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RESPONSE, DOCUMENTATION AND CRITERIA FOR RELIEF & REHABILITATION

5.1 Response Mechanism

Ministry of Environment and Forests (MoEF) is the nodal ministry for preparedness and response to the Chemical (Industrial) Disasters. As per the institutional mechanism laid down under the Chemical Accidents (Emergency Planning, Preparedness & Response) Rules 1996 {notified under Environment (Protection) Act 1986}, there is a four tier crisis management set up in place i.e. at the Centre, Central Crisis Group (CCG), at State, State Crisis Group (SCG), at District, District Crisis Group (DCG) and at Local, Local Crisis Group (LCG). Para 3.1 needs to be consulted for developing strong response mechanism.

5.1.1 Coordinating Arrangements at the National Level

a) Central Crisis Group (CCG) is the apex body in the country to deal with major chemical accidents, respond to emergencies and provide expert guidance as per requirement. CCG deals with major chemical accidents in the country where State Governments require marshalling of resources from other States as well as from Central Government. The Responsible Officer from the State (Chief Secretary)/ or District Magistrate of the concerned State/ District should immediately inform CCG about the accident. CCG shall consult experts, coordinate activities of the State Governments and Central Ministries and keep the Cabinet Secretariat informed about the development and emergency response. In case, District Magistrate does not able to inform the chemical accident, the dedicated group available at MoEF, supplemented by NDMA, should screen the print media regularly and obtain the required information.

The nodal ministry MoEF has set up a Centralized Control Room (CCR) in New Delhi, for the fast flow of information and coordination of activities during the major chemical accident/ emergency, as part of the Crisis Alert System (CAS).

The operational/ functional control rooms are also being set up at appropriate places and an advance level Information Networking System will also be set up and for this MoEF is working in coordination with NDMA. Adequate staff and experts will be appointed to man the control rooms at various locations. A time bound action plan is recommended for establishment of Central Control Room with the support of NDMA. Para 5.7 in coming pages highlights the system of response forces.

b) In addition, the concept of Emergency Response Centers (ERCs) has been institutionalized by the nodal Ministry i.e. MoEF. Currently there are eight operational ERCs in the country, and have been funded by the nodal Ministry, which are . five in Andhra Pradesh (Vishakhapatnam, Hyderabad, Kurnool, Vijayawada, and Kakinada), one in Kerala (Ernakulam), one in Madhya Pradesh (Bhopal) and one in Maharashtra (Mahad).

Further, the additional ERCs are also coming in various parts of the country funded by State Govts and other agencies. The main objective of ERCs is to enhance the response mechanism after chemical accident/disaster to minimize any possible adverse impact on the people, environment and property. Such centres should be established in first phase at state level and then at divisional level to cover all industrial parts of the respective states in the second phase. The Emergency Response Van containing equipment and personnel would be integral part of Emergency Resource Centers round the clock. These centers need to be strengthen further and should be with either State Disaster Management Institutes or SDMA.

c) The nodal Ministry has published Red Book for Central Crisis Group Alert System, which is updated at regular interval. The Red Book mainly covers the contact detail of experts. Such red Book should also be published at state level. NDMA should support publication of this Red Book and SDMA should initiate.

5.2 Present Practice of Documentation

- i) Presently, State Directorates of Industrial Health and Safety (DIH&S), State Pollution Control Boards (SPCBs), Directorate General of Factory Advice Services & Labour Institute (DGFALI) and Petroleum & Explosive Safety Organisation (PESO) are responsible for investigation and documentation of the chemical and industrial disasters/accidents in their respective domain as per the regulatory provisions. At present these agencies are using this documentation for their departmental purpose and are not sharing with public domain for lesson learning to other stakeholders even for the similar types of industries or others. It has also been observed that the investigation and documentation of post disaster events require specialised manpower.

5.3 Proposed Initiative for Accident Investigation and Documentation

- i) NAP-CIDM strongly recommends for proper scientific investigation of disasters/accidents before documentation by applying investigating tools like Fault Tree Analysis (FTA), Event Tree Analysis (ETA), Root Cause Analysis, etc by notified and competent manpower. To bridge this gap MoEF and NDMA must explore the possibility of establishment of an independent body for such investigation and documentation.

United States Chemical Safety and Hazard Investigation Board (USCSB) is an independent federal agency charged with investigating industrial chemical accidents. The agency's board members are appointed by the President and confirmed by the Senate of United States of America (USA). USCSB conducts root cause investigations of chemical accidents at fixed industrial facilities. Root causes are usually deficiencies in safety management systems, but can be any factor that would have prevented the disasters / accidents if that

factor had not occurred. Other accident causes often involve equipment failures, human errors, unforeseen chemical reactions or other hazards. The agency does not issue fines or citations, but does make recommendations to plants, regulatory agencies such as the Occupational Safety and Health Administration (OSHA) and The Environmental Protection Agency (EPA), industry organizations and labour groups for improvement. CSB is non-regulatory and independent of other agencies so that its investigations might, where appropriate, review the effectiveness of regulations and regulatory enforcement.

The USCSB investigative staff has professionals having experience in private and public sectors.

After a USCSB team reaches a chemical incident site, investigators begin their work by conducting detailed interviews of witnesses such as plant employees, managers and neighbours. Chemical samples and equipment obtained from accident sites are sent to independent laboratories for testing. Company safety records, inventories, and operating procedures are examined as investigators seek an understanding of the circumstances of the accident.

Over a course of several months, investigators sift through evidence, consult with Board members, and review regulations and industry practices before drafting key findings, root causes and recommendations. During the process, investigators may confer with plant managers, workers, labour groups, and other government authorities. The investigative process generally takes six to twelve months to complete, and a draft report is then submitted to the Board for consideration. Reports may be adopted through a written vote of the Board or in a formal public meeting.

