

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Eighth Anniversary of SEA (India)

The Eighth Anniversary function of SEA India was celebrated on June 27, 2009 at Hotel Radha Regent, Chennai.

Mr P Manoharan, Secretary, SEA India welcomed the invitees and participants. Mr. R Thiruvengadam, President, SEA (India) in his Presidential Address briefed on the services provided by SEA (India) to its members and to industry at large. Dr Kalpana Balakrishnan, Head, Department of Environmental Health Engineering at Sri Ramachandra University (SRU), Chennai emphasized the need for consultative approach and sharing of resources among the University and SEA (India) towards achieving better results in HSE Management. She added that SEA (India)



Dignitaries on Stage

and SRU have been jointly conducting NEBOSH – IGC course for the third year in succession which has benefitted many safety engineers to enhance their knowledge base and improve their qualification to find better jobs.

Chief Guest on the occasion Mr. S. Raghunathan, Chief Inspector of Factories, Govt. of Tamilnadu had appreciated the services provided by SEA (India) and congratulated the association on the occasion of the 8th Anniversary. He encouraged SEA(India) to offer suggestions in bringing out any amendments to safety regulations based on their experience and pool of knowledge.

Dr. S. Maruthappa, Vice President, SEA (India), proposed vote of thanks.

Large number of SEA members participated in the function.

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Mr. S. Raghunathan & Dr. Kalpana Balakrishnan speaking on the occasion and the members in rapt attention

NEBOSH Course Update

Results for the March 2009 exams have been received on 14th May 2009. From our centre 70% have passed. Though it was less than our expectations (based on the feedback received from students), it is not considered as bad compared to other such centers. Mr. Benedict Joseph, Shell Petroleum, Bangalore was the top scorer with a distinction and he has been presented with a shield and a certificate during the 8th Anniversary function held on 27-06-09, as per our practices. For the September 2009 exams, a total of 39 students in two batches have been enrolled and their contact classes will be held during Aug 27th to Sep 06th 2009 and the examinations are to be held on 09th Sep and 10th Sep 2009. Few changes are made in tutors and some tips are provided to them towards getting good results. About 15 old students are also going to make a re-sit in the forthcoming exams in September 2009.

SPECIAL TECHNICAL LECTURES



On the occasion of the Eighth Anniversary of SEA (India) Ltd. there were two special technical lectures as follows:

First technical lecture was on "Role of First Responders in Emergency Management" by Mr. B. Madhusudhan Rao, Coordinator, Emergency Management and Research Institute, Chennai and the second one was

by Mr. M. Mani, Senior Vice President (EHS & CSR), Orchid Pharmaceuticals Ltd., on "Experience in implementing Behaviour based Safety". These lectures were well received by the participants which was reflective from the type of interactions they had with the lecturers. Abstracts from both the lectures are included in this issue.

Certificate and Shield to NEBOSH Exam topper

As decided by the Executive Committee of SEA (India), the topper of each batch of NEBOSH International General Certificate course conducted by SEA (India) and Sri Ramachandra University is being awarded a certificate of merit and a shield right from the first batch. Mr. Indranil Chakraborty for September 2008 and Mr. Benedict Joseph for March 2009 exams were presented with certificates and shields during the Eighth Anniversary function.

Mr. S. Raghunathan, Chief Inspector of Factories presented the certificates and shields and congratulated the toppers and appreciated SEA (India) for their motivational gesture.



FROM THE DESK OF PRESIDENT

Dear members,

I am happy to see SEA (India) celebrating their 8th Anniversary celebrations on 27.06.2009 and hence crosses another milestone. As a part of the 8th Anniversary celebrations, two technical presentations were made on “Behaviour based Safety Management Implementation – An Experience” and Immediate Response towards Effective Emergency Management”. We had our 45th and 46th Executive Committee meetings on April 18, 2009 and June 23, 2009 respectively. Journal for the 1st quarter of 2009 has been released and the second issue for the year is under publication. Still the response from members towards bringing out the journal is poor and all are advised to actively participate by sending different HSE news items, case studies, technical advances in safety etc. A factory visit to GMR Power Corporation is being planned during July 2009 and I request members to make use of such factory visits in upgrading their experiences in establishing good HSE management systems in different factories. NEBOSH activities are once again picking up for conducting the next course for the fourth batch of students during August - September 2009. We hope to get good results this time as our Tutors are working out improvements in conducting the contact classes. I am happy to congratulate our Vice President Mr. S. Maruthappa on his being conferred “Doctor of Philosophy on Fire & Safety Management” by the Prescott University, London, UK recently.

Best Wishes!

R. Thiruvengadam

President, SEA India



Mr. S. Maruthappa awarded Doctorate



Mr. S. Maruthappa, Vice President, SEA (I) has been awarded Doctor of Philosophy in “Fire Safety Management” by Prescott University, London, UK on 15-02-2009. He is also a Fellow member of SEA (India).

Dr. S. Maruthappa is also a Fellow member of the Institution of Fire Engineers (UK) and a Recipient of Common Wealth Fire Engineering Diploma. He is also the President of the Institution of Fire Engineers Southern India Chennai Branch.

