

Report
Two Days Training Program on
“Chemical Emergency Planning, Preparedness & Response”
(On 20th – 21st September 2010), at Shalimar hotel, Ankleshwar (Gujarat)



Chairman, Gujarat Pollution Control Board, Gujarat State addressing the participants as Chairman of the Inaugural Session of two days training Program on “Chemical Emergency Planning, Preparedness & Response” on 20th – 21st September 2010, at Shalimar hotel, Ankleshwar (Gujarat) Jointly organized by Director, Industrial Safety & Health, Gujarat State and National Safety Council-Gujarat Chapter, supported by: InWent India, New Delhi / Disaster Management Institute, Bhopal

1. Executive Summary

CODE	
Title:	Ankleshwar, (Gujarat) -“Chemical Emergency Planning, Preparedness & Response”
Short Title	Ankleshwar, (Gujarat) -“Chemical Emergency Planning, Preparedness & Response”
Thrust Area	Senior and middle level officers from following target groups: (i) Regulators : Chief Inspectorate of Factories & Boilers, State Pollution Control Boards, Directorate General, Factory Advice Service and Labour Institute (DGFASLI), Chief Controller of Explosives, Central Pollution Control Board and Ministry of Environment and Forests. (ii) Industries: MAH units (From Public and Private Sectors) covering Refineries and Oil Sector (Public & Private), Metallurgical (ferrous and non-ferrous), Pesticides and Fertilisers, Pharmaceuticals, Paper and Pulp and other related chemical sectors industries. (iii) Administration: State, District & Local Crisis Groups from various districts, States Industrial Development Corporations, etc.
Targets:	1. Regulators : Chief Inspectorate of Factories & Boilers, State Pollution Control Boards, Directorate General, Factory Advice Service and Labour Institute (DGFASLI), Chief Controller of Explosives, Central Pollution Control Board and Ministry of Environment and Forests. 2. Industries: MAH units (From Public and Private Sectors) covering Refineries and Oil Sector (Public & Private), Metallurgical (ferrous and non-ferrous), Pesticides and Fertilisers, Pharmaceuticals, Paper and Pulp and other related chemical sectors industries. 3. Administration: State, District & Local Crisis Groups from various districts, States Industrial Development Corporations, etc.
Training Provider:	1. Disaster Management Institute, Bhopal 2. InWEnt India, New Delhi 3. Director Industrial Safety & Health, Gujarat State 4. National Safety Council-Gujarat Chapter
Institution Involved:	1. Disaster Management Institute, Bhopal 2. InWEnt India, New Delhi 3. Director Industrial Safety & Health, Gujarat State 4. National Safety Council-Gujarat Chapter
Workshop Objectives:	<ul style="list-style-type: none"> To describe the broad framework of Hazard Identification and Risk Assessment (HIRA) in Chemical Process Industries and utilisation of HIRA in emergency response. To summarise the techniques for Chemical Process Risk Assessment and Management including models for consequence analysis, frequency estimation, etc. Develop capabilities for the evaluation of effectiveness of On-site and Off-site

	<p>Emergency Management Planning</p> <ul style="list-style-type: none"> To address the importance of Accident investigation and root cause analysis.
Achieved Results	<p>Good feedback from the participants, now the target groups is able to:</p> <ul style="list-style-type: none"> Modify theories and models of the chemical disaster and management Understand the regulation, terminology, techniques, applications of the HIRA results in overall emergency preparedness Communicate the risk in the benefits of social safety Understand the Effective Chemical Disaster Risk Reduction & Preparedness mechanism Encourage best practices
Description of Contents/Agenda	<ul style="list-style-type: none"> Registration Welcome address by Vice-Chairman of the National Safety Council-Gujarat State Address by Director, Industrial Safety & Health, Gujarat State regarding present scenario of accidents & emergency planning and preparedness of factories as well as districts and State Dr. Rakesh Dubey, Director, DMI Bhopal, narrated the importance of this training program in his thematic address. Dr. K. U. Mistry, Chairman of the inaugural session & Chairman GPCB, has narrated that identification of hazardous industries and emergency planning was done first in the country by the State of Gujarat Presentation on ‘European best practice in the area of chemical/industrial disaster risk management’ by Dr. Christian Jochum - Director of Centre, European Process Safety Centre and Chairman, German Commission on Process Safety Dr. K. U. Mistry, Chairman of the inaugural session & Chairman, GPCB has narrated about the necessity of Latest Statutes including Amendments covering Disaster Management Presentation was made on Hazard Assessment & Risk Management Techniques for Industries, by Mr Vijay Asar, Chief Coordinating Officer, Disaster Prevention & Management Center, Ankleshwar Presentation was made on “On-site and off-site emergency plans” by Mr. H. Shrinivasaiah, Director of Factories & Boilers, Karnataka Presentation was made on “National Action Plan for Chemical (Industrial) Disaster Management” (NAP-CIDM) by Dr. Rakesh Dubey, Director, Disaster Management Institute, Bhopal, Member Secretary (NAP-CIDM) Presentation was made on “European best practice in the area of chemical/industrial disaster risk management” by Dr. Christian Jochum - Director of Centre, European Process Safety Centre and Chairman German Commission on Process Safety Presentation was made on “Community Awareness & Involvement in Disaster Management” by Mr. H. N. Sorathia, Retired Head of Safety, (RIL, Vadodara) & Chief Officer, CCR, Vadodara