Both accident investigations and hazard investigations lead to new safety recommendations, which are the Board's principal objectives for achieving positive change. Recommendations are issued to government agencies, companies, trade associations, labour unions, and other groups. Implementation of each safety recommendation is tracked and monitored by USCSB staff. When recommended actions have been completed satisfactorily, the investigation may be closed by a Board vote.

While some recommendations may be adopted immediately, others require extensive effort and advocacy to achieve implementation. Board members and staff work to promote safety actions based on USCSB recommendations. In many cases, the lessons from USCSB investigations are applicable to many organizations beyond the company investigated.

Many USCSB recommendations have been implemented in industry, leading to safer plants, workers, and communities. The detail can be viewed at www.csb.gov.

- ii) NAP-CIDM strongly recommends NDMA and MoEF to explore the possibilities for establishing an independent body like USCSB. Member (Chemical/Industrial Disaster Management), NDMA should establish a small group of professionals for working in line of USCSB for better results with a team experienced professionals on the payroll of NDMA. Proposed National Institute of Industrial Safety (NIIS) of MoEF should establish an independent cell for chemical accidents/disasters investigation in the line of USCSB. NAP-CIDM suggests further, that investigation of accident should have basis of ETA and FTA. These two tools on application simultaneously on any accident or disaster will have logical end to know the root cause of accident. The FTA and ETA tools for investigation are hereby illustrated as Fig. 5.1 and 5.2 respectively.