He has also got the credentials of being a recipient of President’s Fire services Medal for Gallantry from Govt. of India and the Lifetime Achievement Award from Ministry of Home Affairs for his invaluable contribution to Fire & Safety Services.

SEA (I) is happy to congratulate Dr. S. Maruthappa.

Eighth Annual General Body Meeting of SEA (India)

The Eighth Annual General Body meeting of SEA India was held on 27th June 2009.

Mr R. Thiruvengadam, President, SEA (India) presided over the meeting. Mr. P. Manoharan, Secretary welcomed the gathering and submitted the Annual Report for the year 2008-09. Mr. P. Janarthanam, Treasurer submitted the Audited Accounts. Both the reports were formally approved by the General Body. Certain amendments were proposed in the existing Bye-laws and they were endorsed by the members.

By one of the important amendment, address of the Registered Office and the correspondence address have been changed to the own premises of the association recently purchased at Porur, Chennai. General Body appreciated the efforts put in by the Executive Committee of the Association and congratulated them on their wonderful achievement. AGM ratified Mr. P. Janarthanam as Treasurer

where in the change was caused due to Mr. S. Selvaganapathy getting a transfer of job outside India and later on Mr. N. Kumar for a similar reason.

By another amendment, it was agreed that Membership Certificates will be issued to the Corporate Grade **Life members** only. AGM also approved nominal increase in Annual Membership charges and the Registration fees. However, there is no change in Life Membership fees and Student Member fees.

Copy of the updated Bye-laws will be sent to members.

Secretary requested all members to provide the email IDs for regular correspondence purposes. He also requested them to forward the filled-in "Correspondence Update Form" for updating membership database and printing of SEA (India) Membership Directory.

Members lauded the Executive Committee for their unstinted services and expressed hope that the association will continue to excel in their efforts to serve the Safety Engineers fraternity of India. They offered to extend their support in all possible ways to the Executive Committee.



20th Technical Meet

The 20th Technical Meet of SEA (India) was held on May 30, 2009. Mr. P. Raj Mohan, Head, EHS Department, Areva T&D (India) Ltd., Padappai, Chennai made a presentation on "Grass Root Projects & Safety Implementation". He narrated the difficulties faced by HSE Professionals in implementing systems and procedures in the development of any industry due to reasons like project activities by different contract companies in varying cultural backgrounds. He presented the efforts put in by the company towards inculcating discipline and bringing in a good safety culture among all the personnel working for the company. He also compared their established safe practices in comparison to other industry practices in general.



Participants commended the presentation for its good learning value and congratulated Mr. Raj Mohan for achieving excellent results after sustained efforts.

EXPERIENCE IN IMPLEMENTING BEHAVIOUR BASED SAFETY

Abstracts from *Special Technical Lecture* by Mr. S. Mani, Sr. VP, Orchid Chemicals



Aim:

To enhance the safety culture in the organization through the Behaviour Based Safety, the Safety Observation & Audit Process is one of the most potent tools. To realize that every one of us can use this tool, and enjoy the process. All that is needed is willingness to have a safety system.

Safety – What is it?

Safety is freedom from harm or the danger of harm.

Behaviour:

Behaviour is the way human beings and other organisms act.

Two Types of behaviour:

- i) Voluntary behaviour
- ii) Involuntary behaviour

Factors influencing behaviour:

- Heredity
- Environment
- Learning

If I change one behaviour, I change a whole series of related behaviours.

Organisation:

An orderly structure of interconnected beings, sharing common objectives

Culture – What is it?

- Way of life
- A combination of behaviours
- People not born with Culture
- Culture develops through learning

Culture – its effect on an Organization

Culture produces similar behaviour and thought among people in an Organisation

Components of Organizational Culture

- Safety
- Quality
- Human Relationships

Safety – Why is it the most important driver?

Culture = sum of behaviours

Safety = 96% behaviour

Therefore,

Safety Excellence => Cultural Excellence

Effect – it is seen (through incidents, injuries, damages, near misses)

Cause – it is often unseen (bottom of ice berg) but devastating.

Unsafe act is the cause for the incidents.

Unsafe Behaviour is the cause for the unsafe act. How do we get to change Behaviour?

Through the Safety Observation Audit Process

What is the Observation Process?

It's a process that encourages an Observer to have a conversation with another person on safety.

The conversation is appreciative of a safe act and educative when an unsafe act is observed.

The other person commits to act safely then onwards.

There is nothing threatening, or, in the nature of fault-finding.

Both persons recognize the usefulness of the interaction and express gratitude for the effort.

The 6 Step Observation Process:

1. Observe: Get the person's attention
2. Comment on what the person was doing safely
3. Discuss with the person: The possible consequences of the unsafe act and safer ways to do the job
4. Get the person's agreement to work safely in future
5. Discuss other safety issues of the job
6. Thank the person

Communication (Talking, Listening and Acting) is the key for the safety behaviour change!

Safety can never be managed on a campaign basis. Effective safety management must be ongoing.

Generally in any organization about 90 to 95 percent of all employees do work safely and respond favorably to good safety leadership. That leaves 5 to 10 percent who, despite all our efforts at fairness and at rewarding safe behavior, do not respond to these positive motivators but persist in ignoring safety rules. Progressive discipline procedure must be applied to correct them.

