



## **Report on**

**On-line IRS Training and Table Top Exercise (TTEX) on  
Chemical (Industrial) Disasters.  
12<sup>th</sup> & 15<sup>th</sup>, October, 2020**

### **Organized by**

**Himachal Pradesh State Disaster Management Authority,  
DM-Cell, Department of Revenue, GoHP**

### **Support By**

**National Disaster Management Authority  
Ministry of Home Affairs,  
Govt. of India**

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## **Chapter - 1**

### **Introduction & Background**

Himachal Pradesh is developing rapidly in all dimensions wherein it needs to adhere safety for ensuring minimum risk and quick response to deal with the situation. In order to execute an effective incident response, agencies must develop procedures that provide direction and guidance to agency personnel, from front line employees and management to data centre personnel, which outline their roles and responsibilities in the incident response process. Keeping in view the importance of response, the State Govt. has notified its State Level Incident Response Team (IRT) in the year 2017 headed by the Chief Secretary as Responsible Officer. Sensitization regarding their roles and responsibility in accordance with Incident Response System, was conducted through various programme.

2. Due to the constraints posed by COVID 19, the actual mock exercise was not conducted this year. Normally, the mega mock exercises planned at the State level have a series of events like the Coordination Conference of the IRT members, Table Top Exercise, the Mock Exercise and the Debriefing session. Every year Himachal Pradesh State Disaster Management Authority (HPSDMA) in association with the National Disaster Management Authority (NDMA) organizes Mega Mock Exercise on various hazards. This year Table Top exercise was planned to be conducted in the State on Chemical (Industrial) hazard.

3. HPSDMA's Guidelines for on-site and off-site emergency plans for factories & industrial units in Himachal Pradesh was prepared by the DM-Cell and forwarded to the Industries Department in January 2020. Off-site Disaster Management Plans of identified Industrial area of three Districts have also been prepared by DM-Cell (districts Kangra and Kullu are remaining) with the support of UNDP-India & Disaster Management Institute-Bhopal. These were submitted for final approval in the 14th meeting of the State Executive Committee (SEC), and the SEC has directed that the respective districts will present their plan before the Committee in its next meeting.

4. It has been observed that some of the Industrial pockets such as Baddi, Solan and Nahan, Sirmaur have successfully conducted the Chemical/Industrial mock exercises in the recent past. It was now imperative to assess aspects of industrial safety through a State level mock exercise. The main objective of this year's exercise was to strengthen capacities of all responders involved in emergency management to adapt to

an integrated and organizational structure in all the industrial district of the State and to check the efficiency of Off-site Disaster Management Plan developed for the three District (Sirmaur, Solan and Una) of Himachal Pradesh.

5. The programme was organized by HPSDMA in association of the National Disaster Management Authority, Ministry of Home Affairs, Govt. of India, District Disaster Management Authorities of the selected districts (Solan, Sirmaur, Una, Kangra and Kullu) with industries, stakeholder departments and agencies. The programme as per the process was conducted into two events i.e. orientation and sensitization of IRT members of State & Districts followed by a Table Top Exercise on Chemical (Industrial) Hazards through online mode. The event brought together more than 200 participants from the SDMA, DDMAs, Industries, State Government stakeholder Departments, the District Administrations and industrial stakeholders.

## Chapter – 2

### Sensitization on Incident Response System

An Incident Response System (IRS) Training was held under the Chairmanship of Lt. Gen. (Retd.) Syed Ata Hasnain, Member NDMA and Co-Chaired by Sh. R.D. Dhiman, Additional Chief Secretary (Revenue) to the Government of Himachal Pradesh cum Member Secretary, HPSDMA on 12 October, 2020 from 10.30 AM onwards.

**1. Brig. Ajay Gangwar, Advisor (Ops & Conn), NDMA,** delivered the welcome address by welcoming Member, NDMA; the Additional Chief Secretary (Rev) to the GoHP; Sh. DC Rana, Director cum Special Secretary (Revenue-DM) GoHP, Maj Gen (Retd) V.K. Naik, Senior Consultant NDMA and all the State level and District level Incident Response Team members and representatives of various Stakeholder agencies. He highlighted that the Guidelines on the Incident Response System (IRS) which has been formulated and circulated among the stakeholder by NDMA to fulfil the requirement of Section 6 of the DM Act, 2005 in the year 2010 for effective, efficient and comprehensive management of disasters, with an aim to minimize loss of life and property by strengthening and standardising the disaster response mechanism in the country. He also emphasized the importance of Incident Response System for a multi hazard prone state like Himachal Pradesh.

**3. Sh. RD Dhiman, Addl. Chief Secretary (Rev) to the GoHP,** during his opening remarks shared that the mock exercises are the best way to tests the adequacy and efficacy of Disaster Management & Response plans of the State and Districts against disasters and to find gaps in the resources, manpower, equipment, communication and systems. The Mock exercises give the opportunity to re-examine the existing roles and responsibilities of the stakeholder departments which can be altered accordingly to enhance coordination and synergize efforts of various Emergency Support Functions (ESFs) as per Plans. He also shared that the HPSDMA had notified the State Level Incident Response Team (IRT) in September 2017. Similarly, IRTs were constituted & notified by the all DDMA's in the State. These IRTs are pre-designated at all levels; State, District, Sub-Division and Tehsil/Block. On receipt of early warning, the Responsible Officer (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 and set coordination between the District, State and National level in activating effective response.

3. **Lt. Gen. (Retd.) Syed Ata Hasnain, Member NDMA** during his opening address shared that disaster vulnerability has increased to the double fold with current COVID-19 pandemic, therefore the SDMA and DDMA shall plan their disaster management and responses taking into consideration the COVID-19 hazards for the responders and the affected. He also complimented the Government of Himachal Pradesh for notable institutionalization of the IRS at the State and District level, the structures of these IRTs are also shared with other states for their reference. He also advised that IEC activities on Chemical (Industrial) hazards may be enhanced for prevention of the risk of disaster.

4. After that the inaugural session, **Maj Gen (Retd) V.K. Naik, Senior Consultant NDMA** and his team from NDMA deliberated and introduced the participants to Indian Disaster Management System and background for development of Incident Response System (IRS) under the DM Act 2005 and the need & importance of IRS in effective disaster response and key features of National Disaster Management Guidelines on IRS were also shared through the presentation. The session emphasized on the importance of IRS in not only disaster response but the DM planning for any kind of emergency and disaster like situation. The different action plans for immediate 24 hours, one day, one week, and so on were also discussed with the standard terminology when responding to any disaster like event.

6. In the end, discussions, questions and answers were facilitated by Maj Gen (Retd) V.K. Naik and Sh. DC Rana with an aim to familiarize participants on the importance of Incident Response System (IRS).



**A list of participants that were in attendance is included in Annexure-**

## Chapter – 3

### Table-Top Exercise

**Table-Top Exercise on Chemical (Industrial) Disaster was held under the Chairmanship of the Chief Secretary, Himachal Pradesh on 15 October 2020 from 10.30 AM onwards.**

Table-Top Exercise (TTEX) on Chemical (Industrial) Disaster was plan to be held involving State and District IRTs of identified Industrial pockets of District Kangra, Kullu, Sirmaur, Solan and Una. The TTEX was co-organised in association with the National Disaster Management Authority. The goal of the exercise was to support State/District authorities to ensure safety norms in identified Industrial pockets and mitigating the disruption over the State through the execution of a tabletop exercise, where off-site disaster management plan was exercised.

2. The target audience for the event included: Member of SDMA; Member of SEC; All Members of State RT ; Director (Industries); Director Fire Service; MS, HP State Pollution Control Board; Labour Commissioner; Chief Inspector of Factories; Local Commanders of Army, Navy, Air Force, NDRF & CAPFs; Commandant / Sr. Representative from SDRF; Director of Medical and Veterinary; MD, State Electricity Board ; Director, State Transport; Rep. of Telecom Service Providers; Director, HIPA; Director IMD, Shimla; Director IPR; IAG, Local NGO, UNDP reps, similar participation were expected for the all districts of the State. The event brought together more than 300 participants from State and District, and other stakeholder departments and organisations.

**A list of participants that were in attendance is included in Annexure-.**

3. The TTEX started with welcome address by **Brig. Ajay Gangwar (Advisor (Ops & Comn), NDMA)**, he welcomed Sh. Anil Khachi, Chief Secretary, Himachal Pradesh, Lt. Gen Syed Ata Hasnain Member NDMA, Sh. R D Dhiman, ACS (Revenue), Sh. DC Rana, Director cum Special Secretary (Revenue-DM), GoHP Maj Gen (Retd) V.K. Naik, Senior Consultant NDMA and all the participants from State Government, Deputy Commissioners of all participating districts of HP, Representatives of various Stakeholder departments and agencies. He explained that the Table-Top Exercise is discussion-based exercise and an emergency situation is simulated in a meeting room by discussing various scenarios and issues, with a goal of pinpointing problem areas and potential roadblocks in the disaster response. It can be

used to enhance general awareness, validate plans and procedures, rehearse concepts, and/or assess the types of systems needed to guide the prevention of, protection from, mitigation of, response to, and recovery from a defined incident.