	<ul style="list-style-type: none"> • Presentation was made on “Application of www.hrdp-idrm.in in the chemical/industrial disaster risk management, High Hazard Industries vis-à-vis Major Emergencies” by Dr Florian B-Lux, Sr Advisor, InWEnt, Nuremberg, Germany • Presentation was made on “High Hazard Industries vis-à-vis Major Emergencies” by Mr. V. C. Bhatt, Chief Manager, GNFC, Bharuch • Presentation was made on Presentation was made on “Lessons learned from World Big industrial Disaster” Dr. Christian Jochum - Director of Centre, European Process Safety Centre and Chairman, German Commission on Process Safety • Open Discussion for questions and answers • Concluding sessions
Number of Participants	108+6- First aider agencies+22 Officers from DISH Gujarat State Total-136
Start: dd/mm/yy	20/09/2010
End: dd/mm/yy	21/09/2010
Duration	One & Half day
Venue	Shalimar Hotel, Valia Road, Opp. Jayaben Modi Hospital, GIDC, Ankleshwar Gujarat)
Contact for more information	Disaster Management Institute, Bhopal, Director, Industrial Safety & Health, Gujarat State, National safety Council-Gujarat Chapter
Resource Perosons/Trainers	Dr. Rakesh Dubey, (DMI, Bhopal), Mr. D. C. Chaudhari, (DISH-Gujarat), B. P. Parmar (NSC-GC, Ahmedabad)

1.0 Background

Disaster Management Institute Bhopal, in association with Director, Industrial Safety & Health, Gujarat State and National Safety Council-Gujarat Chapter, organized a two days Training program on “Chemical Emergency Planning, Preparedness and Response” with the support of InWEnt and GTZ, Germany with the objective of imparting safety awareness in the area of Disaster Management (*Ref. Annexure-1 for Program Brochure*)

The prime objectives of conducting the program are to:

- ❖ To describe the broad framework of Hazard Identification and Risk Assessment (HIRA) in Chemical Process Industries and utilisation of HIRA in emergency response.
- ❖ To summarise the techniques for Chemical Process Risk Assessment and Management including models for consequence analysis, frequency estimation, etc.
- ❖ Develop capabilities for the evaluation of effectiveness of On-site and Off-site Emergency Management Planning
- ❖ To address the importance of Accident investigation and root cause analysis.

Under the Indo-German bilateral program, in addition to organise the number of training programs, a web platform www.hrdp-idrm.in has also been developed to achieve all training related activities. The details of the program and activities have been made available at web platform on www.hrdp-idrm.in for view and down load of relevant information

2.0 The need of the program

Knowledge and awareness on the subject is a major requirement for foolproof Chemical/ Industrial Disaster Risk Reduction and Management. In India only limited numbers of experts are available, especially in sophisticated quantitative risk assessment techniques, hazard identification and for preparation of a user friendly and practicable On-site & Off-site Emergency Management plans to meet out the challenges of emergency preparedness, planning and response.

As per the Manufacture, Storage and Import of Hazardous Chemical (MS&IHC) Rules, 1989, under Environment (Protection) Act, 1986, all Major Accident Hazards (MAH) industries have to prepare On-site Emergency Management Plan in accordance with the Schedule 11. MS&IHC Rules also have provisions of the preparation of Off-site Emergency Management Plan and the responsibility lies with those District Collectors under whose administrative control MAH industries are located. Off-site Emergency Plan should be as per the Schedule 12. Most of the process industries are falling under MAH category.