Talk and Listen:

Let us talk to our employees about safety. Give them all the information that we can about our plans for safety and our safety concerns. Listen to their concerns and suggestions. Talk to them and keep the dialogue going.

Conclusion:

Once the behaviour is corrected, safety attitude will improve. ■

ROLE OF FIRST RESPONDERS IN EMERGENCY MANAGEMENT

Abstracts from *Special Technical Lecture by Mr. B. Madhusudhan Rao, Co-ordinator, EMRI-TN*



Emergency Scenario in India

Defined as any situation which poses immediate threat to life, health, property, Emergency is an adverse event that at best can be accounted for but not prevented. Emergencies relating to health are often life threatening and require the immediate triggering of the Emergency Medical Services (EMS). Though categorized as a predominantly agriculture based nation, India is also home to a sizable number of factories and industries thus enlarging the scope of emergencies that the population is likely to face. Further, with healthcare expenditure being predominantly out-of-pocket, the chances of seeking medical help well in advance before the deterioration of the adverse condition to an emergency, is often rare. These factors warrant the existence of a strong Emergency Medical System that can not only prevent loss of lives but also reduce the number of man days lost due to delayed medical attention and hence longer rehabilitation periods.

Some figures —

- 3,00,000 individuals suffer with some sort of emergency every day)⁽¹⁾
- One person dies of road accident every 6 minutes.⁽¹⁾
- One trauma related death occurs every 1.9 minutes.⁽²⁾

- 4 persons die due to Heart Attack every minute.⁽¹⁾
- 6.5 million people died of strokes in 2002.⁽¹⁾
- About 17 million people sustain injuries at work places every year, and out of it 45000 are life threatening.⁽¹⁾
- Out of 435,000 serious injuries (other than road accidents), 86000 people die.⁽¹⁾
- Total no. of injuries reported in 2003 - 28963 (868 facilities)⁽³⁾
- Industrial injury incidence rate in India- 2.21/1000 workers⁽³⁾
- Industrial injury incidence in Tamil Nadu - 1.5/1000 workers⁽³⁾

Emergency Management

An Emergency Medical System has to ideally be a multi-tiered model encompassing both institutional and non-institutional frameworks. In India, the institutional framework mainly focuses on operating ambulances to cater to emergency requirements and is accomplished predominantly through non-governmental and non-profit organizations. The non-institutional framework involves the delivery of first aid to the person in need until professional medical help can be sought. This has largely been a neglected area because of behavioral issues and social perceptions. It is however imperative that, in a vast country like India where an ambulance takes approximately 15 minutes to reach the site of emergency in urban areas and heliambulances are still a fantasy, the general population is trained on basic first aid and life saving skills to prevent loss of valuable minutes from the time of emergency till the arrival of professional medical help.

The First Responder Concept

Popularly known as First Aid, the First Response concept focuses on the provision of immediate and temporary treatment of a victim while awaiting the arrival of professional medical help. A First Responder (FR) is a person trained to recognize & activate the Emergency Response System and to provide first aid. Having been trained on first aid, these FRs protect the casualty by preventing the medical condition from deteriorating and thus help preserve life. Further, due to early intervention, the chances of quick recovery and smaller rehabilitation period are also enhanced.

The first responder concept is still in its infancy predominantly due to the fear of consequences among those trained to deliver first aid. This is further compounded by the fact that India still lacks a comprehensive Emergency Management regulation. The Good Samaritan Provision in the Indian Medical Council Act needs to be extended to protect the FR in the interest of the society and it would be possible only through collective advocacy. Nevertheless, the society is beginning to recognize the need and importance of FR. Capitalizing on this situation to propagate this concept is the way forward for EMS in India.

GVK-Emergency Management and Research Institute

GVK Emergency Management and Research Institute is a pioneer in Emergency Management Services in India. As a non-profit professional organization operating

(contd. on page 7)

ISO EXPLAINS “GENERIC” MANAGEMENT SYSTEM

Understand the basics

This section explains what generic management system standards are:

Generic

Generic means that the same standard can be applied to any organisation, large or small, whatever its product or service, in any sector of activity, and whether it is a business enterprise, a public administration, or a government department.

Management system

Management system refers to what the organisation does to manage its processes, or activities, so that its products or services meet the objectives it has set itself, such as:

- satisfying the customer’s quality requirements
- complying with regulations, or
- meeting environmental objectives

Management system standards provide a model to follow in setting up and operating management system. This model incorporates the features on which experts in the field have reached a consensus as being the international state-of-the-art.

Role of

(contd. from page 6)

in the Public Private Partnership (PPP) mode, GVK EMRI is the only professional Emergency Service Provider in India today. It handles medical, police and fire emergencies through the "1-0-8 Emergency service" using state-of-the-art emergency call response centers and over 1800 ambulances across 9 states in India. In Tamil Nadu, it is currently catering to the emergency needs of the population across 23 districts and is poised to extend its services across the entire state by this year end.

Plan - Do - Check - Act

The Plan - Do - Check - Act (PDCA) cycle is the operating principle of ISO’s management system standards.

