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

1. **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.
2. **What are the current gaps in knowledge of the target group- why this training needed?**

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 who 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. 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

#### 4. **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.

#### 5. **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.

#### 6. **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 siting 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 program. 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.