4. Presentation on Managing Industrial Disasters – Learnings, Legal Provisions and Institutional Mechanism of Disaster Management in Industrial Sector by **Sh. D.C. Rana, Director-cum-Special Secretary (Rev-DM), GoHP**. Sh. DC Rana illustrated that the Bhopal Gas Leakage 1984 was one of the worst chemical industrial disaster in the country and was a turning point in the response mechanism for industrial disasters. The Environment (Protection) Act, 1986 passed in the wake of Bhopal disaster, and the Rules framed thereunder for regulating hazardous industries provide for different institutions and authorities for industrial disaster management. However, the focus of legal policy after the passing of the Disaster Management Act in the year of 2005 is on the holistic approach to address disaster management aimed at reduction of risk. Other major chemical industrial disasters occurred in other parts of the country and various case studies of the chemical industrial incidents happened in the Himachal Pradesh were also shared with the participants.

5. He shared the State's industrial hazards profile from the HRVA report prepared by HPSDMA with special context to Environmental & Industrial Hazard Risk Assessment. Sh. Rana also shared the legal provisions for the Industrial Disasters by mentioning out the provisions of the National Disaster Management Guidelines of NDMA on Chemical Disasters (April 2007) and Management of Chemical (Terrorism) Disasters Chemical Accidents (June 2009); Emergency Planning, Preparedness and Response Rules, 1996 under these Rules the Centre as well as States are required to form crisis groups at the national, state, district and local levels. Manufacture, Storage and Import of Hazardous Chemical Rules, 1989, Section {41 (B) (4)} of Factories Act, 1948 which mandate the District Administration and Industrial units to prepare off-site and on-site emergency plans. The Institutional Framework to respond in the Chemical (Industrial) disasters was also shared with the participants. He ended his presentation by sharing the salient gaps with need of the capacity building and awareness and expected outcomes of the TTEX. **(the presentation is enclosed as Annexure - A)**

6. **Address by the ACS (Revenue), GoHP:** During his address, the ACS (Revenue) said that our State is expanding its industrial base, and we cannot rule out the fact that such accidents will not occur here. Meticulous preparation has to be done beforehand, involving all stakeholders, as that can enable us to deal with such

incidents effectively. He added that the training conducted on 12 October 2020 became the path finding light to IRT's members of respective the districts, and that they have understood their role and responsibilities to deals with the situation in better way and Members of the State/Districts IRTs will review and discuss the actions they would take in this chemical/industrial emergency, testing their emergency plan in a relatively low-stress environment.

7. He apprised the Chair about the State Disaster Management Plan 2017 in which specific roles and responsibilities have been assigned to the Department of Industries, which is the Nodal Department / Primary Agency for managing industrial and chemical disasters. He also shared that the Off-site Disaster Management Plans of the Industrial area of three Districts (Sirmaur, Solan and Una) have also been prepared by DM-Cell with the support of UNDP-India & Disaster Management Institute-Bhopal. It has been observed that some the Industrial pockets such as Baddi and Nahan have successfully conducted the Chemical/Industrial mock exercises. It is now imperative to assess aspects of industrial safety through State/District level mock exercise on Chemical (Industrial) disasters. He also mentioned that the State Govt has allocated land to the Department of Industries for expanding its industrial base in the State. It is imperative to ensure that land is allocated in a judicious manner, especially in case of hazardous industrial units. The need of the hour is to strictly enforce legislations on land-use in the State.

8. **Sh. Anil Khachi**, Chief Secretary (Himachal Pradesh) during his address said that our State is establishing new industries, and we need to take cognizance of the imminent threats of chemical (industrial) disasters whose adverse impacts would encompass the entire biota. Therefore, legal provisions stated in various Acts need to be implemented in letter and spirit across the State. Chemical (Industrial) disasters may not be converted to fire only they may lead to water, air and soil pollution therefore proper monitoring mechanism may be establish in the State. He pointed out the that no proper data is documented about the industrial accident/disaster incidents in the State. Therefore, an urgent need for a proper reporting system for chemical storage/handling and accidents/release in a comprehensive common format.

9. Chief Secretary added that the Hazard, Risk, Vulnerability Assessment (HRVA) undertaken by the HPSDMA shows that there are only 8 Major Accident Hazard (MAH) Industries in Himachal Pradesh whereas many more Industries are being setup in the State, which shows that requirement of effective coordination between the

HPSDMA and Department of Industries for mapping of all MAH units/industries in the State. The Fire Department in the State lacks in specialized resources to deal with the Chemical (Industrial) Disaster. Therefore, there is an urgent need to enhance the capacity of Fire Department especially those fire stations which are in the vicinity of the Industrial Pockets with the resources and antidot agents for various hazardous chemicals being used in the industries. DDMA's and District Administration may play an important role, the inventory of specialized equipment and specialist manpower resources need to be identified and should be entered in India Disaster Resource Network (IDRN) database which is functioning as a nationwide electronic inventory for various resources that may be deployed by an emergency manager during crisis situation. This database needs to be updated regularly and should be suitably integrated with the control rooms established at State/District Headquarters.



## **Chapter – 4**

### **Stakeholders' Presentations**

#### **1. Presentation by MAH units about onsite Emergency Management Plans & issues of immediate concern.**

Two units of Indian Oil Corporation (Solan & Una) and Ruchira Paper Mill Ltd, Sirmaur has presented their respective On-site Disaster Management Plan in which - Identification & Assessment of potential hazards, Plant Risk Evaluation, Area Risk Evaluation, Plant Emergency Organisation, Notification & Communication system, Emergency Equipment & Facilities, Training & Drills, Regular tests & updates and Post-Emergency Procedures Emergency Level Classification, how major accidents will be dealt within the site and named of those who are authorized to take actions in accordance with plans in case of emergency. The industrial units have exhibited their firefighting equipment's in their respective presentations. **(presentations are enclosed as Annexure - B, C & D)**

#### **2. Presentation on Off-site Disaster Management Plan on Industrial Disasters (Deputy Commissioners, Districts - Sirmaur, Solan and Una).**

The off-site Plan were presented by the Deputy Commissioners of Solan, Sirmaur and Una respectively. During the presentation each district has apprised the Chair about the general overview of industrial pockets situated in their respective districts and their current arrangements to deal the industrial disaster like situation. They apprise the chair that till date total 21 MAH Industries are established in the State and these MAH units have their On-site emergency plan prepared. The district and local crisis groups has already been constituted in the respective district, but regular meetings are not being organised. **(presentations are enclosed as Annexure - E, F & G)**

#### **3. Presentation on Preparedness for Chemical (Industrial) Disasters by Departments.**

- i. Labour Department:** Shri A.K Sood, Deputy Director, (Factories), Labour Department discussed the role of Labour Department as regulatory department entrusted with responsibility of implementation of various Labour laws. He stressed that there is an urgent need to implement provisions of Factories Act, 1948 which regulates Health, Safety and Welfare of the workers working in the factories. He also shared the provisions under the Manufacturer Import and Storage of Hazardous Chemical Rules 1989 and Public Liability Insurance Act, 1991 with reference to prevention of disasters. He provided the Detail of registered factories in Himachal Pradesh. He highlighted some of the constraints being faced by the department mainly to deal with the issues related to chemical disasters manpower with technical qualification is required in the department. **(presentation is at Annexure - H)**

- ii. Health Department:** Dr. Bharat Bhushan Katoch, Director of Health Services made a presentation on preparedness for Chemical/Industrial Disaster by Health Department. He explained the Major industrial hazards are generally associated with the potential for fire, explosion or dispersion of toxic chemicals and usually involve the accidentally release of material from containment. Further he talked about 35 chemicals which are being used by the various chemical industries of the State and their respective form Liquids, Gases, Vapors, Mist, Toxic Fumes (CO/CO<sub>2</sub>/Nitro Dioxide), Smoke and Products Combustion (Hydrocarbon & HCN) and their impacts on human body. Furthermore, he provided a snapshot of remedial step to be taken during the chemical disaster and highlighted the emergency response plan and medical services plan for industries. **(presentation is at Annexure - I)**
- iii. Fire Department:** Sh. S.B. Negi, ADG (Home Guards & Fire Services) commenced his presentation by elucidating the role of department Fire Fighting; Search and Rescue Operations; Fire Audit; Issue Fire NOCs; Awareness generation and Mock drills. He highlighted provisions stated section 15 - A of Himachal Pradesh Fire Fighting Services Act, all building plans in respect of buildings of above 15 meters of height, industrial units and commercial establishments dealing with or using explosive and highly inflammable substances shall require No Objection Certificate (NOC) from Director Fire Services or Chief Fire Officer which may become useful instrument for prevention of chemical disasters in the State. He further discussed that 66 industries are using 35 type of chemicals which are constricted in the Kangra, Solan, Sirmaur and Una district of Himachal Pradesh. He apprised about the current capacity especially in these areas and gaps in the department. **(presentation is at Annexure - J)**
- iv. Preparedness for Chemical (Industrial) Disasters by NDRF:** Sh. Ravi Kumar Pandita, Commandant 7th Battalion NDRF, Bathinda highlighted the role of NDRF and capacity for dealing with chemical emergencies. NDRF with the state-of-the-art equipment and with specialized training are competent to meet different kind of emerging challenges. Today, NDRF has 310 different types of equipment as per international standards for responding to various disasters. Efforts are being made to procure latest equipment to enhance our response. He appreciated Himachal Pradesh Government's step for creation of State Disaster Management Force (SDRF) and ensure that the NDRF is willing to provide training to the officer/officials of SDRF w.r.t to Chemical Disaster in addition to all other hazards in future.