Plan – Establish objectives and make plans (analyse your organisation’s situation, establish your overall objectives and set your interim targets, and develop plans to achieve them)

Do – Implement your plans (do what you planned to do)

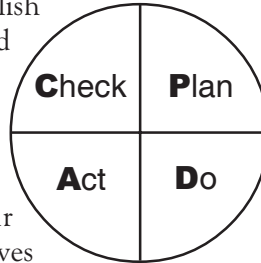
Check – Measure your results (Measure/monitor how far your actual achievements meet your planned objectives)

Act – Correct your plans and improve on how you put them into practice (correct and learn from your mistakes to improve your plans in order to achieve better results next time).

Benefits

The PDCA system explains how ISO management system standards put state-of-the-art practices within the reach of all organisations.

In a very small organisation, where



there may be no “system”, probably no written down procedures will be used.

The larger the organisation, and the more people involved, the more the likelihood that there are written procedures, instructions, forms or records. These help ensure that everyone is not just “doing his or her own thing” and that the organisation goes about its business in an orderly and structured way. This means that time, money and other resources are utilised efficiently.

To be really efficient and effective, the organisation can manage its way of doing things by systematizing it. This ensures that nothing important is left out and that everyone is clear about who is responsible for doing what, when, how, why and where.

Large organisations, or ones with complicated processes, could not function well without management systems. Companies in such fields as aerospace, automobiles, defence, or health care devices have been operating management systems for years.

ISO’s management system standards make this good management practice available to organisations of all sizes, in all sectors, everywhere in the world.

Distinguished faculty and extremely rich field experience across the varied terrain and wide genetic pool in India equips it with the requisite expertise to guide the general population and healthcare professionals acquire knowledge of emergency management skills and techniques. Currently, Indian emergency management system is catered to predominantly by NGOs/ NPOs that are highly fragmented and localized. Also, pre-hospital care as a concept has not made headway in this domain. GVK EMRI addresses both these gaps by implementing an integrated emergency response model that is

comprehensive not only in terms of population coverage but also in terms of scope of emergencies. Further, to supplement its on field emergency response activities, it trains the common man into a **FIRST RESPONDER** who can provide first aid to a victim until professional aid arrives.

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ESSENTIALS OF EMERGENCY EXIT ROUTES

In the present days, the evacuation process becomes a complicated one in a high-rise building with multiple occupancy because the need for evacuation arises very rarely. This suggests that majority of occupants will not have any exposure to fire or any other emergencies. It is therefore very difficult to predict how they will behave when involved in a fire or any other emergency situations.

Try answering the following questions:

- 1) How would you escape from your workplace / building in an emergency?
- 2) Do you know where are the alternate exits, in case, your first choice is too crowded?
- 3) Are you sure the doors will be unlocked and that the exit access, such as a hallway, will not be blocked during a fire, explosion, or other crisis like bomb threat or an earth quake?

Knowing the answers to these questions might help you save yourself during an emergency.

What is Exit Route?

An exit route is a continuous and unobstructed path of exit travel from any point within a workplace / building to a place of safety.

An exit route consists of three parts:

- **Exit access** – portion of an exit route that leads to an exit.
- **Exit** – portion of an exit route that is generally separated from other areas to provide a protected way of travel to the exit discharge

- **Exit discharge** – part of exit route that leads directly outside or to a assembly point / street, walkway, refuge area, public way, or open space with access to escape outside.

How many exit routes must a work place / High rise building should have?

Normally any workplace or a high rise building must have at least two exit routes to permit prompt evacuation of personnel during an emergency. More than two exits are required, if the number of employees, size of the building, or arrangement of the workplace will not allow all the personnel to evacuate safely. Exit routes must be located as far away as practical from each other so that both are not blocked by fire or smoke.

What are some other design and construction requirements for exit routes?

- Exit routes must be permanent parts of the workplace / high rise building
- Exit discharges must lead directly outside or to a street, walkway, refuge area, public way, or open space with access to the outside. These exit discharge areas must be large enough to accommodate all the occupants likely to use the exit route.
- Exit stairs that continue beyond the level on which the exit discharge is located must be interrupted at that level by doors, partitions, or other effective means that clearly indicate the direction of travel

leading to the exit discharge.

- Exit rotue doors must be unlocked from the inside. They must be free of devices or alarms that could restrict use of the exit route if the device or alarm fails.
- Side-hinged exit doors must be used to connect rooms to exit routes. These doors must be swing out in the direction of exit travel if the room is to be occupied by more than 50 people or if the room is high-hazard area.
- Exit routes must support the maximum permitted occupant load, and the capacity of an exit route may not decrease in the direction of exit route leading to the exit discharge.
- Ceilings of exit routes must be at least 7 feet, 6 inches high
- An exit access must be atleast 28 inches wide at all points. Where there is only one exit access leading to an exit or exit discharge, the width of an exit and exit discharge must be at least equal to the width of the exit access. Any object that projects into the exit route must not reduce its width.
- Outdoor exit routes are permitted but must meet the minimum height and width requirements.

What are the requirements for exits?

- The resistant materials must separate exits – that is one-hour fire resistance rating if

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Essentials of

(contd. from page 9)

the exit connects three or fewer stories and two-hour fire resistance rating if the exit connects more than three floors.