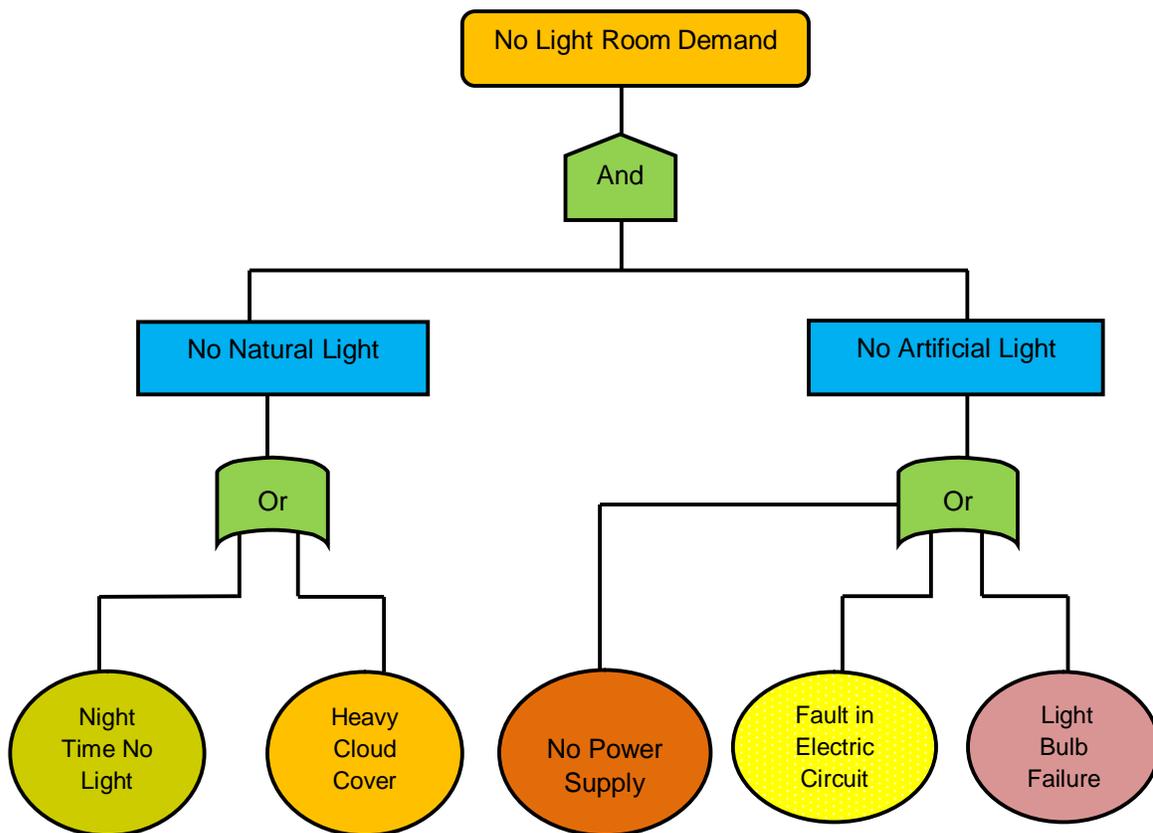


Fig. 5.1: Fault Tree for no light in room on demand

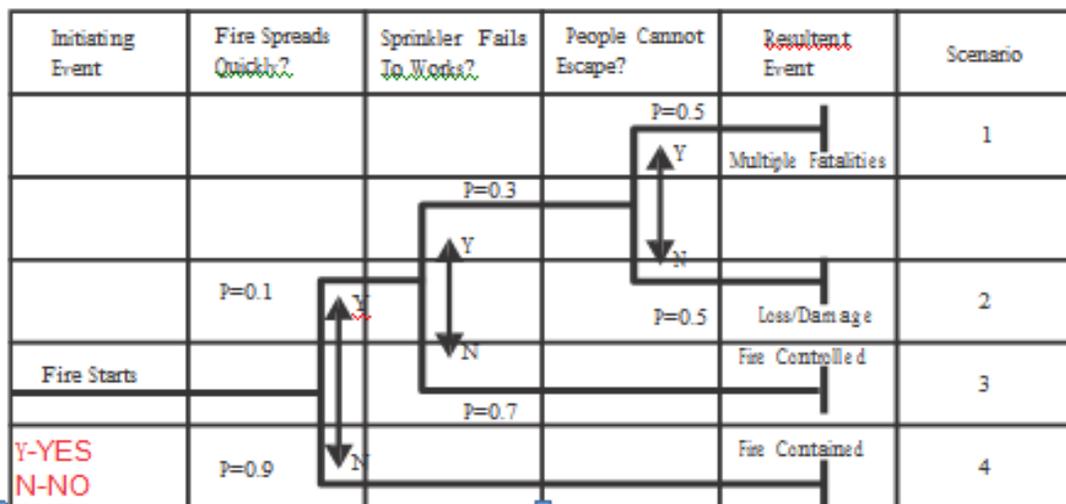
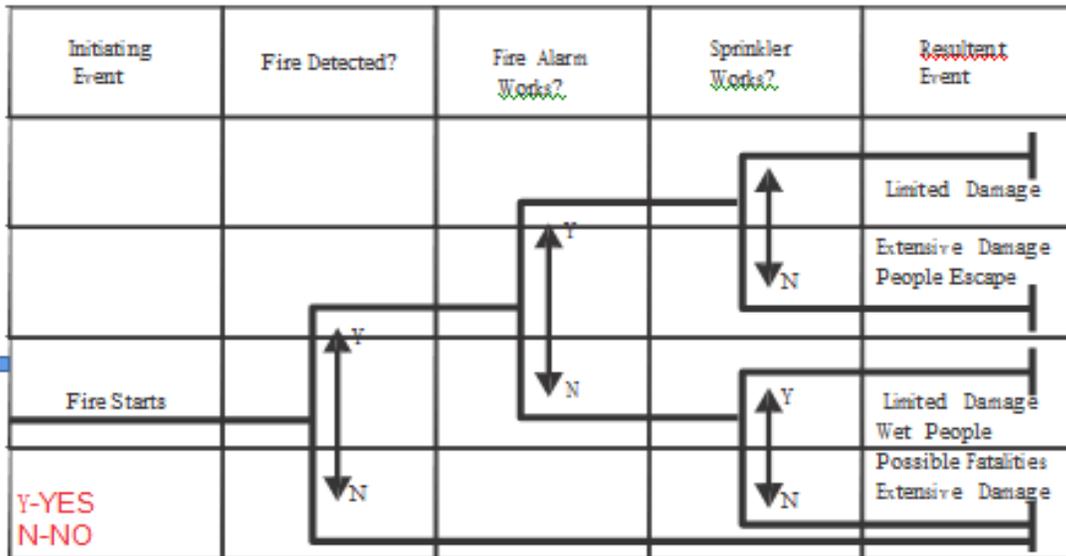
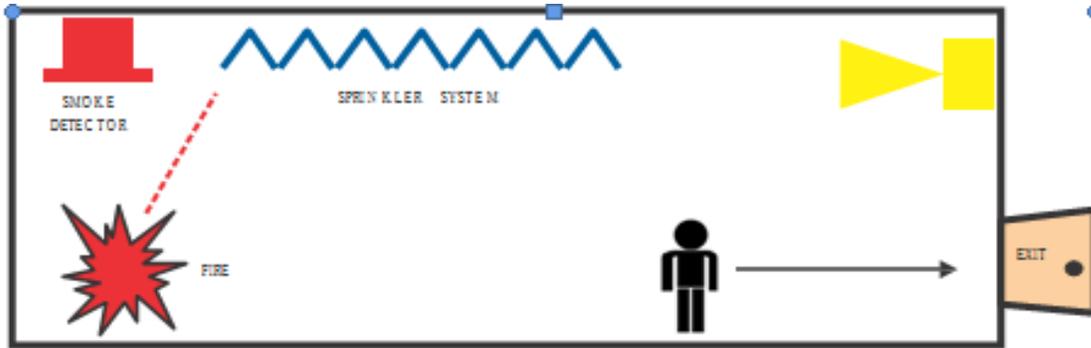


Fig. 5.2 : Event Tree for a Fire

5.4 Emergency Operation Centre (EOC)

i) EOC is an off-site facility and is a combination of functioning of various line departments of Government and other agencies at one place, whose services are generally required during incident response. These officials will be able to take decisions on the spot under the guidance of Responsible Officer (RO) and will be able to assist the RO in achieving the incident response objectives. The EOC takes stock of the emerging situation and assists the RO in mobilising the respective line department's resources, with appropriate delegated authorities. NAP-CIDM is of the view of establishment of National level EOC on priority. SDMA should take action for establishment of EOC at following places in time phase manner to complete the job in 8 years by applying public-private-partner (ppp) model:

- ▶ State EOC
- ▶ District EOC
- ▶ Industrial estate EOC
- ▶ High ways EOC

These EOC should have all needed information and should be modern and should like as Photo 5.1.



Photo. 5.1 : Emergency Operation Centre

ii) The EOC will make a part of crisis alert system with following ingredients as suggested in Rule 4 of CA(EPPR) Rules 1996.

- a) set up a functional control room at such place as it deems fit;
- b) set up an information net working system with the State and district control rooms;

- c) appoint adequate staff and experts to manage the functional control room;
- d) publish a list of Major Accident Hazard installations;
- e) publish a list of major chemical accidents in chronological order;
- f) publish a list of members of the Central, State and District Crisis Groups;
- g) take measures to create awareness amongst the public with a view to prevent chemical accidents.