## Chapter – 5

### **Salient Points from the discussions & TTEX**

- i. The Hazard, Risk, Vulnerability Assessment (HRVA) undertaken by the HPSDMA shows that there are only 8 Major Accident Hazard (MAH) Industries in Himachal Pradesh whereas many more Industries are being setup in the State. HPSDMA and Department of Industries shall coordinate for mapping of all MAH units/industries in the State on the digital HRVA portal of HPSDMA.
- ii. There is a need to work out better and effective institutional mechanism, coordination and strategies for ensuring synergy in the various activities of different departments.
- iii. Fire Department lacks in specialized resources to deal with the Chemical Industrial Disaster. Therefore, there is an urgent need to enhance the capacity of Fire Department especially those fire stations which are in the vicinity of the Industrial Pockets with the resources and antidot agents for various hazardous chemicals being used in the industries.
- iv. The inventory of specialized equipment and specialist manpower resources must be identified and should be entered in India Disaster Resource Network (IDRN) database which is functioning as a nationwide electronic inventory for various resources that may be deployed by an emergency manager during crisis situation. This database needs to be updated regularly and should be suitably integrated with the control rooms established at State/District Headquarters.
- v. Regular meetings of the State, District and Local Crisis Groups need to be organized to review the off-site emergency plan, monitor post-accident situation etc.
- vi. The DM-Cell has handed over the Industrial Plans to the Department of Industries. It must be ensured that the provisions stated under these plans are implemented at field level.
- vii. Industrial pockets such as Baddi and Nahan have successfully conducted the Chemical/Industrial mock exercises. All the industrial areas shall have mock drills on regular basis with reports being shared with the SDMA.
- viii. The State Govt has allocated land to the Department of Industries for expanding its industrial base in the State. It is imperative to ensure that land is allocated in a judicious manner, especially in case of hazardous industrial units. The need of the hour is to strictly enforce legislations on land-use in the State.
- ix. Third party risk assessment/Safety audit may be conducted in each chemical Industries of the State because the department may not have trained manpower.
- x. The nearby medical facilities may also be affected during the Chemical Disasters, these facilities should have contingency plan for medical arrangements.

## Chapter - 6

### Action Plan & Way Forward - Chemical (Industrial) Disasters

| <b>Sl.No.</b> | <b>Issue</b>  | <b>Action Required</b>   | <b>Responsible Department</b>                                |
|---------------|---|--|--|
| 1             | Identification of MAH Industries                                | Documentation of MAH Industries & Industries using hazardous chemicals                     | Chief Inspector of Factories, Pollution Control Board & DDMA |
| 2             | Updation of these industries on HRVA                            | GIS mapping of the Industries  | Industries Department & HPSDMA                               |
| 3             | Identification of dousing agent to deal with Chemical Disasters | Documentation of the Chemicals/ hazardous material wise dousing/containing agents          | Fire Department  |
| 4             | Knowledge about toxic effects of Chemical hazardous material    | Documentation of effects of hazardous material on human & environment and antidots thereof | Health Department & Pollution Control Board                  |
| 5             | Off Site Disaster Management Plans                              | Preparation of DM Plans and practice as mock drills on regular basis & updation            | DDMAs & Stakeholder Departments and Industries               |
| 6             | On-Site Disaster Management Plans                               | Preparation of DM Plans and practice as mock drills on regular basis & updation            | Industrial Units   |
| 7             | Registration of Hazardous material/chemical                     | Documentation and updation on Industries Department's website                              | Stakeholder Departments & Industrial Units                   |

**An Overview of Legal Provisions of Disaster Management in Industrial sector**



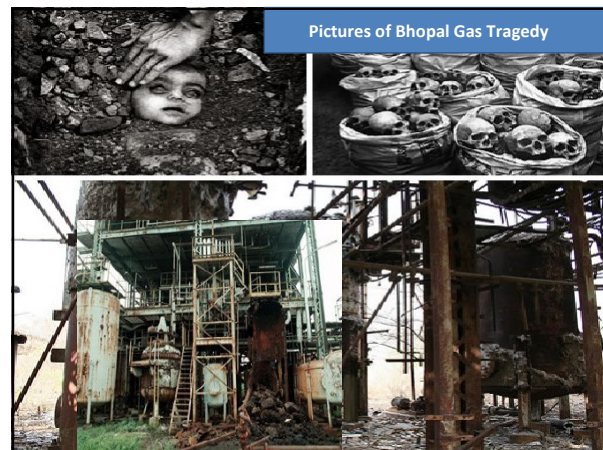
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3



4



**Fresh Demand: Rs. 7771 Crore:-**

Sum of Rs. 5786 crore on compensation; Rs. 1670 crore for rehabilitation and Rs. 315 crore more for the clearing the chemical contamination left behind by the Union Carbide.

| DANCE OF DEATH |   |
|----------------|---|
| 2,259          | Official death toll in 1984   |
| 3,900          | Permanently disabled  |
| 5,58,125       | people injured by the gas leak  |
| 15,274         | death dams actually settled   |
| ₹2,538 crore   | (At the December 2011 exchange rate of \$470 Million) paid by Union Carbide in 1989-90 in full and final settlement |
| ₹7,771 crore   | Fresh demand by the Government of India by way of compensation and rehabilitation                                   |

6

## Why Bhopal gas tragedy?

- Poor maintenance
- **Compromise with safety standards** – safety system switched off to save money; MIC tank alarms had not worked for four years.
- Work conditions – use of English Manuals, fining of employees, etc.
- **Non-existence of catastrophic plan** – on-site and off-site.
- Previous warning signs ignored
- Existence of slums in the vicinity of the plant.
- Shortcoming in health care and socio-economic rehabilitation.

7

7



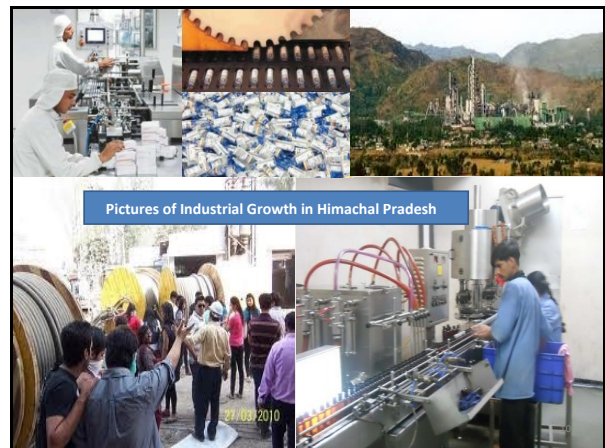
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## Vishakhapatnam Gas Leak

- Accident took place early morning of 7 May 2020 at 3:00 a.m.
- Occurred at the LG Polymers Chemical Plant in the RR Venkatapuram village
- The resulting vapour cloud spread over a radius of around 3km
- The death toll was 13, and more than 1,000 people became sick
- Accident was likely the result of insufficient maintenance of units storing the styrene monomer, improper storage, and operation errors
- LG Chem expanded its operations at LG Polymers plant five times between 2006 and 2018 without environment clearances
- Expenditure on relief: Rs. 1.0 crore; compensation: Rs. 30 Crore

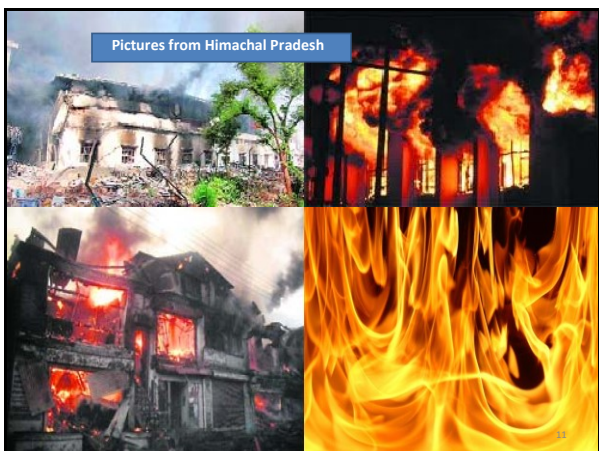
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8



10

Pictures from Himachal Pradesh



11

## Case Studies from HP

### Fire in Diamond Products Pvt. Ltd., Kala Amb

- 15<sup>th</sup> December, 2008 - 8 PM - 3.30 AM
- Fire tenders called from entire district, Ambala, Chandigarh and Yamunanagar.
- 14 fire engine used to put off fire
- Factory premises, including labour hostel completely destroyed.

