Thematic Session – Industrial & Chemical Disasters

Chairperson: Mr. K C Gupta, Director General, National Safety Council, Govt. of India
Organizer: Mr. R P Bhanushali, National Safety Council, Govt. of India
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CONCEPT NOTE

Introduction

It is now realized and well recognized that all disasters are the result of human influences. However, there are certain categories of catastrophe where the initiating event or the cause of hazard is manageable under human control and capacities by technology, participation and management. Such disasters are usually preventable and if not, then certainly controllable by way of disaster mitigation and emergency response-preparedness in advance. Industrial disaster consists of all the disasters that occur due to mishaps or failures in industry or related activities and also the disasters that affect the industrial functions, property and productivity. However, there are no 'hard lines' between the two and also from the so called 'natural disasters' because of increasing understanding of the overlapping nature of causes, consequences and mitigation measures besides the interdisciplinary nature of the central risk management approach. 'Chemical Disasters' and 'Industrial Disasters', terms often used with confusion has a valid reason of being each of these to be sub-category of another. There may be chemical disasters not necessarily an industrial one and on the other hand, there may be industrial disasters other than chemical accident. A chemical disaster may occur due to both, natural or man-made sources, however, in view of growing chemical usage and industrial development worldwide, the pre-disaster prevention and mitigation of chemical (industrial) disasters is a serious concern. Besides, the category 'industrial disasters' is applicable for any major activity or system that involves workers-employer, production, formulation/manufacturing, and business/ financial benefits, when it is affected by a disaster or a disaster that originates from within that industrial system/location. Chemical disaster may involve a hazardous chemical that may have – flammable and or explosive, toxic, corrosive, radioactive, highly reactive – one or more of these properties.

A. Context

There are currently over 1949 Major Accident Hazards (MAH) units in the India besides other small and medium–sized industries, in huge numbers, all across the nation and new industries are also coming up at rapid rate. Chemical accidents may occur due to lack of safety measure, technical failures, a human error or negligence or another disaster of natural or anthropogenic origin, e.g., flooding, landslide, earthquake, etc. The release of hazardous material may occur in case of an accident during manufacture, storage, handling, transport, use or disposal stage of its life-cycle. Besides these accidents, there were several instances of chemical disasters occurred

due to failures of tailing dams, dykes, ash-ponds, hazardous waste facilities, ETP failure, mass contamination, etc. in manufacturing, electronic, metallurgical and other industries. Serious disaster risks are involved in water resource engineering projects including hydro-power plants. Mining industry is the one ever known for its hazard potentials whether during mining operations (underground or surface), transport, ore/mineral processing, transport, storage, etc. which are often in the form of fire, gas toxicity, explosion, flooding, subsidence, etc. There are various environmental tools like EIA, Audit, Life-cycle Assessment, Risk Assessments (Safety Risk Assessment, Health Risk Assessment, Ecological Risk Assessment), Ecological Footprint, etc which have been frequently used in developmental planning. Risk Assessment originally started for product risk assessment in the industrial sector has now been widely accepted for various natural disasters as well. However, other tools are still to be re-looked for their application in various phases of disaster management. A National Guidelines on Chemical Disaster Management has been released by National Disaster Management Authority (2007) as per the provisions of DM Act 2005. There is already an established framework for chemical emergency management at various levels, viz. national, state, district and local crisis groups (under EPA 1986) and a holistic disaster management framework has recently emerged under the DM Act 2005, manifesting a wide gap between the two at planning and functional levels. Integration of the two is a key challenge as is the basic need for implementing the national guidelines and the action plan at different levels.

B. Objectives

- To review the existing legal and institutional frame work for Industrial and chemical disaster management and identify the critical challenges of industrial disaster and chemical disaster management
- Find out strategies for integrating industrial and chemical disaster management along holistic Disaster Management framework
- To mainstream management of disaster risks and emergencies disasters into overall environmental management, safety and developmental framework
- To discuss the approaches for capacity building and information/communication needs for risk communication, warning, mitigation and preparedness

C. Expected Outcome –

The session on Industrial and Chemical Disaster Management will facilitate sharing of knowledge, policies, state of art technologies, and case studies on various aspects, to help derive the framework for action planning at various levels as well as better efforts of capacity building, and integration to holistic DM framework at National, State and district levels. A background knowledge as input for preparation of national Human Resource Plan for Disaster Management will also be generated.

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PRESENTATON PLAN

Opening Remarks by the Chairperson		Mr. K C Gupta
Keynote	Disaster Management: Planning Commission's Perspective and Role of Environment & Forests Sector	Indrani Chandrasekaran, Planning Commission, Govt of India
1	Inculcating culture of Preparedness for Disaster Management in First Responders, Community & Schools – An Initiative By NDMA	B.K. Khanna, National Disaster Management Authority, New Delhi.
2	Land -Use Planning and Communications: Risk Management and Vulnerability Approach for Industrial Disasters.	Anandita Sengupta, Cees J van Westen, Debanjan Bandyopadhyay* and Anne van der Veen
3	Disaster Management vis-a-vis DGFASLI's Perspectives	S S Gautam and B D Dubey, Central Labour Institute, Mumbai.
4	NSC's Experience in developing an Integrated Approach in Disaster Management.	R P Bhanushali and A Y Sundkar*, National Safety Council, Mumbai
5	UNEP's Integrated Approach to Disaster Management	Stefano Fotiou, Regional Coordination, Resource Efficiency, United Nations Environment Programme
6	Experience gained and Strategies used in last 5 years on Disaster Management on Transportation of Hazardous Chemicals	S. Kamal, Office of Chief Controller of Explosives, PESO Faridabad
7	GIS and Web-Enable System for Emergency Preparedness and Accident Reporting in India	Sanjay Gahlout, Arpita Gupta and Anil Kumar, National Informatics Centre, Govt. of India
8	Disruption of Power Generation due to Natural Disasters - Experience of 6x 250MW Nathpa Jhakri Hydro Power Station.	N C Bansal, Hathpa Jhakri Hydro-power Corporation, Jhakri, Himachal Pradesh
9	The Corporate Strategy of NTPC on Disaster Preparedness	A B Lal, Corporate Office National Thermal Power Corporation, New Delhi.
10	Efforts of TIMA, MARG & DISH for Chemical Disaster Management at Tarapur Industrial Complex.	Vijai Kumar TIMA, Tarapur
11	Industrial & Chemical Disaster Management Integration to Holistic Framework: Challenge for Implementation of National Action Plan	Anil K. Gupta and Sreeja S. Nair, National Institute of Disaster Management
Remarks by Rapporteur		Chhanda Chaudhary, Ministry of Environment and Forests
Concluding Remarks		K C Gupta, Chairperson of Session
Vote of Thanks		Anil K Gupta, NIDM