EOC should have:

- ▶ One Sr. Administrative Officer as EOC in-charge having experience in disaster management (DM) with required assistants;
- ▶ Representation of all concerned line departments with authority to quickly mobilize their resources;
- ▶ Adequate space with proper infrastructure to accommodate the participating agencies and departments;
- ▶ Communication facilities with last mile connectivity;
- ▶ At least one vehicle mounted with HF, VHF and satellite telephone for deployment in the affected site to provide immediate connectivity with the headquarters and incident command post (ICP);
- ▶ A representative of central/state teams (NDRF/SDRF, Armed Forces) whenever they are deployed to integrate their resources, expertise and to resolve conflicts that may arise during the response effort;
- ▶ Provision and plan for dovetailing the NDRF, Armed Forces communication capabilities with the local communication set up and with SDRF. There will be proper plan so that all are able to connect with each other in case of large scale disasters or failure of the local communication systems;
- ▶ Map depicting affected site, resources deployed, facilities established like Incident Command Post, Staging Area, Incident Base, Camp, Relief Camp, Helibase, Helipad, etc. along with following should be in EOC:-
 - DM plans of all line departments;
 - DM plans of the State and the District;
 - Directories with contact details of all emergency services and nodal officers;

- Connectivity with all District headquarters and police stations;
- Database of NGOs working in different geographical areas;
- Demographic details of the State and Districts;
- Details of State Disaster Response Force (SDRF)

- ▶ National Disaster Management Guidelines: Incident Response System
- ▶ Socio-economic, demographic and land use planning;
- ▶ Resource inventories of all line departments and connectivity with database of India Disaster Resource Network (IDRN), India Disaster Knowledge Network (IDKN).

iii) Grant for Capacity Building: As per Thirteenth finance commission on page no. 452. In (Annx 11.3) para 11.102 have allocated state wise fund from the year of 2010-11 to 2015-16 for capacity building. It has been observed that state govts. are not very clear for utilization of this grant for capacity building. Therefore NAP-CIDM recommends that NDMA should issue a circular to utilize a part of this fund for EOC development as per the need for chemical disaster too.

5.5 Relief and Rehabilitation

5.5.1 Incident Response System (IRS)

i) The DM Act, 2005 mandates the NDMA to lay down policies, plans and guidelines for

ensuring timely and effective response to disasters to have effective relief and rehabilitation. NDMA has developed guidelines on Incident Response System (IRS). The Incident Response System (IRS) is an effective mechanism for reducing the scope for ad-hoc measures in response. NAP-CIDM feels to reproduce the following paragraphs in brief to suggest the effective mechanism of relief and rehabilitation.

ii) The IRS organisation functions through Incident Response Teams (IRTs) in the field. In line with our administrative structure and DM Act 2005. Chief Secretary at State and District Collector at District level have been designated as overall in-charge of the incident response management as Responsible Officers (ROs). The RO may however delegate responsibilities to the Incident Commander (IC), who in turn will manage the incident through IRTs. The IRTs will be pre-designated at all levels i.e. State, District, Sub-Division and Tehsil/Block. On receipt of early warning, the RO will activate them. In case a disaster occurs without any warning, the local IRT will respond and contact RO for further support, if required, a Nodal Officer (NO) has to be designated for proper coordination between the District, State and National level in activating air support for response. Apart from the RO and Nodal Officer (NO), the IRS has two main components; a) Command Staff and b) General Staff. The structure is shown in Fig. 5.3. The further down organogram for General Staff has been shown in Fig 5.4.