12

12

## Case Studies from HP

### Fire in Adventec Coils Private Limited, Nalagarh

- 3<sup>rd</sup> June, 2009 - 1.30 AM till late evening
- Fire tenders called from entire district
- 100 employees working at the time of mishap
- 8 persons including a fire brigade official and a home guard jawan were killed
- 20 persons injured.

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## Gas leak from industrial unit leaves villagers panicky

Lalit Mohan  
Tribune News Service

Una, February 4

Gas leak (suspected to be chlorine) allegedly from an industrial unit, Mehak Chemicals, in the industrial area of Una district, created panic among local residents this morning.

The residents alleged that they saw brown vapours in the sky at about 7.30 am. Soon after, many children at Tithwal village complained of breathing problems and irritation in their eyes.

Village headman Arjan Singh alleged that 10 panic-stricken villagers brought their children from the government school located near the industrial unit. We informed the local authorities and officials of the Industries Department regarding the incident.

The Deputy Director, Industries, arrived at the spot and gave a clean chit to the owners of the industrial unit. We tried to confront the Deputy Director for giving a clean chit to the industrial unit without any



Residents of Tithwal village in Una district block traffic against the leakage of gas from an industrial unit on Wednesday. A Tribune photograph

inquiry. However, he drove his vehicle through the crowd of locals that had gathered there, the village headman alleged.

He alleged that the action of the official of the Industries Department infuriated the locals who then blocked traffic on the main road leading through Tithwal.

They raised slogans against the local administration and the management of the industrial unit. The traffic blockade in the area continued for about three hours before Una SDM Pandeep Thakur, arrived at the spot and pacified the people.

The SDM, acid Mehak Chemicals produced bleaching

power for which chlorine gas was used. The unit owners promise closure from the PACT plant in Nagal.

The plant had been operating in the area for the past more than 20 years. The people of the area had often been complaining regarding leakage of gas from the plant.

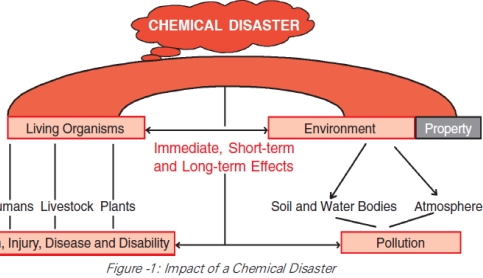
Residents of Tithwal village in Una district alleged that they saw brown vapours in the sky at about 7.30 am on Wednesday. Soon after, many children in the village complained of breathing problems and irritation in their eyes.

Interestingly, all the filing of this report, none of the pollution control board authorities had reached the spot to collect samples or conduct an inquiry. The General Manager, Industries, Una, said action would be taken against the plant owners in case they were found to be violating pollution norms.

The plant authorities were not available for comment. The SDM, however, said the plant management had been maintaining that there was nothing wrong with their plant.

Keeping in view the con-

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### Preparation of Hazard, Vulnerability & Risk Analysis atlas and report for the state of Himachal Pradesh

#### Environmental & Industrial Hazard Risk Assessment

Composite Final Draft Report  
(Ia)

Prepared for

Disaster Management Cell, Department of Revenue  
Government of Himachal Pradesh, Shimla

Prepared by

TARU  
TARU Leading Edge Pvt. Ltd.  
New Delhi and Ahmedabad, India

March 2015

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### Estimated area and Population (2011) in Buffer Zones of MAH Industries

| District    | Estimated Population (2011) |          | Estimated area (sq. km) |         |
|-------------|-----------------------------|----------|-------------------------|---------|
|             | 5 km                        | 10 km    | 5 km                    | 10 km   |
| Bilaspur    | -                           | 9,219    | 1.5                     | 48.9    |
| Hamirpur    | -                           | 18,052   | 1.8                     | 52.5    |
| Kullu       | 11,208                      | 32,005   | 53.4                    | 185.4   |
| Mandi       | 5,599                       | 20,534   | 24.5                    | 126.3   |
| Sirmaur     | 44,231                      | 1,02,747 | 176.5                   | 497.7   |
| Solan       | 37,499                      | 70,523   | 107.3                   | 289.5   |
| Una         | 8,591                       | 47,578   | 74.8                    | 199.0   |
| Grand total | 1,04,846                    | 2,95,563 | 439.7                   | 1,399.4 |

Source: AGSAC, Dept. of Labour & Employment, TARU Analysis

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## Industrial Accidents in HP

| Year | No. of fatal accidents | No. of persons died in fatal accidents | No. of non-fatal accidents | No. of persons injured in non-fatal accidents | Total no. of Accidents | Total no. of persons died & injured |
|------|------------------------|--|----------------------------|---|------------------------|-------------------------------------|
| 2008 | 6                      | 6                                      | 5                          | 5   | 11                     | 11                                  |
| 2009 | 10                     | 19                                     | 9                          | 32  | 19                     | 51                                  |
| 2010 | 3                      | 11                                     | 3                          | 5   | 6                      | 16                                  |

Source: Directorate of Labor and Employment, Govt. of Himachal Pradesh

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**Annexes**

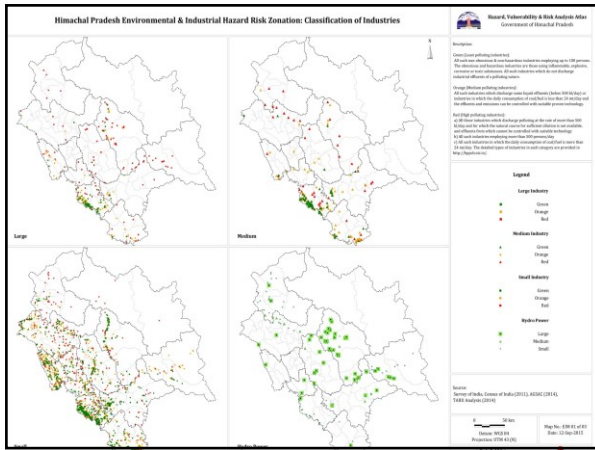
| List of MAH Industries |          |   |  |  |
|------------------------|----------|---|--|--|
| Sr. No.                | District | Name & Address of MAH   | Hazardous material being manufactured, handled, stored and imported  | Maximum Inventory  |
| 1                      | Solan    | M/S Indian Oil Corporation Ltd. Indane Bottling plant, Plot No 1 & 1-A, Industrial Area Baddi, District Solan | 1. LPG<br>2. LPG<br>3. HSD   | 300 MT<br>70MT<br>30 KLs   |
| 2                      | Solan    | M/S Pidilite Industries Ltd. Village Bhatolikalan, Baddi, District Solan                                      | 1. Class A Solvents (Toluene & SBP)<br>2. Rubber & Resins<br>3. Additives  | 300 KL<br>40 MT<br>10 MT   |
| 3                      | Solan    | M/S Pidilite Industries Ltd. Village Dharampur, Sai Road, Baddi, District Solan                               | 1. VAM<br>2. Goolanol<br>3. Elvanol T-25<br>4. Additive BBK<br>5. Additive<br>6. Silica Powder<br>7. Kurazy<br>8. Additive TKD   | 200 KL<br>30 Ton<br>50 Ton<br>8.0 Ton<br>30 KL<br>3 Ton<br>10 Ton<br>8 Ton   |
| 4                      | Sirmour  | M/S Pidilite Industries Ltd. Village Rampur Jattan Kala Amb, District Sirmour (Unit-III)                      | Hiol Fatty Acid<br>Caustic Potash Lye<br>Potassium Silicate<br>Styranol 913 /Naphthalene Soln<br>Polymol GH Liquid/ Naphthalene Soln<br>Sodium Lignosulphate<br>Power Coi 100<br>Sugar | 35 MT<br>20 MT<br>30 MT<br>20 MT<br>40 MT<br>50 MT<br>20 MT<br>5 MT<br>10 MT |