The district administration has been empowered under various rules and notification by the Government of India to monitor various aspects of effective emergency management viz. awareness, preparedness, and prevention and mitigation measures for industrial disaster. But knowledge and awareness on the subject is a major constraint for the effective monitoring and implementation. Therefore, there is a need for transfer of knowledge and experience to all those are either responsible directly or indirectly for industrial emergency management.

We envisage the following gaps in present knowledge of the target groups:

- Concepts of Disaster Risk Reduction, preparedness and planning
- Capabilities for assessment of Hazard Identification and Quantitative Risk for different types of Chemical Process Industries by regulators
- Awareness about the national guidelines and national action plan for implementation of guidelines
- Accident models and theories and their application in reduction of accidents

- Application of mass communication and involvement of community in risk reduction and disaster preparedness
- Accident investigation and root cause analysis.

The proposed training will help in reducing the above gaps and strengthening the chemical disaster risk reduction process.

3.0 Over all objectives

The over all objectives of the training program is to impart awareness and knowledge in the area of ‘Disaster Management

- European best practice in the area of chemical/industrial disaster risk management –
- Appraisal on Latest Statutes including Amendments covering Disaster Management –
- Hazard Assessment & Risk Management Techniques for Industries.
- On-site and off-site emergency plans
- Community Awareness & Involvement in Disaster Management.
- Application of www.hrdp-idrm.in in the chemical/industrial disaster risk management
- High Hazard Industries vis-à-vis Major Emergencies
- Lessons learned from World Big industrial Disaster

4.0 Program details

Date Venue:

Program was commenced on Monday, 20th September 2010 and concluded on Tuesday 21st September, 2010 successfully at Shalimar Hotel, Ankleshwar (Gujarat)

Registration

The program started as per the schedule on Monday, 20th September, 2010 with registration of the participants in the Reception Counter for registration at 9:30 am

Inauguration

Shri H. J. Pandya, Vice Chairman, National Safety Council Gujarat Chapter, welcomed the dignitaries, the participants from various fields, media persons and others.

Dignitaries are welcomed by bouquets

Shri D. C. Chaudhari, Director, Industrial safety & Health, Gujarat State highlighted the status of increase in industries and reduction of fatal & non-fatal accidents in the Gujarat State. He has narrated the present scenario in the State regarding the Disaster Management in for the MAH factories

5.0 Participants

All together 108 participants from MAH Factories, 6 participants from first aider agencies and 22 officers from DISH Office participated in the program. All the participants are responsible for Management in Disaster. Director, Boilers and Factories from Karnataka State, Chief Coordinating Officer, Disaster Prevention and Management Centre, Ankleshwar, Dr. K. U. Mistry, Chairman, Gujarat Pollution Control Board, Gujarat State, have also attended the program.

Short description about participating institutions is given in the following paragraph_ Director, Industrial Safety & Health, Gujarat State

Directorate Industrial safety & Health, Gujarat State is working under the Labour and Employment Department, Gujarat State.

The main objective of the Directorate, Ind. Safety and Health is to ensure safety, health, welfare and working conditions of workers working in factories and in construction works by effectively enforcing the provisions of the Factories Act the Building & Other Const. Workers Act and other labour legislations. It is also to ensure the protection of rights of workers and to redress their grievances.

The department supervises and advises in eliminating unsafe condition, actions and situations. It also wants to keep constant watch on factories dealing with hazardous chemicals by way of regularly sampling and carrying out medical checkup workers employed in such processes.

The department has the objective of preventing any major industrial disaster with help of disaster control plans already prepared for areas having more concentration of hazardous industries, also to promote the concept of mutual aid system which would be useful especially to small-scale industries

It is also the objective of the department to Act as a Friend, Philosopher and Guide to one and all in creating safe working conditions.

Department has completed 50 years of its existence in Gujarat and during this period relentless attempts were made to successfully safeguard the safety and health of the working population in the manufacturing sector amidst the changing industrial, technological, social-economic and political scenario.

The Government of Gujarat has decided to celebrate “Year 2010”, as Golden Anniversary Year of Gujarat. 339 Golden goals have been decided by the Government as a part of the celebration. One of them is to organize Safety & Health training program for workers working in industries and construction sector in all 26 districts.

Disaster Management Institute, Bhopal

DMI was established in 1987 in backdrop of world’s worst ever chemical disaster in Bhopal. The Presidents of the organisation is the Chief Minister of MP and vice president the Ministry of Environment of the State. The principal objective of the institute is to evolve the techniques for and enhance competence in prevention, mitigation and management of natural as well as industrial disasters in India.