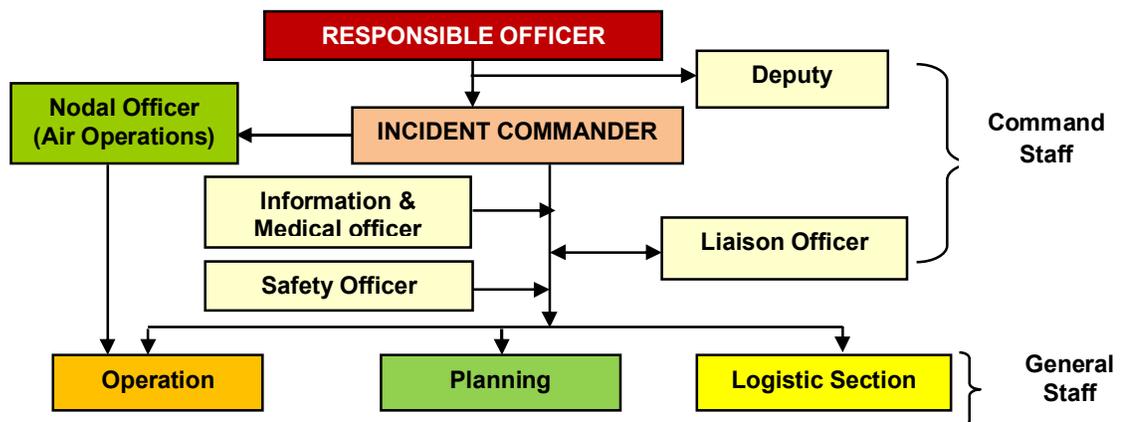


Fig. 5.3 : Incident Response System

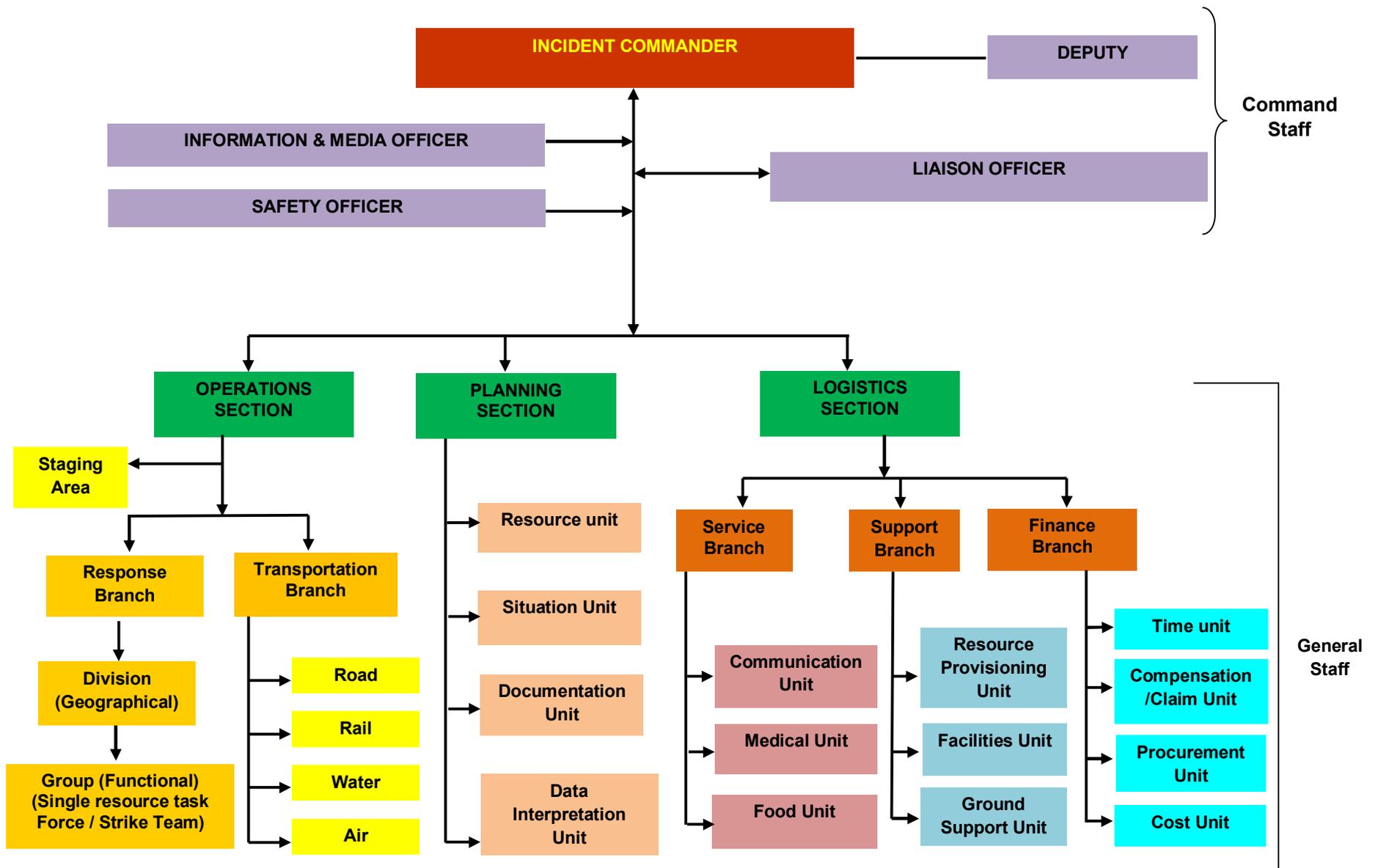


Fig. 5.4 : Detailed figure of Incident Response System

iii) The basic functional level unit needs support from the functionary of the State in case of State level disaster and it will start from disaster triggered district and in need from the neighbouring districts. Therefore, the hierarchical structure of IRS along with district as IRT in the context of the state response is shown as Fig. 5.5

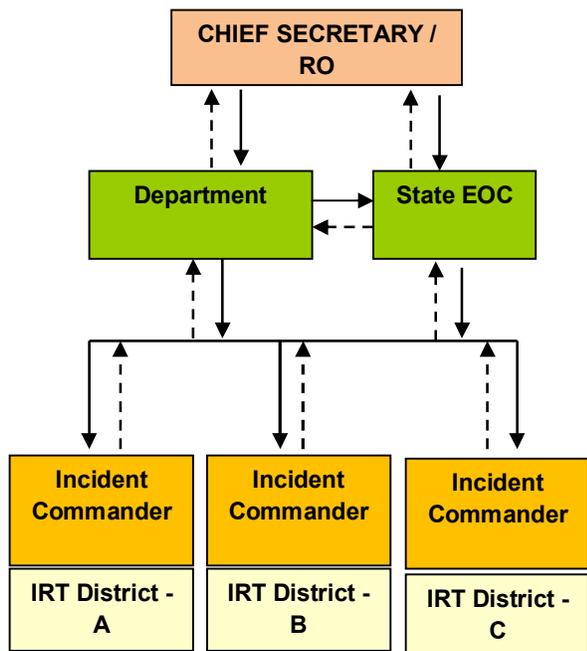


Fig-5.5 : Structure of IRS along with district as IRT in the context of the state response

Where, chief secretary is the responsible officer (RO) the suggested structure also coordinate amongst neighbouring districts. The labour department which is handling chemical and industrial safety along with state SPCB will be the main functionaries to guide other sections of response. At the time of disaster the relief will be provided to victims in consultation with labour department. The labour department will help the incident commander (IC) to arrange medical relief in his district or in neighbouring district or in coordination with other districts. IRS guidelines published in 2010 have already detailed out the role and responsibility of command staff and general staff. NAP-CIDM recommends the involvement of DIH&S, SPCB, PESO & PNGRB, the suggested framework for IRT & IRS for chemical industry disaster management is shown in Fig 5.6. The roles

and responsibilities of IRS with slight modification need to be drafted to make incident response system for chemical and disaster system to deal with relief and rehabilitation.