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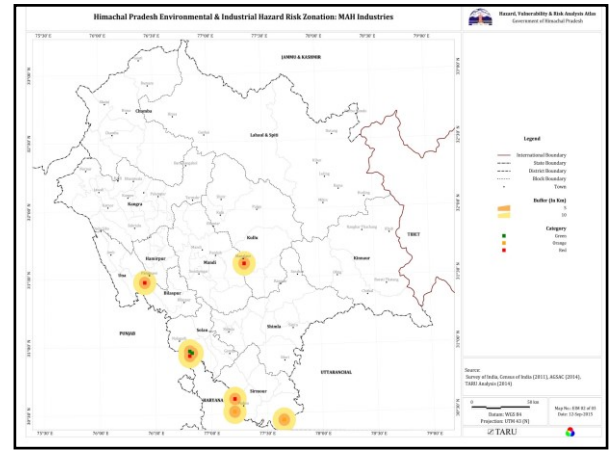
| List of MAH Industries |         |  |  |   |
|------------------------|---------|--|--|---|
| 5                      | Sirmour | M/S Pidilite Industries Ltd. Village Johron, Trilokpur Road Kala Amb, District Sirmour, Unit - II  | 1. Vinyl Acetate Monomer<br>2. Poly Vinyl Alcohol<br>3. Additive<br>4. Hydrochloric Acid<br>5. Potassium per Sulphate<br>6. Sodium Laurel Sulphate<br>7. Sodium Hydroxide<br>8. Sodium Hypochloride<br>9. 2-Ethyle Hexanol<br>10. Sodium Benzozate<br>11. Sodium Bicarbonate | 550 KL<br>80 MT<br>50 KL<br>2.5 MT<br>1.5 MT<br>100 kg<br>500 kg<br>100 Ltrs<br>170 hrs<br>1.5 MT<br>1.5 MT |
| 6                      | Sirmour | M/S Ruchira Papers Ltd. (Writing & Printing Paper unit) Trilokpur Road, Kala Amb, District Sirmour | 1. Sodium Chlorate<br>2. Chlorine<br>3. Sulphur Dioxide  | 40 MT<br>30 cylinders<br>10 cylinders   |
| 7                      | Una     | M/S Indian Oil Corporation Ltd. Indane Bottling plant, Rapur Sahoran, Mehatpur,                    | LPG<br>HSD   | 900 MT<br>20 KL   |
| 8                      | Kullu   | M/S Indian Oil Corporation Ltd. Petroleum Bulk Depot   | MS<br>HSD<br>SKO   | 440 KL<br>1110 KL<br>1110 KL  |

Source: Deptt. of Labour and Employment, GoHP

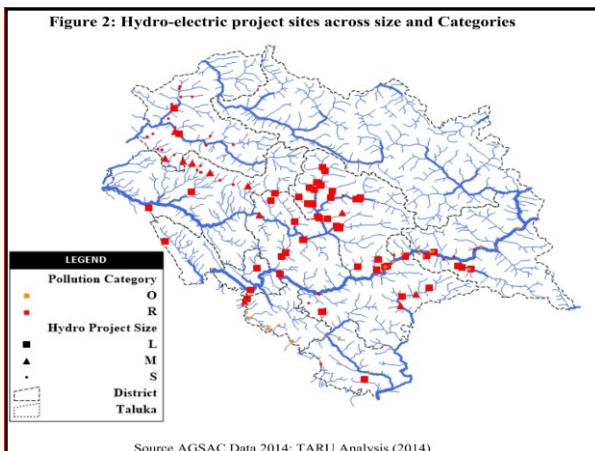
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**Preparation of Off-site Emergency Plans**

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# Legal Provisions

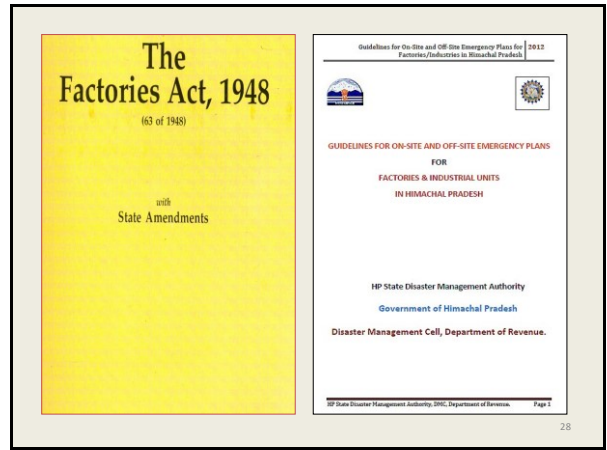
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- List of Relevant Statutes on Management of Hazardous Substances**
- The Environment (Protection) Act, 1986 (amended 1991) and following Rules thereunder:
    - The Environment (Protection) Rules, 1986 (amended 2004).
    - The Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 (amended, 1994 and 2000).
    - The Hazardous Wastes (Management and Handling) Rules, 1989 (amended 2000 and 2003).
    - The Environment Impact Assessment Notification, 2006.
    - The Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996.
    - Bio-medical Wastes (Management and Handling) Rules, 1989.
  - The Factories Act, 1948 (amended 1987).
    - State Factory Rules.
  - The Inflammable Substances Act, 1952.
  - The Motor Vehicles Act, 1988 (amended 2001).
    - The Central Motor Vehicles Rules, 1989 (amended 2005).
  - The Public Liability Insurance Act, 1991 (amended 1992).
    - The Public Liability Insurance Rules, 1991 (amended 1993).
  - The Petroleum Act, 1934.
    - The Petroleum Rules, 2002.
  - The Insecticides Act, 1968 (amended 2000).
    - The Insecticides Rules, 1971 (amended 1999).
  - The National Environment Tribunal Act, 1995.
  - The Explosives Act, 1884 (amended till 1983).
    - The Gas Cylinder Rules, 2004.
    - The Static and Mobile Pressure Vessels (Lifted) Rules, 1981 (amended 2002).
    - The Explosives Rules, 1983 (amended 2002).

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# NDMA Guidelines ([www.ndma.gov.in](http://www.ndma.gov.in))

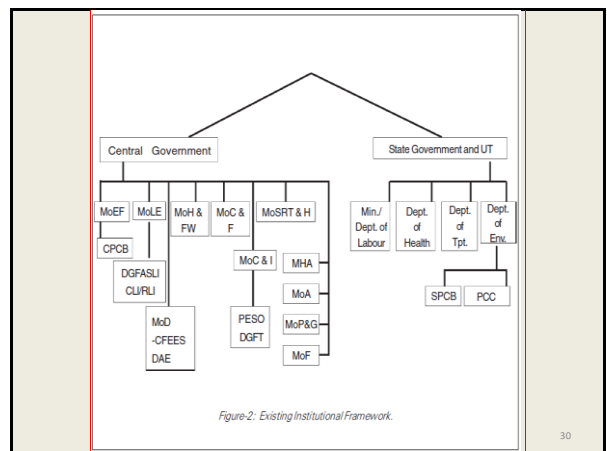
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# Institutional Mechanism

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## Disaster Management Act, 2005

- National Disaster Management Authority (NDMA) at the National Level
- State Disaster Management Authority (SDMA) at State level
- District Disaster Management Authority (DDMA) at district level
- Local Authorities at the local level

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## Guidelines for preparation of CDM

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## Initiators of Industrial Disaster/ Emergency

- Processes & System Failures
  - Technical Errors
  - Human error
  - Lack of information
  - Organizational errors
- Vehicle crash
- Terrorist Attacks/Sabotage
- Disasters like Earthquake

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## Causative Factors Leading to Chemical Disasters

- Fire
- Explosion
- Toxic release
- Poisoning
- Combinations of the above

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## Why Emergency Plan?

- To control/contain the accident and if possible to eliminate
- To minimize the effect of incident on persons, property and environment

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## On-site Emergency Plan

- Legal Provision
  - Section {41 (B) (4)} of Factories Act, 1948
  - Rule 13 of the Manufacture, Storage and Import of Hazardous Chemicals Rules 1989
  - Mock drill in every six months

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## Off-site Emergency Plan

- **Legal provisions**  
Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996
- Risk Assessment
- Mutual Assistance Response Group (MARG)
- Risk Communication and Public Awareness
- Mock Drills – once a year

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37



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## Salient Gaps

- Inspection system of factories
- Safety Audit & Procedures
- Medical Emergency Plans – trained manpower, chemical casualty treatment kits, antidotes for chemicals
- Information on Chemicals – Material Safety Data Sheets (MSDS) & Dos & Don'ts
- Register on potentially toxic chemicals
- Technology
- Education and Awareness
- Capacity issues of response agencies – Fire, Police, DDMA's, other responders

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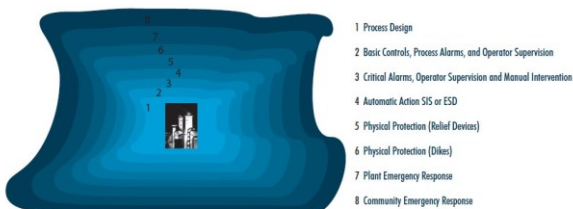
## Expected Outcome of the TTEX