The other objectives includes_

- Train Government Officials, Executives of PSUs and private sectors firms in various facets of Disaster Managements.
- Carry out research on causes, effects etc. of Disasters.
- Collect, store and effectively disseminate information regarding hazards and Disaster for mitigation and prevention state –of-the-art techniques.
- Offer consultancy services to the industries and others
- Institute awards, medals, scholarships and prize to promote these objectives.
- Presently institute is partner with InWEnt-GTZ-ASEM on capacity development project on iDRM under Indo-German bilateral program. Institute is also working very closely with MoEF, GOI and NDMA to develop national polices and program on disaster management and coordination with various state Governments.

National safety Council Gujarat Chapter, Ahmedabad

National Safety Council having its HQ at Bombay, is a National Institute conducting its activities throughout India in various States. Its activities are of national and international level.

The National Safety Council was set up by the Ministry of Labour & Employment, Gov. of India as an Independent, non-commercial, non-profit making autonomous society.

National Safety Council is established on 4th March 1966 and So as the idea of Commemorating the Foundation Day of the council in the form of national awareness Campaign, the first national safety day was launched in 1972 and has since been organized every year, It has expanded its duration now to a week commencing from 4th March

Its mission is building a national movement on Safety, Health & Environment (SHE) to prevent and mitigate loss of life, human suffering and economic losses and providing support services.

The National Safety Council maintains active liaison with international institutions and agencies in the fields of Safety, Health and Environment. These agencies include ILO, WHO, UNEP,, EPA, WEC, ADPC, safety Councils of various countries and other member organizations.

National Safety Council has 13 Chapters Covering 16 States & one Union Territory and 23 active centers

National safety Council Gujarat Chapter was established in Gujarat on 4th April 2007 with the objectives mentioned below_

- To generate,
- To develop and
- To sustain a voluntary movement on Health, Safety & Environment at State level

Disaster Prevention & Management Centre, Ankleshwar

Disaster Prevention & Management Centre (DPMC) has been established by **Ankleshwar Environmental Preservation Society** and **Ankleshwar Industries Association** with help of Notified Area Office, GIDC and Industrial Safety & Health Dept. (formerly Factory Inspectorate) on 4th April 1995.

DPMC has been set up to help industries in emergencies like Fire, Explosion, Gas leakage, Chemical spillage etc. occurring in the industrial estates and during other natural calamities. It was also envisaged that during non-emergency periods such centre would organize Safety awareness programmes to impart training to employees of the industrial units and nearby locality.

DPMC is located along with Fire Station at Notified Area, GIDC, Ankleshwar with necessary infrastructure & required manpower to attend all types of emergencies along with fire crew round the clock.

- Major Activities of DPMC are ;
 - Handling of Emergencies & Disasters
 - Prevention of Accidents & Industrial Disasters
 - Data up-datation Regarding Hazardous Chemicals and Hazardous Processes, MSDS, Resources etc.

- Training Programmes on Industrial Safety, Health & Fire Fighting, First Aid, Safe Transportation of Hazardous Goods etc.
- Safety Awareness Programmes such as Seminars, Exhibitions, Safety Rally Safety Competitions etc.
- Off Site Emergency Exercises under LCG / DCG
- Safety Forum Activities
- Environment Forum Activities
- Publication of Safety Bulletins

Major Accidents Hazards (MAH) Industries

The following categories of industries were present across the whole State of Gujarat

- Refineries
- Petroleum Products
- Chemical Fertilizers
- Fine Chemicals
- Pesticides & Insecticides
- LPG
- Gas Pipe lines
- Chlor-alkalies
- Etc.

Broacher

Knowledge and awareness on the subject is a major requirement for foolproof Chemical/ Industrial Disaster Risk Reduction and Management. In India only limited numbers of experts are available, especially in sophisticated quantitative risk assessment techniques, hazard identification and for preparation of a user friendly and practicable On-site & Off-site Emergency Management plans to meet out the challenges of emergency preparedness, planning and response.

As per the Manufacture, Storage and Import of Hazardous Chemical (MSIHC) Rules, 1989, under Environment (Protection) Act, 1986, all Major Accident Hazards (MAH) industries have to prepare On-site Emergency Management Plan in accordance with the Schedule 11. MSIHC Rules also have provisions of the preparation of Off-site Emergency Management Plan and the responsibility lies with those District Collectors under whose administrative control MAH industries are located. Off-site Emergency Plan should be as per the Schedule 12. Most of the process industries are falling under MAH category.