(iv) NAP-CIDM is of the view to constitute an expert group of following to draft guidelines for IRS- Chemical Disaster Management- under the Chair of NDMA:-

- HSMD of MoEF
- Representative from CII or FICCI
- DGFASLI
- CIF of Gujarat, Maharashtra, being high number of MAH industries in these states
- Representative from CPCB
- DMI

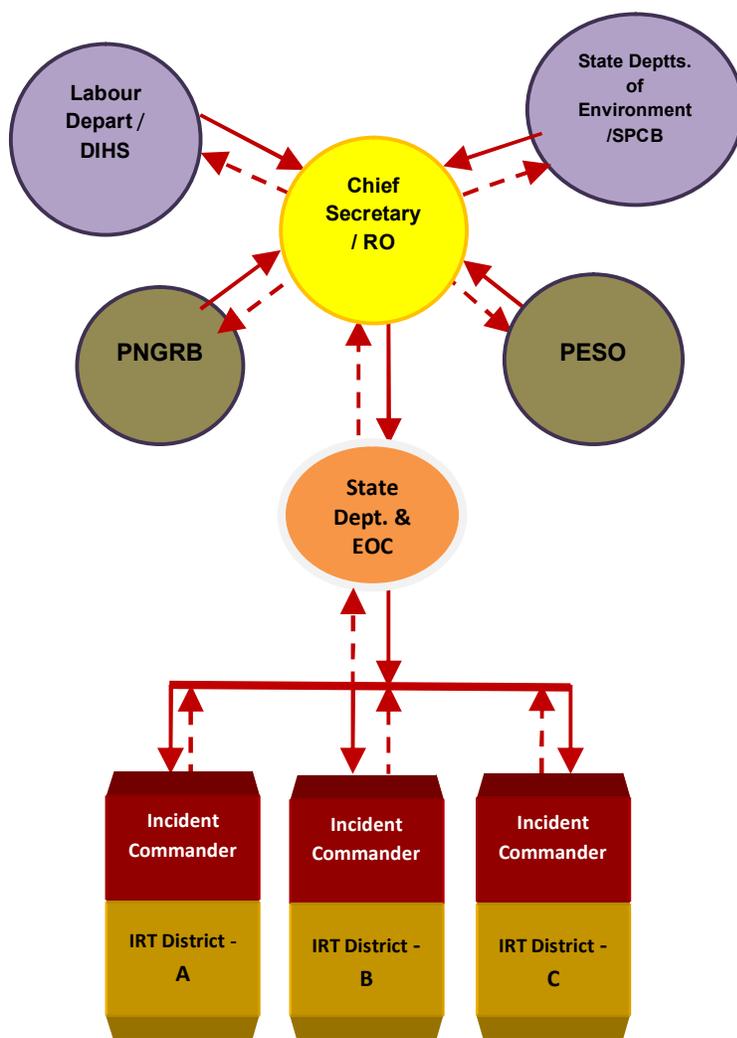


Fig-5.6 : Suggested Frame work of IRT and IRS for Chemical & Industrial Disaster Management

5.5.2. Other initiatives

- i) The State Police Forces and the Fire Services are first responders to disasters. The Police Forces will be trained and the Fire Services need to be upgraded to acquire chemical hazard rescue and relief capabilities.

The mandate of the Civil Defence and the Home Guards also needs revision to assign an effective role in the field of disaster management. They will be deployed for community preparedness and public awareness. A culture of voluntary reporting to duty stations in the event of any disaster will be promoted.

National Civil Defence College (NCDC) and State Govt. need to be encouraged for better coordination for development of civil wardens in the area of CIDM. The DMI can also help NCDC and other state govts for the capacity development in Chemical disaster response mechanism.

- ii) States will be encouraged to create response capabilities from within their existing resources. To start with, each State may aim at equipping and training one battalion equivalent force. They will also include women members for looking after the needs of women and children. NDRF battalions and their training institutions will assist the States/UTs in this effort. The States/UTs will also be encouraged to include CIDM training in their respective Police Training Colleges, for gazetted and non-gazetted officers.
- iii) Potential of National Cadet Corps (NCC), National Service Scheme (NSS) and Nehru Yuva Kendra Sangathan (NYKS) youth based organisations will be optimised to support all community based initiatives and CIDM training would be included in their programmes of relief and rehabilitation.

CIDM-NAP advocates to develop close cooperation and coordination at the International level in all spheres of CIDM.

5.6 Criteria for Chemical Disaster Relief

5.6.1 Financial Relief

- (i) NAP-CIDM in chapter 3 at 3.1. (ii) recommends action for amendments in PLI Act

1991 for relief of victim of chemical accidents/disasters. In our country only the referred act deals about the relief of the victims in off-site area.

- ii) The Finance Commission Thirteen (FC-XIII) has made provisions of fund for the State Disaster Response Fund (SDRF) keeping in view of the provision of the DM Act 2005. The next Finance Commission should take a view on CIDM with other disasters in consultation with SDMA's to address local need.

5.6.2 Other Points on Relief

- (i) The relief needs to be prompt, adequate and of approved standards. Guidelines defining minimum standards of relief due to chemical disaster have to be prepared by NDMA under the chairmanship of NDMA with the support of MoEF and SDMA's/SCG's of highly industrialised states. The guidelines should address the following issues on priority looking to the need for chemical industrial disasters:

- ▶ Relief Camps: DDMA's, especially in recurring disaster prone areas, may identify locations for setting up temporary relief camps. Agencies to supply the necessary stores item should be identified in the pre-disaster phase. The use of premises of educational institutions for setting up relief camps needs to be discouraged.