- Regular Up-dation of MAH units, list on chemicals and IEC
- Preparation of procedures for safety audit and conduct of safety audit regularly
- Preparation of on-site emergency plans by all factories
- Preparation of Off-site emergency plans by all authorities
- Preparation of response plans by the departments
- Improvement in response capacities of responders
- Conduct of regular Mock Drills – onsite/off-site
- Institutionalization of Industrial Safety & Health

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## Layers of protection (LOP) against a Chemical Incident



\* Adapted from graphic on the website of AES consulting ([http://www.aesconsulting.com/nc\\_upRisk\\_LOP.html](http://www.aesconsulting.com/nc_upRisk_LOP.html))

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## For more details please contact:-




**HP State Disaster Management Authority,**  
Department of Revenue,  
Disaster Management Cell, HP Secretariat,  
Shimla – 171 002.  
Email: [sdma-hp@nic.in](mailto:sdma-hp@nic.in)  
Website: [www.hpsdma.nic.in](http://www.hpsdma.nic.in)

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**Presentation on On-Site DMP Indian Oil Corporation Unit-Solan**

LPG Bottling Plant, Baddi 11/5/20



# EMERGENCY RESPONSE AND DISASTER MANAGEMENT PLAN (ON-SITE)

Presented By  
Kailash Chand, Chief Plant Manager,  
Indian Oil Corporation Limited (MD),  
LPG Bottling Plant, Baddi , Dist. Solan, HP -173205

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## INTRODUCTION

- 1 • INTRODUCTION TO ERDMP
- 2 • LEVELS OF EMERGENCIES
- 3 • INTRODUCTION OF BADDI PLANT
- 4 • FIRE FIGHTING FACILITIES
- 5 • ORGANISATION CHART
- 6 • ROLES AND RESPONSIBILITES
- 7 • DRILLS AND ASSESSMENT
- 8

2

INTRODUCTION



*ERDMP or Onsite disaster management plant is prepared at our installation to meet the requirement of*

1. **MSIHC Rules.**
2. **PNGRB (Codes of Practices for Emergency Response and Disaster Management Plan (ERDMP)) Regulations, 2010.**
3. **Section 41B of the Factory Act 1948**
4. **The Chemical Accidents (Emergency Planning, Preparedness And Response) Rules, 1996**

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## INTRODUCTION

*ERDMP is an integral part of the overall loss control program. It is important for effective management of an accident/incident to minimize losses to people and property, both in and around the facility.*

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LPG Bottling Plant, Baddi 11/5/20



## SCOPE OF ERDMP

**The Scope covers:**

- i) **The identification of emergencies;**
- ii) **The mitigation measures to reduce and eliminate the risk or disaster;**
- iii) **The preparedness plans and actions when disaster or emergencies occur;**
- iv) **The responses that mobilize the necessary emergency services including responders like fire service, police service, medical service, ambulance, government as well as non-governmental agencies;**
- v) **The post disaster recovery with aim to restore the affected area to its original conditions;**

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## LEVEL OF EMERGENCIES

**Level - 1 (ON-SITE)** *Emergency which can be effectively and safely managed within the installation by the available resources. It has no impact outside the site, location or installation  
( To be Declared by Chief - Incident-Controller)*

**Level - 2 (ON -SITE)** *Emergency which cannot be effectively and safely managed within the installation by available resource and additional support is required. It has the potential to have an effect beyond the installation and where external support of mutual aid partner may be involved.  
( To be Declared by Chief - Incident-Controller)*

**Level - 3 (OFF-SITE)** *Emergency or an incident which could be catastrophic and is likely to affect the population, property and environment inside and outside the installation, and management and control is done by District Administration.  
( When emergency becomes catastrophic and evacuation beyond the Plant premises is considered necessary by the chief incident controller, the situation will be handed over to district authority for implementing the off-site emergency plan )*

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**LEVEL OF EMERGENCIES**

**Level – 1  
(ON-SITE)**

**Emergency which can be effectively and safely managed within the installation by the available resources. It has no impact outside the site, location or installation**

- LPG vapour Leakage from the flanges/Pipeline/ Valves SRV/ TSV/PAV
- Pinhole leakage from Pipelines
- Failure of gasket resulting in leakage
- Leakage from cylinder
- Short circuiting/ Fire in the PMCC / DG Room / Transformer /Office etc

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**LEVEL OF EMERGENCIES**

**Level – 2  
(ON-SITE)**

**Emergency which cannot be effectively and safely managed within the installation by available resource and additional support is required. It has the potential to have an effect beyond the installation and where external support of mutual aid partner may be involved.**

- Leakage from tank truck while unloading of LPG or HSD.
- Leakage of LPG during water draining
- Failure of SRV leads to leakage of LPG
- Leakage from pipeline due to damage by external sources, sabotage, pilferage.
- Failures caused by corrosion defects,
- Failures caused by miscellaneous factors such as pipe material defects, natural hazards.
- Burst of LPG Pipelines

11/5/20 LPG Bottling Plant, Baddi

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**LEVEL OF EMERGENCIES**

**Level – 3  
(OFF-SITE)**

**Emergency or an incident which could be catastrophic and is likely to affect the population, property and environment inside and outside the installation, and management and control is done by District Administration.**

- Lightning strike on storage vessel /collapse of building / structures etc.
- Catastrophic rupture storage vessel
- Catastrophic rupture of tank lorry in TLD
- Catastrophic rupture TT/Truck in Parking area
- Pool fires
- Vapour cloud explosion.
- Agitation / forced entry by external group of people.
- Natural Perils – Earthquake, land slide etc.
- Sabotage, Bomb explosion, Threat

11/5/20 LPG Bottling Plant, Baddi

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**INTRODUCTION OF PLANT**

- FIRST BOTTLING PLANT IN HIMACHAL PRADESH** : Set up in 1989
- AREA**: 11 acres (Licensed area 6 acres and Non-licensed 5 acres).
- BOTTLING CAPACITY IN Double SHIFT**: 30,000 MTPA
- BULK LPG STORAGE CAPACITY** : 300 MT  
a) 2x150 MT Bullets.
- BULK LPG UNLOADING FACILITY** :  
Tank Truck Decantation shed having facility for decanting 3 Bulk TTs at a time.

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LPG Bottling Plant, Baddi 11/5/20

**BIRD-EYE VIEW OF PLANT**

11/5/20 LPG Bottling Plant, Baddi

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**PLANT FACILITIES**

|                                  |  |
|----------------------------------|--|
| <b>Total Area</b>                | <b>11 Acres</b>  |
| <b>Commercial Bottling</b>       | <b>28th June 1989</b>  |
| <b>No of shifts</b>              | <b>Two</b>   |
| <b>No. of Districts attached</b> | <b>8 Distt. of Himachal Pradesh &amp; Adj. Mkt. of Haryana</b> |
| <b>Markets attached</b>          | <b>52</b>  |
| <b>No. of Distributors</b>       | <b>78</b>  |
| <b>Plant Capacity</b>            | <b>30 TMTPA</b>  |
| <b>Filling Machines</b>          | <b>1 X 12 PT Electronic carousel+ 47.5 kg UFM</b>              |
| <b>Bulk Storage</b>              | <b>300 MT (2 X 150)</b>  |
| <b>Bulk Source</b>               | <b>Nabha , Karnal, Loni , Jaipur -by Road</b>                  |
| <b>TLF /TLD</b>                  | <b>3 Bays</b>  |

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## SAFETY AND F/F FACILITIES

|                               |                                    |
|-------------------------------|------------------------------------|
| Fire Water Storage            | (2x2200 )= 4400 KL                 |
| Fire Engines                  | 2 x 410 kl/Hr + 1x 610 kl/Hr (s/b) |
| Jockey Pumps                  | Two 10 kl/Hr                       |
| Fire Proximity Suit           | 1 nos                              |
| Fire Extinguishers (DCP type) | 40x9 Kg & 5x75 Kg                  |
| Fire Extinguishers (CO2 type) | 12x4.5 kg                          |
| SCABA                         | 1 No with spare cylinder           |
| Low temperature suits         | 2 nos                              |
| Gas Monitoring System         | 23 Channels                        |
| Double Hydrant Points         | 16 Nos.                            |
| Water Monitors                | 16 Nos.                            |
| Deluge Valves                 | 09 Nos.                            |
| MCP                           | 10 Nos.                            |

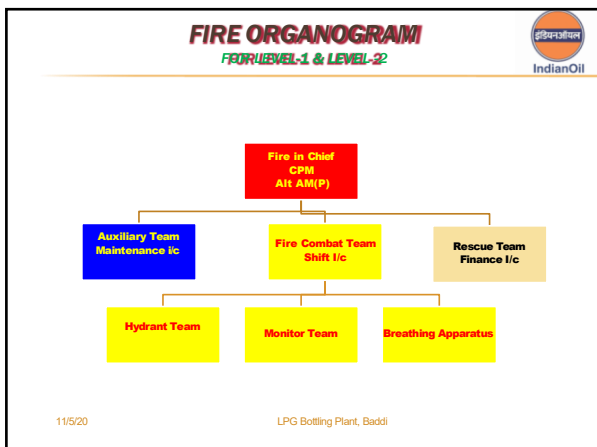
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## MAJOR HAZARD AT PLANT

1. Fire
2. Explosion
3. BLEVE

11/5/20 LPG Bottling Plant, Baddi

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## ROLES

11/5/20 LPG Bottling Plant, Baddi

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### CHIEF INCIDENT CONTROLLER FIRE IN CHIEF

**Name :** Sh. Kailash Chand, CPM

**Activities:**

1. Overall in charge of all the operations.
2. Decision regarding Declaration of Disaster, Calling of External Help, Emergency Handling Strategy, and All Clear siren to be taken by Fire In Chief.