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- Application of mass communication and involvement of community in risk reduction and disaster preparedness
- Accident investigation and root cause analysis.

The proposed training will help in reducing the above gaps and strengthening the chemical disaster risk reduction process.

Overall course objectives and expected results

I. Course Objective

- To describe the broad framework of Hazard Identification and Risk Assessment (HIRA) in Chemical Process Industries and utilisation of HIRA in emergency response.
- To summarise the techniques for Chemical Process Risk Assessment and Management including models for consequence analysis, frequency estimation, etc.
- Develop capabilities for the evaluation of effectiveness of On-site and Off-site Emergency Management Planning
- To address the importance of Accident investigation and root cause analysis.

II. Expected Results

On successful completion of the training program, it is expected that the target groups would be able to:

- Understand theories and models of the chemical disaster and management
- Understand the regulation, terminology, techniques, applications of the HIRA results in overall emergency preparedness
- Communicate the risk in the benefits of social safety
- Understand the Effective Chemical Disaster Risk Reduction & Preparedness mechanism
- Encourage best practices

Target Group: Senior and middle level officers from following target groups:

- i. **Regulators :** Chief Inspectorate of Factories & Boilers, State Pollution Control Boards, Directorate General, Factory Advice Service and Labour Institute (DGFASLI), Chief Controller of Explosives, Central Pollution Control Board and Ministry of Environment and Forests.
- ii. **Industries:** MAH units (From Public and Private Sectors) covering Refineries and Oil Sector (Public & Private), Metallurgical (ferrous and non-ferrous), Pesticides and Fertilisers, Pharmaceuticals, Paper and Pulp and other related chemical sectors industries.
- iii. **Administration:** State, District & Local Crisis Groups from various districts, States Industrial Development Corporations, etc.

Training Approach

The training will use both Indian and foreign case studies. Audio-visual films will also be used along with classroom lectures and presentations.

Training will be interactive type.

Training Material to be delivered

The training material shall include:

- Background Training Course Material in a Folder & CD
- Handouts of Case Studies
- Handouts of Presentations etc.

RESULTS-USE OF RESULTS

How the training program will be used by the participants- Indicators to measure success/impact:

The following would be the success indicators of the program:

- Better understanding of Disaster and Emergency Planning
- Integration of HIRA, Environmental Planning with Industrial Disaster Management
- Understand the types of information & results depicted under HIRA
- Identifying safer & hot zones for sitting of industries through GIS and other mapping techniques
- Understand the process for evaluation of on-site and off-site emergency plans and Mock exercises

Indicators of success may also be viewed from the evaluation sheets of the training programme. It is also expected that the program will help the participants in updating and reviewing the procedures of risk assessment in overall emergency preparedness, response and planning.

Fees: Rs.2000 / -

Please send DD or Cheque in favour of "National Safety Council-Gujarat Chapter" payable at Ahmedabad

DATE & TIME

Monday, the 20th September, 2010.

Time: 9.30 a.m. to 17.00 p.m.

The registration will start at 9.30 a.m.

VENUE

Shalimar hotel, Valia road, G.I.D.C. Opp. Jayaben Modi Hospital, Ankleshwar, Bharuch
393002, (Gujarat)

ACCOMMODATION

The Workshop is **non-residential**. Participants should therefore, make their own
arrangements for their stay.

NOMINATION FORM

**Training programme on
“Chemical Emergency Planning, Preparedness and Response”
(20-21 September 2010), at Ankleshwar (Gujarat)**

Jointly organized by
Directorate Industrial Safety & Health, Gujarat State
National Safety Council –Gujarat Chapter

**Supported by: InWEnt India, New Delhi/CD Studies
Disaster Management Institute, Bhopal**

Name(s) & Designation of the Participant(s)
1.....
2.....

Name & Address of Sponsoring Organization
.....
.....
.....
.....
Phone No.
Fax No.
E-mail

NOTE: SEND THIS FORM DULY FILLED IN ALONGWITH PAYMENT TO:
DIRECTOR, INDUSTRIAL SAFETY & HEALTH, GUJARAT STATE, AHMEDABAD

Address:
3rd Floor, “SHRAMBHAVAN”, Nr. Gun House, Khanpur, Ahmedabad-380001
Ph. No. (079) 25502349; Fax: (079) 25502357
E-mail: cif-ahd@gujarat.gov.in
nscqcahd@gmail.com