- Exits are permitted to have only those openings necessary to allow access to the exit from occupied areas of the workplace or to the exit discharge. Opening must be protected by a self-closing approved fire door that remains closed or automatically closes in an emergency.

What are the maintenance, safeguarding, and operational features for exit routes?

OSHA standards require employers to do the following;

- Keep exit routes free of explosive or highly flammable furnishings and other decorations.
- Arrange exit routes in such a way that personnel will not have to travel towards a high hazard area (unless the path of travel is effectively shielded from the high-hazard area).
- Ensure that exit routes are unobstructed such as by materials equipment, locked doors, or dead-end corridors.
- Ensure that safeguards designed to protect personnel during and emergency remains in good working order.
- Provide lighting for exit routes adequate for persons with normal vision.

- Keep exit route doors free of decoration or signs that obscure the visibility of exit route doors.
- Post signs along the exit access indicating the direction of travel to the nearest exit and exit discharge if that direction is not immediately apparent. Also, the line of sight to an exit sign must be clearly visible at all times.
- Mark doors or passages along an exit access that could be mistaken for an exit "Not an Exit" or with a sign identifying its use.
- Install "EXIT" signs in plain and legible letters. Auto glow signs are preferred.
- Renew fire retardant paint or solutions often enough to maintain their fire retardant properties.
- Maintain exit routes during construction repairs, or alterations.
- Provide an emergency alarm system to alert personnel unless they can promptly see or smell a fire or other hazard in time to provide adequate warning.

Alternate Power supply:

A stand-by generator should be available to supply power to staircase lighting corridor lighting fire pump, pressurization fan, and blowers.

Normal evacuation time to a place of safety should be kept as low as possible considering a normal man under panic

situation.

Training

All the occupants should be periodically trained extensively in conducting proper evacuation , operation of the systems and equipments and other fire safety provisions in the building.

Duties of Floor leader / Fire Warden

He should advise occupants not to get panicky and to remain calm and follow the instructions He should be identified by a Jacket, or a cap or a arm band for easy identification by every occupants. He should be familiar with Exit routes for evacuation purposes. As soon as the emergency siren is sounded, he should alert every occupant to evacuate the office (work place) leaving their belongings such as handbags etc. He should advice every one not to use LIFTS and spiral staircases, as they are not designated emergency Exit routes. He should assist the invalid and elderly persons lone worker to safely evacuate and guide them to the assembly points. through Emergency Exit staircases.He will be the last person to leave the premises and before leaving should check up the entire premises including the washroom and ensure every one had evacuated.After everyone is assembled in ASSEMBLY point, he should conduct head count and ensure every one had reached the assembly point.After hearing the all-clear siren only all must return back to their places. ■

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IN THE NEWS

Factories Act is being amended

While inaugurating the Regional Labour Institute at Faridabad in Haryana, the Minister of State (In charge) for Labour & Employment Shri Oscar Fernandes has emphasized the need for the concerned agencies to come together periodically and deliberate upon the matters of Occupational Safety and Health, which are of national importance and have implications in the administration of the Factories Act. In this context he mentioned that the Government of India is seriously contemplating comprehensive amendments in the Factories Act, 1948 and they are in its final stage. The 49th Conference of Chief Inspectors of Factories also began on this occasion.

Speaking on the occasion, he informed the audience that the National Policy on Occupational Safety and Health (OSH) has been approved by the Government. He hoped that the new policy would provide direction and impetus to the safety movement and enhance the status of safety in the country. He said that the National OSH Policy along with the existing Environmental Policy, which is already in place, would go a long way in improving the status of Occupational Safety, Health and Environment in the country.

Expressing satisfaction over the fact that India's performance in ratification of the International Labour Organization (ILO) conventions has been better than most of the member countries of ILO, the Minister informed that Convention -174 concerning 'Prevention of Major Industrial Accidents' has already been ratified by India last year. This, he said, shows the Government's resolve and firm commitment in dealing with the matters of international obligation concerning safety and health.

The Minister said that Safety is neither a practice nor a concept, but a tool for recognizing the dignity and beauty of human existence and the issue of safety must be considered as basic, fundamental and inalienable right of the labour force which in no condition, can be bargained, negotiated or compromised.

Speaking on the occasion, the Secretary Labour & Employment, Smt. Sudha Pillai called upon the safety and health experts to devise mechanisms and approaches of self regulation and compliance on the part of the managements, so that they are empowered to take measures to regulate the manufacturing activities in the best interest of the work force. She said that her Ministry is making serious efforts to ratify some of the important ILO conventions related to OSH.

She said that the Ministry of Labour & Employment has been taking a number of steps from time to time to keep the legislations pertaining to safety and health abreast of the developments taking place in the socio-economic front. In this direction Factories Act of 1948, has been amended several times in consonance with technological developments and changing times and the last amendments were carried out in the year 1987. Smt. Pillai informed that comprehensive amendments to the Factories Act, 1948 have been proposed and are in the final stage of approval.