11/5/20 LPG Bottling Plant, Baddi

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### SITE INCIDENT CONTROLLER COMBAT TEAM

**Team Leader :** Sh. Ashu Agarwal, AM(Safety)


**Activities :**

1. Incident Controller till the arrival of Fire In Chief.
2. Deployment of Manpower to the Nearest upwind Hydrant and Monitors.
3. Operation of Deluge Valves as per requirement.
4. Closure of Valves etc (if required) in the ill fated zone.
5. Continuous Feed back to Fire In Chief regarding the condition of emergency.
6. After extinguishing the fire, survey of the site to be carried out for ruling out the possibility of re-ignition.
7. Advise Fire in Chief for giving All Clear Siren.

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## AUXILIARY TEAM

  
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**Leader :** Sh. Nishant Negi, Asst. Manager(P)


**Activities:**

1. Reach at site and distribute PPEs to fire combat team .
2. Call for external help ( if required ) in consultation with Fire in Chief.
3. Supply of addition fire fighting, rescue ( reinforcement ) equipment as per requirement.
4. Help in Positioning of First Aid Fire Fighting Trolley, Ambulance and fire tender in consultation with Fire in Chief.
5. Checking of LEL around place of emergency, and reporting to fire in chief and combat team leader.
6. Help the BA team in donning of BA Set and Fire Proximity Suit.
7. Provide Relief to the other teams by supply manpower.

11/5/20 LPG Bottling Plant, Baddi

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## RESCUE TEAM

  
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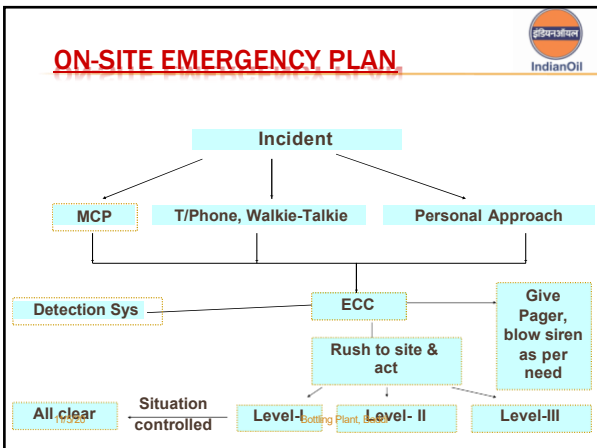
**Leader :** Sh. Ashok Kumar, AO-II

**Activities:**

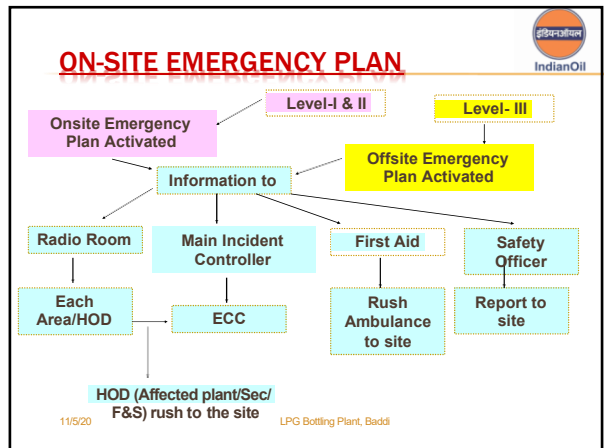
1. Reach at site with First Aid Box and Stretcher.
2. Take care of all important financial document and place them in safe place.
3. Take regular rounds of plant for search of casualty.
4. Providing First aid to the injured.
5. Send casualty to the hospital

11/5/20 LPG Bottling Plant, Baddi

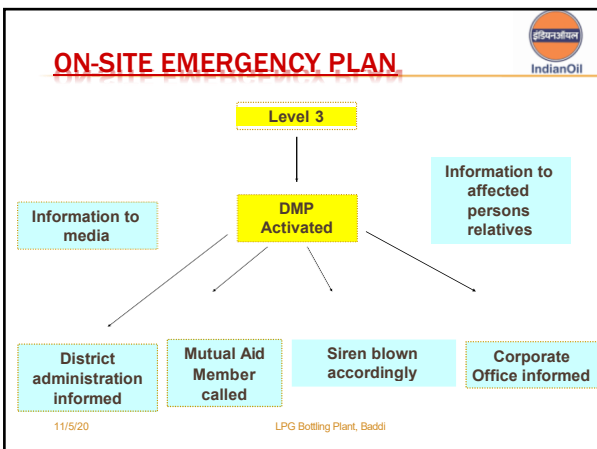
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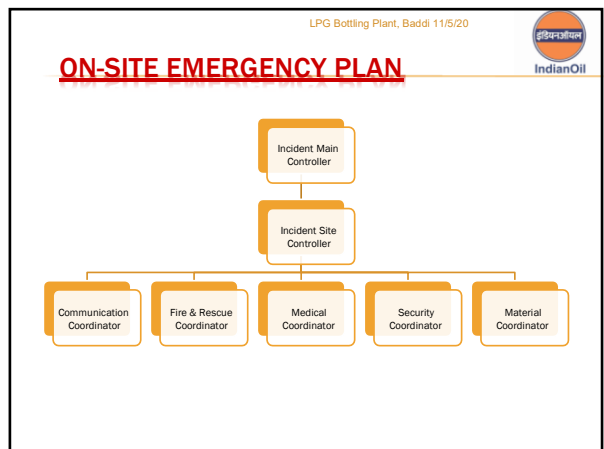
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LPG Bottling Plant, Baddi 11/5/20

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## ON-SITE EMERGENCY PLAN

**Siren Codes:**

- Emergency siren codes are as follows:
- (a) Emergency Level-I: A wailing siren for two minutes.
- (b) Emergency Level-II and III: Same type of siren as in case of Level - I and II but the same will be sounded for three times at the interval of one minutes i.e. (wailing siren 2min + gap 1 min + wailing siren 2min + gap 1min + wailing siren 2min) total duration of Disaster siren to be eight minutes.
- (c) ALL CLEAR: Straight run siren for two minutes.
- (d) TEST: Straight run siren for two minutes at frequency at least once a Week.

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LPG Bottling Plant, Baddi 11/5/20


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## ON-SITE EMERGENCY PLAN REHEARSAL

- ✓ **Frequency:** Half-yearly
- ✓ **Involvement:**
  - Key Personnel
  - Mutual Aid Members

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LPG Bottling Plant, Baddi 11/5/20

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## MUTUAL AID MEMBER

*We have entered into Mutual Aid Agreement with following industries , who in case of emergency can provide Equipment, Manpower and technical help in case of emergency situation:*


1. M/s Vardhman Textiles, Baddi
2. M/s Winsome Textiles, Baddi
3. M/s Winsome Textiles, Baddi

11/5/20

LPG Bottling Plant, Baddi

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LPG Bottling Plant, Baddi 11/5/20


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## ON-SITE EMERGENCY PLAN REHEARSAL

- ✓ **Highlights:**
  - Well equipped Emergency Control Centre.
  - Assembly Points identified and displayed.
  - Likely emergency Scenarios identified and rehearsed
  - Observers from senior management
  - Well laid out / written mock drill assessment sheet
  - Review of rehearsal by senior management officials and observers, for identifying improvement areas.
  - Review immediately after the rehearsal.

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LPG Bottling Plant, Baddi 11/5/20

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## ON-SITE EMERGENCY PLAN REHEARSAL

- ✓ **Assessment by observers is done w.r.t.:**
  - Communication
  - Response Time
  - Action by
    - Plant Staff
    - Safety staff
    - Security
  - Assembly Point
  - Use of PPEs
  - Transport
  - ECC (Emergency Control Centre)
  - Mutual Aid

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LPG Bottling Plant, Baddi 11/5/20


 IndianOil

## ON-SITE EMERGENCY PLAN REHEARSAL



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Presentation on On-Site DMP Indian Oil Corporation Unit-Una



**IndianOil**  
**Presentation on**  
**On-Site Emergency Plan & Fire Fighting**  
**System**

---

**By**  
**Neelkamal,**  
**Manager (OPS-Safety), Una Terminal**

05/11/20 Una Terminal

1



2

**Topics to be Covered**

- Brief Introduction about Una Terminal
- **On-Site Emergency Plan**
- **Fire fighting System available at IOCL Una Terminal**

05/11/20 Una Terminal

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**1. Brief Introduction:**

- Govt. of HP allotted 61.62 acres of Govt. Land in Nov'14 at Pekhubela, Una on 99 year lease to IOCL.
- Una Terminal shall cater to POL requirement of HP State leading to improvement in availability of fuel in HP.
- Una shall be a strategic Storage point for Indian Defence to meet Annual Winter Fuel Stocking needs in Leh & Ladakh.