The temporary relief camps should have adequate provision of drinking water and bathing, sanitation and essential health care facilities.

Wherever feasible, special task forces from amongst the chemical disaster affected families will be set up to explore the possibility of providing food through community kitchens, and provision of education through the restoration of schools and anganwadis. Efficient governance systems like entitlement cards, laminated identification cards etc., will be developed as a part of uniform humanitarian governance practices through the respective SDMA's / SCG's.

► **Management of Relief Supplies:-** Ensuring minimum standards of relief and speedy management of supplies are important features of relief operations. SOPs will be put in place for ensuring the procurement, packaging, transportation, storage and distribution of relief items, which needs to be carried out in an organised manner. The affected community and local authorities need to work in coordination in managing the relief camps. Guidelines need to be evolved to manage the donations received in cash or kind to ensure transparency and accountability.

(ii) **Review of Standards of Relief:-** In most states the existing standards of relief are for natural disaster. The standards and reliefs need to be reviewed thoroughly state wise by taking a view of level of industrialization and types of the chemical hazards. The standard for relief may vary from states to states. NAP-CIDM recommends to issue an instruction to SDMAs / SCGs under a copy to labour department and environment department of the state govt. to develop standards of relief for chemical industrial disaster considering the following :-

- Type and density of chemical industries
- Quantity of hazardous chemicals. Priority should be given to LPG, Propane, Chlorine, Ammonia, Bulk storage of petroleum products, Blast furnace, corex gas and hydrogen
- Area of high vulnerability and risk
- Relief camp should be out from vulnerable zones.
- Fire fighting capabilities of municipal / local facilities should also be considered.
- The medical capabilities to provide relief in chemical fire, and chemical toxicity.
- Availability of water resources
- The designated path ways for movability of relief material,

5.7 Response and Rehabilitation

5.7.1 Response

(i) For the purpose of specialised response to a threatening disaster situation or disasters /emergencies both natural and man-made such as those of CBRN origin, the DM Act, 2005 has mandated the constitution of a NDRF. The general superintendence,

direction and control of this force is vested in and exercised by the NDMA and the command and supervision of the Force will vest in an officer appointed by the Central Government as the Director General of NDRF. Presently, the NDRF comprises ten battalions.

(ii) These battalions are located at strategic locations and will be deployed proactively as required. NDRF units will maintain close liaison with the designated State Governments/UTs and will be available to them in the event of any serious threatening disaster situation. While the handling of all natural disasters rests with all the NDRF battalions, presently four of them have been equipped and trained to respond to situations arising out of chemical, biological, radiological and nuclear (CBRN) emergencies. In future plans exist to train rest of the battalions also for CBRN response. The NDRF units will also impart basic training to all the stakeholders identified by the State Governments in their respective locations.

Presently the location and area of responsibility of the various NDRF battalions in the country is given in Table. 5.1.

(iii) The SDMAs / state labour departments are not aware about NDRF therefore, a circular from NDMA should be issued immediately to all SDMA under a copy to labour departments of the respective states about the location of battalions responsible for CBRN. So the state govt can involve these battalions in CBRN emergencies.

NAP-CIDM also recommends that CBRN specialized battalions must have regular interaction with state govts and also participate in SDMA/SCGs meeting and therefore, immediate amendment is required in the schedule 6 of the composition of SCG in Rule 6 (2) of CA(EPPR) Rules, 1996.

(iv) NAP-CIDM recommends to have specialized training for all NDRF battalion, the battalion responsible for CBRN should have advance training to understand the behavior of chemicals and their properties likely hazardous due to chemicals and antidotes to victims. These battalions should also be exposed to important industrial area especially the areas of Gujarat, Tamil Nadu,

Mahatrasra, Andhra Pradesh, Northeastern states and the ports handling and storing hazardous chemicals. These battalions also need exposure about those highways which are loaded with high density of transportation of hazardous chemicals. Similar training is also needed for SDRF. NDRF and SDRF should have interaction for overall capability development. These battalions should be deployed for the early response. Defence Research & Development Organisation (DRDO) should make modules for the training of NDRF/SDRF.

5.7.2 Rehabilitation

- (i) In the aftermath of any major chemical disaster, like Union Carbide India Limited Bhopal, the demand to generate temporary livelihood always arises to the affected community. The State Governments should recognise this aspect in their DM planning process. Any such option must ensure that the assets, infrastructure and amenities created are hazard resistant, durable, sustainable, and cost-efficient.

In the case of devastating chemical disasters, where extreme weather conditions can be life threatening or when the period of stay in temporary shelters is likely to be long and uncertain, construction of intermediate shelters with suitable sanitary facilities should be undertaken to ensure a reasonable quality of life to the affected people.

The rehabilitation is very crucial when natural disaster is the triggering mechanism for chemical disaster especially due to earthquake or flood or cyclone leading to chemical disasters.