The objective of the Institute is to provide research, training and consultancy services to the manufacturing sector to improve Occupational Safety and Health at work place. The Institute would also provide services in the specialized areas of chemical safety, risk analysis and emergency preparedness in the major hazard installations and also in the small scale sector in the country. It is equipped with the state-of-the-art equipment, machinery, laboratories and infrastructure compatible with international standards in the areas of Safety and Health. The Institute is poised to emerge as a center of excellence in all the matters of Occupational Safety and Health in the Northern region of the country in the coming decades.

National Action Plan on Climate Changes (NAPCC)

On the eve of World Environment Day (5th June) the Prime Minister of India constituted a council to combat the climate change called as National Action Plan on Climate Change (NAPCC). The purpose of the committee is to coordinate national action plans for assessment, adaptation and mitigation of climate change. The mission statement issued by the NAPCC would be planned and run through till 2017 to implement and achieve the targets set by the council.

A year after its creation, the Council has released the National Action Plan on Climate Change.

Eight Missions set by NAPCC - India

The NAPCC released ahead of the Prime Minister's visit to the recent G-8 Summit in Japan, proposes setting up eight missions under the respective central ministries to tackle climate change. This is an attempt to address the emerging threats of climate change where the operational thrust of NAPCC is in the shape of eight missions on solar energy, enhancing efficiency, sustainable habitat (embracing energy use in buildings, municipal solid wastes and urban transport), water resources, himalayan ecosystem, afforestation, agriculture and climate-related R&D. The eight missions are enlisted more elaborately as below:

- The Solar Mission will aim to develop a solar industry capable of delivering solar energy competitively against fossil options over the next 20-25 years.
- Mission for Enhanced Energy Efficiency will provide tax rebates, financing platforms and fiscal incentives to accelerate shift to energy efficient applications.
- Mission on Sustainable Habitat will provide research impetus on urban public transport, municipal waste management and expanding building sector.
- The Water Mission reiterates the importance to increase water use efficiency, explore options to augment suppliers and to devise effective water management.
- Mission for sustaining the Himalayan Ecosystem will include research and preventive measures on understanding and arresting glacial melting.
- Mission for a Green India will double the rate of planting and promote biodiversity conservation to enhance system resilience to deliver better ecosystem services.
- Mission for Sustainable Agriculture intends to invest in research to develop new crop varieties and practices to withstand extreme weather conditions.
- Mission on Strategic Knowledge for Climate Change will focus on measures to stay ahead in research, development and understanding on climate change.

As per the NAPCC, the comprehensive mission documents detailing objectives, strategies, plan of action and timelines would be developed and submitted to the Prime Minister's Council on Climate Change. The resources for these missions will be allocated from the budgets of the 11th and 12th Five Year Plans.

Implementation

In addition to advising the government on pro-active measures that can be taken to deal with the challenge of climate change, the Council will also facilitate inter-ministerial coordination and guide policy in relevant areas as well.

The Council has official members – ministers and bureaucrats – from several ministries, other government bodies and non-official members representing industry, media and the social sector.

SWINE INFLUENZA (FLU)

Influenza A(H1N1)

Cough



Headache & Body Ache

Fatigue



Chills



Nausea

Sore Throat



Diarrhea

Vomiting

Fever



What is Swine Flu?

Swine Influenza (swine flu) is a respiratory disease of pigs caused by type A influenza viruses that causes regular outbreaks in pigs. People do not normally get swine flu, but human infections can and do happen. Swine flu viruses have been reported to spread from person-to-person, but in the past, this transmission was limited and not sustained beyond three people.

Is the swine flu virus contagious?

The swine flu virus does not normally pass between humans. Usually the infection is only found in people with direct exposure to swine (Eg: workers in the pig industry). It has now been determined that this swine

influenza A (H1 N1) virus is contagious and is spreading from human to human. However, at this time, it is not known how easily the virus spreads between people.

What are the signs and symptoms of swine flu in people?

The symptoms of swine flu in people are similar to the symptoms of regular human flu and include fever, cough, sore throat, body aches, headache, chills and fatigue. Some people have reported diarrhoea and vomiting associated with swine flu. In the past, severe illness (pneumonia and respiratory failure) and deaths have been reported with swine flu infection in people. Like seasonal flu, swine

flu may cause a worsening of underlying chronic medical conditions.

How serious is swine flu in people?

As with seasonal influenza, the presentation of the disease could be light or severe.

How does swine flu spread?

Spread of this swine influenza A (H1 N1) virus is thought to be happening in the same way that seasonal flu spreads. Flu viruses are spread mainly from person to person through coughing or sneezing of people with influenza. Sometimes people may become infected by touching something with flu viruses on it and then touching their mouth or nose.

How can infection by swine flu virus be diagnosed?

To diagnose Swine influenza type A infection, it is necessary to collect a sample of respiratory secretions in the first 4 - 5 days of symptoms (this is when the person emit most virus). In children, this period could be extended to 10 days. These samples should be collected and analysed according to local public health arrangements.

What should I do to keep away from getting the flu?

As for general indications for Seasonal influenza, you have to try to stay in good general health. Get plenty of sleep, be physically active, manage your stress, drink plenty of fluids, and eat nutritious food.

There are also some particular indications in the area where there are influenza cases:

- Do not assemble in the frequently crowded places
- Wash your hands frequently with water and soap.
- Do not touch surfaces that may be contaminated with the flu virus.
- Avoid touching eyes, nose and mouth because the virus is spread by this route.
- Avoid close contact with people who are sick. If it is necessary, use a mask (In accordance with recent studies, this can reduce the risk of transmission by up to 4 times)

How long can an infected person spread swine flu to others?

People with swine influenza virus infection should be considered potentially contagious as long as they are symptomatic and possible for up to 7 days following illness onset. Children, especially younger children, might potentially be contagious for longer periods.

What surfaces are most likely to be sources of contamination?

Viruses can be spread when a person touches something that is contaminated with germs and then touches his or her eyes, nose, or mouth. Droplets from a cough or sneeze of an infected person move through the air. Viruses can be spread when a person touches respiratory droplets from another person on a surface like a desk and then touches their own eyes, mouth or nose before washing their hands.

How long can viruses live outside the body?

We know that some viruses and bacteria can live 2 hours or longer on surfaces like cafeteria tables, doorknobs, and desks. Frequent hand washing will help you reduce the chance of getting contamination from these common surfaces.

Can I get swine influenza from eating or preparing pork?

No. Swine influenza viruses are not spread by food. You cannot get swine influenza from eating pork or pork products. Eating properly handled and cooked pork products is safe.

What should I do if I get sick?

If you live in areas where swine influenza cases have been identified and become ill with influenza-like symptoms, including fever, body aches, running nose, sore throat, nausea, or vomiting or diarrhea, you may want to contact their health care provider, particularly if you are worried about your symptoms. Your health care provider will determine whether influenza testing or treatment is needed. Please inform also the health department of your company.

If you are sick, you should stay home and avoid contact with other people as much as possible to keep from spreading your illness to others.

Yes. The medicines available are Amandadina, Rimantadina, Oseltamivir and Zanamivir. Most of the influenza viruses are susceptible to the 4 antiviral medications, but the swine influenza virus are resistant to the first 2. Only Oseltamivir and Zanamivir are recommended for the treatment and/or prevention of human infection with swine influenza virus.

Can I travel abroad?

If you have to travel abroad, in particular to a country with diagnosed cases, you must contact your company health department for information regarding vaccination, prophylaxis and medications before the trip.

References:

<http://www.cdc.gov/swineflu/> <http://www.who.int/lcsr/don/en/> ■

HARMFUL EFFECTS OF EXPOSURE TO UV RADIATION

Sunlight is essential for health, but it also carries risks. Solar ultraviolet (UV) radiation can cause a range of diseases, but there are effective ways to prevent these problems — and still enjoy the Sun!

Harmful Effects:

UV radiation is part of the electromagnetic spectrum emitted by the sun. While everyone is exposed to the UV radiation, small amounts of UV radiation are beneficial to people, and play an essential role in the production of vitamin D. However, overexposure to UV radiation is responsible for two major public health problems: Skin cancer and Cataract. A marked increase in the incidence of skin cancer worldwide is strongly associated with excessive UV radiation exposure from the sun.

Effects on Skin

Between 2 and 3 million non-melanoma skin cancers occur globally each year. In particular, frequent sun exposure and sunburn in childhood appear to set the stage for high rates of melanoma later in life. Other chronic skin changes due to UV radiation include injuries to skin cells, blood vessels and fibrous tissue, better known as skin ageing.

Effects on Eye

Acute effects of UV radiation on the eye include the inflammation of the cornea and iris, and inflammation of the conjunctiva, the membrane that lines the inside of the eyelids. Some 16

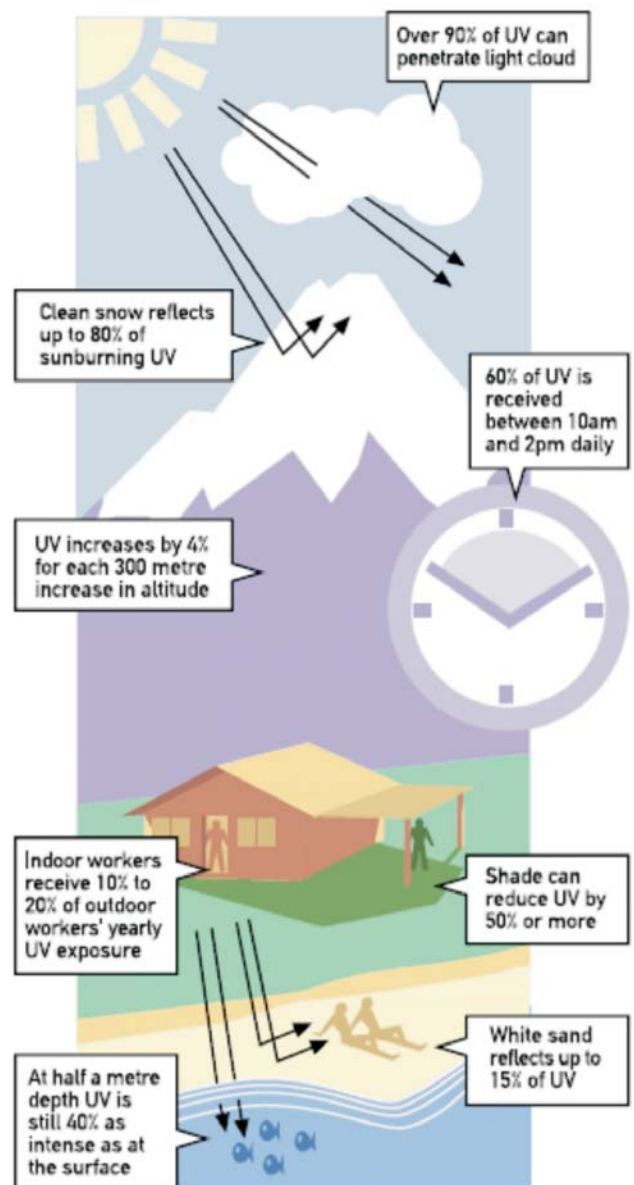
million people worldwide are currently blind as a result of cataracts; of these, WHO estimates that as many as 20% may be due to UV radiation exposure.