Table 5.1: Location and Area of Responsibility of the Various NDRF Battalions of the Country

Location	Area of responsibility for natural disaster	Area of responsibility for CBRN emergencies
1. Guwahati, Assam	N.E. States	Kolkata battalion
2. Kolkata, West Bengal	West Bengal, Bihar, Sikkim, Jharkhand	
3. Mundali, Odisha	Odisha, Chhatisgarh, North Andhra Pradesh, (Srikakulam, Vizianagaram, Visakhapatnam)	Arakkonam battalion
4. Arakkonam, Tamil Nadu	Tamil Nadu, Kerala, South Andhra Pradesh, Puduchery, A & N Islands, Lakshadweep	
5. Pune, Maharashtra	Maharashtra, Karnataka, Goa	Pune battalion
6. Gandhi Nagar, Gujarat	Rajasthan, Gujarat, Madhya Pradesh, Dadra & Nagar Haveli, Daman & Diu	
7. Bhatinda, Punjab	Chandigarh, Punjab, J&K, Himachal Pradesh	Gaziabad battalion
8. Greater Noida, Gautam Budha Nagar, Uttar Pradesh	U.P., Uttar Khand, Haryana, Delhi	
9. Patna, Bihar	Bihata Patna, Bihar	
10. Vijayawada, Andhra Pradesh	Manglagiri, Vijaywara(AP)	

- ii) After recent Japan tsunami it is recommended that robust guidelines & policies are needed to look after for overall response, preparedness, planning, prevention, rehabilitation in natural calamity zones having high density of process industrial activity with hazardous chemicals. NAP-CIDM identifies extreme weather condition as per Table 5.2 for priority action.

Table 5.2: Extreme Weather Condition

State	Weather
Odisha, West Bengal, Andhra Pradesh, Goa, Karnataka, Kerela, Maharastra, Puducheery and Tamil Nadu	Cyclone and storm weather
Himachal Pradesh and Uttarkhand	Snow fall and extreme winter and land slides
Assam, Bihar and Uttar Pradesh	Flood

- iii) The design of shelters should be eco-friendly and in consonance with local culture. It would be desirable for SDMAs/SCGs to plan during periods of normalcy in consultation with labour and environment departments reviewing the On-site and Off-site emergency plans made as per the provision of MS&IHC rules. The ERDMP of Oil & Gas sector as per the Regulation of PNGRB should also be consulted. The layout of intermediate shelters which is cost-effective and as per local needs with multi-use potentials are to be explored.
- iv) The approach to the reconstruction process has to be comprehensive so as to convert adversity into opportunity. Incorporating disaster resilient features to build back better will be the guiding principles. This phase requires the most patient and painstaking effort by all concerned. The administration, the stakeholders and the communities need to stay focused on the needs of this phase, as with the passage of time, the sense of urgency gets diluted. The appropriate choice of technology and project impact assessment needs to be carried out to establish that the projects contemplated do not create any side effects on the physical, socio-cultural or economic environment of the communities in the affected areas or in their neighbourhood.

Systems for providing psychosocial support and trauma counselling need to be developed for implementation during the reconstruction and recovery phase.

- v) Essential services, social infrastructure and intermediate shelters/camps need to be established in the shortest possible time. For permanent reconstruction, ideally, the work including the construction of houses must be completed within two to three years. Central Ministries/Departments concerned and the State Governments should create dedicated project teams to speed up the reconstruction process and it should be reflected in SDMPs.

Contingency plans for reconstruction in highly disaster prone areas need to be drawn out during the period of normalcy, which may include architectural and structural designs in consultation with the various stakeholders.

Emphasis will be laid on plugging the gaps in the social and economic infrastructure and infirmities in the backward and forward linkages.

Efforts will be made to support and enhance the viability of livelihood systems, education, health care facilities, care of the elderly, women and children, etc. Other aspects warranting attention will be roads, housing, drinking water sources, provision for sanitary facilities, availability of credit, supply of agricultural inputs.

State governments will have to lay emphasis on the restoration of permanent livelihood of those affected by disasters and special attention to the needs of women headed households, artisans, labours and people belonging to marginalised and vulnerable sections.

Since CA(EPPR) rule do not speak on rehabilitation policy in On-site and Off-site therefore, a expert group need to be constituted to draft guidelines on affected victims of chemical disasters under the chair of NDMA with following members.

- Representative from CII or FICCI or ASSOCHAM or others
- DGFASLI
- CIF of Odhisha, Gujarat, Maharastra, Himachal Pradesh, Bihar, Assam
- Representative from CPCB
- DMI
- HSMD of MoEF

Table 5.3 shows the recommended actions on response, documentations, relief and rehabilitative actions with time frame.

Table 5.3: Recommendations for Response, Documentation, Relief and Rehabilitation actions with Time Frame

S.no.	Items to be addressed	Recommendation for action	Ministries/ Authorities / Institutes for action	0-2 Year	2-5 Year	5-8 Year
1.	Establishment of Centralised Control Room	Action as addressed in point no. 5.1.1.a)	NDMA, MoEF	√		
2.	Establishment of Emergency Response Centre in States	Action as addressed in point no. 5.1.1.b)	NDMA, MoEF	√		
3.	Publication of Red Book	Action as addressed in point no. 5.1.1.c)	SDMAs	√		
4.	Proposed initiatives for accident investigation and Documentation	Action as addressed in point no. 5.3	NDMA		√	
5.	Emergency Operations Centre (EOC)	Action as addressed in point no. 5.4	NDMA & MoEF			
	a. Setting of EOC at state level	Action as addressed in point no. 5.4 (i)	NDMA & MoEF	√		
	b. Setting of EOC at district/industrial estate and highways	Action as addressed in point no. 5.4 (ii)	NDMA & MoEF		√	√
	c. Fund for EOC	Action as addressed in point no. 5.4 (iii)	NDMA & MoEF	√		
6.	Development of incident response system guidelines	Action as addressed in point no. 5.5.1	NDMA	√		
7.	Other points on relief	Action as address in point no. 5.5.2	NDMA		√	
8.	Response and Rehabilitation					
	a. Response	As addressed in point no. 5.6.1 (i & ii)	NDMA, Respective SDMAs, NDRF and SDRF		√	√
	b. Rehabilitation	As addressed in point no. 5.7.2	NDMA, NDRF, SDRF and Sate Govts as suggested in table no. 5.2	√	√	√