Effects on Immune system

The immune system is vulnerable to modification by environmental agents such as UV radiation, which appears to diminish the effectiveness of the immune system by changing the activity and distribution of the cells responsible for triggering immune responses.

Vulnerable groups






Children are particularly sensitive to UV radiation and require special protection. More than 90% of non-melanoma skin cancers occur in fair skinned people who tend to burn. However, even though the incidence of skin cancer is lower in dark skinned people they are nevertheless susceptible to the damaging effects of UV radiation, especially to the effects on the eye and immune system.

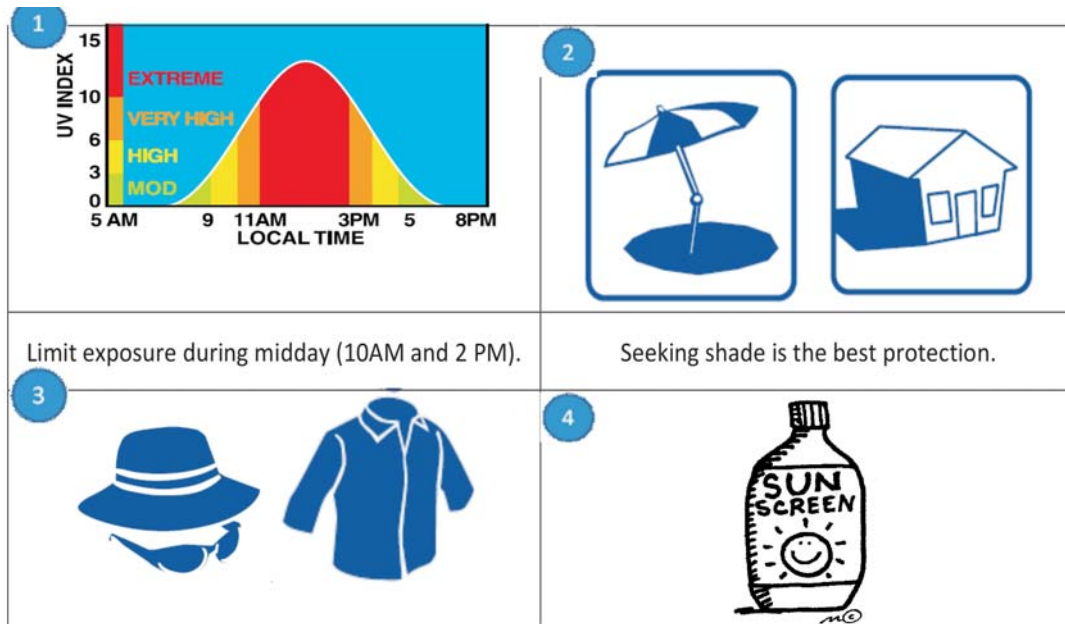


Measurement of UV Radiation - UV Index:

The UV Index (UVI) is an international standard measurement of how strong the UV radiation from the sun is at a particular place on a particular day. UV Index is a scale primarily used in daily weather forecasts aimed at the general public.

The values of the index range from zero upward - the higher the UVI, the greater the potential for

Harmonized Exposure Categories & Risk Level			
UV Index Range	Exposure Category	Colour Code	Risk Level
	Low	Green	No danger to the average person
	Moderate	Yellow	Little risk of harm
	High	Orange	High risk of harm
	Very High	Red	Very high risk of harm
	Extreme	Violet	Extreme risk of harm



damage to the skin and eye, and the less time it takes for harm to occur.

How UV index can be used to protect?

Most people are used to adjusting their daily plans and choice of clothing to the weather forecast, especially to temperature predictions. Analogous to the temperature scale, the UVI gives an indication of the level of UV

radiation and the potential danger of sun exposure. It can help individuals make healthy choices.

Simple precautions will prevent both short-term and long-term damage of UV radiation exposure, while still making the time spent outdoors enjoyable. Sun protection is important in all settings, in particular at all outdoor recreation sites such as beaches and sports centres.

Where is the UV index available?

The UVI is reported along with the weather forecast in newspapers, on TV in developed countries. Whereas in India, awareness about UV index is on the rise. UV index of any city can be obtained from websites such as – www.weatheronline.co.uk, www.timeanddate.com.

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