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**1. Brief Introduction: Location**



|                          |                                  |
|--------------------------|----------------------------------|
| Latitude & Longitude     | 31°24'31.70" N / 76°16'48.70" E  |
| Village/ District/ State | Pekhubela/ Una/ Himachal Pradesh |

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**1. Brief Introduction: Salient Feature**

- **Una:** Gateway to the State of HP from neighboring state of Punjab.
- **IOCL's nearest location:** Una BP at Mehatpur, Una (7 km).
- **International Border:** 190 km (Wagah, Punjab).
- **Access:** Road and Rail.
- **District Administration:** Una (7 km); State Administration: Shimla(210 km).
- **Police Station:** Mehatpur, Una (6 km).
- **Fire Station:** Rampur, Una (6 km).
- **Civil Hospital:** Una City (9 km).
- **Bomb Disposal Squad:** Jalandhar (85 km).
- **Surroundings:** Land locked from 3 sides and Swan River (West).

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### 1. Details of Storage of Hazardous Materials

| Tag No.                 | Product Stored | Tank Dimensions<br>(Diameter x Height<br>or Length<br>(m)) | Tank<br>Capacity<br>(KL) | Tank Type               |
|-------------------------|----------------|--|--------------------------|-------------------------|
| <b>Dyke -1</b>          |                |  |                          |                         |
| T-01A                   | MS             | 30'14  | 7990                     | IFR Tank                |
| T-01B                   | MS             | 30'14  | 7990                     | IFR Tank                |
| T-03C                   | MS             | 30'14  | 7990                     | IFR Tank                |
| <b>Dyke -2</b>          |                |  |                          |                         |
| T-02A                   | HSD            | 40'14  | 16003                    | CRVT                    |
| T-02B                   | HSD            | 40'14  | 16003                    | CRVT                    |
| T-02C                   | HSD            | 40'14  | 16003                    | CRVT                    |
| <b>Dyke-3</b>           |                |  |                          |                         |
| T-03A                   | SKO            | 28'11  | 6006                     | CRVT                    |
| T-03A                   | SKO            | 28'11  | 6006                     | CRVT                    |
| <b>Dyke-4</b>           |                |  |                          |                         |
| T-04A                   | Ethanol        | 12'8   | 601                      | IFR TANK                |
| T-04B                   | Ethanol        | 12'8   | 601                      | IFR TANK                |
| T-04C                   | Ethanol        | 12'8   | 601                      | IFR TANK                |
| TR-1                    | TRANSMIX       | 12'8   | 601                      | IFR TANK                |
| TR-2                    | TRANSMIX       | 12'8   | 752                      | CRVT (CLASS-B)          |
| <b>UNDERGROUND DYKE</b> |                |  |                          |                         |
| T-05A                   | MS             | 2.1'6  | 20                       | UNDERGROUND(HORIZONTAL) |
| T-05B                   | SKO            | 2.1'6  | 20                       | UNDERGROUND(HORIZONTAL) |
| T-05C                   | HSD            | 2.1'6  | 20                       | UNDERGROUND(HORIZONTAL) |
| T-05D                   | Ethanol        | 2.1'6  | 20                       | UNDERGROUND(HORIZONTAL) |
| T-05E                   | HSD (Own Use)  | 2.1'6  | 20                       | UNDERGROUND(HORIZONTAL) |

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### 2. On-Site Emergency Plan:

- As per PNGB (code of practices for Emergency Response and Disaster Management Plan (ERDMP) Regulation, 2010, we have On-Site Emergency Plan, vetted by PNGRB approved party.
- This plan has been prepared based on QRA & HAZOP /HAZID conducted at POL installation.
- Mutual Aid agreements (valid for a maximum period of 2 years) shall be prepared and signed by all Mutual Aid members. Fresh agreement shall be made on expiry of 2 years or whenever there is change in the signatories to the agreement. Mutual Aid Scheme is available. [Mutual Aid Agreement.pdf](#)
- Well defined Fire Organisation Chart as per PNGRB guidelines. [FOC.jpg](#)

On-Site Emergency depends upon the Level of Emergency as per PNGRB. [Levels of Emergency.jpg](#)

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### 2. On-Site Emergency Plan:

| SL. NO. | TYPE OF EMERGENCY | APPLICABLE EMERGENCY | DESCRIPTION OF EMERGENCY   |
|---------|-------------------|----------------------|--|
| 1.      | Level-1           | On Site              | <ul style="list-style-type: none"> <li>Oil Spills from Flanges/ pipelines/ Gate Valves.</li> <li>Pipeline leakage from pipeline.</li> <li>Failure of gasket resulting in leakage.</li> </ul>   |
| 2.      | Level-2           | On Site              | <ul style="list-style-type: none"> <li>Spillage from Tank Trucks' due to overflow.</li> <li>Overflow from Storage Tank/ roof sinking during receipt.</li> <li>Leakage from pipeline due to damage by external sources such as: sabotage/ pilferage etc.</li> <li>Failure caused by corrosion defects.</li> <li>Failure due to material defects of pipeline/ or natural hazards.</li> </ul> |
| 3.      | Level-3           | Off Site             | <ul style="list-style-type: none"> <li>Break of pipelines inside/ or outside premises.</li> <li>Failure of storage tanks leading to Pool Fire.</li> <li>Agitation/ forced entry by external group of people.</li> <li>Natural Perils-Earthquake, flood, tsunami, sabotage, bomb explosion/ threat.</li> </ul>  |

In case of Level-3 emergencies, CIC will be the local District Authorities.

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### 3. Fire Fighting Facilities:

- Fire Engines: 5 nos. of FEs. Main FE: 3 nos. & Standby Fes: 2 nos. as per OISD-117.**
- Jockey Pumps: 1 main & 1 Standby.**

| Fire Engines        |           | Fire Pumps |           |
|---------------------|-----------|------------|-----------|
| Rated Power         | 395 HP    | Discharge  | 616 KL/hr |
| Rated RPM           | 1800      | Head       | 105 m     |
| <b>Jockey Pumps</b> |           |            |           |
| Discharge           | 60 KL/hr. |            |           |
| Head                | 110 m     |            |           |
| Rated RPM           | 2945      |            |           |

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### Fire Water Storage Facilities & Water Requirement

| Water tank Details    |            |                  |  |
|-----------------------|------------|------------------|--|
| Available at Terminal |            |                  |  |
| S NO                  | Water Tank | Storage Capacity |  |
| 1                     | WT-1       | 4295 KL          |  |
| 2                     | WT-2       | 4295 KL          |  |
| 3                     | WT-3       | 4295 KL          |  |

Water Requirement as per OISD: 7392 KL  
Fire Water Availability : 11750 KL (Pumpable)  
Fire Water UG sump (140 KL cap.) facilities for taking Water from Outside agencies.  
Bore wells are available for replenishment of Fire Water: 2 nos. (each cap. 50 KL/Hr.)

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### 3. Fire Fighting Facilities:

- Foam Pouter & Fixed Water spray system (Sprinkler) provided on all MS & HSD AG Tanks.
- Foam Pouter System provided on all SKO tanks.
- Fixed Water spray system (Sprinkler) provided on all tanks in Dyke -4 (Ethanol Storage tanks & Transmix Tanks).
- Centralised Foam Feeding System: Two Foam Feeding Pumps with 2 nos. Mother Foam tanks (12 KL each).
- Foam Bladder Tanks at all MS, HSD & SKO AG Storage tanks.
- Motorable Road around all 4 tanks dyke for easy access for Fire Tender.

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**List of Fire Fighting Equipments**

| S. No. | Items/ Description       | Qty Available |
|--------|--------------------------|---------------|
| 1      | 9 Kg DCP Fire Ex         | 110           |
| 2      | 25 Kg DCP Fire Ex        | 16            |
| 3      | 75 Kg DCP Fire Ex        | 5             |
| 4      | 4.5 Kg CO2 Fire Ex       | 38            |
| 5      | 2.0 Kg CO2 Fire Ex       | 14            |
| 6      | Water Monitor            | 62            |
| 7      | Water-Cum- Foam Monitors | 24            |
| 8      | HVLR Remote operated     | 7             |
| 9      | Trolley Mounted HVLR     | 2             |
| 10     | MEFG fixed type          | 6             |
| 11     | MEFG portable type       | 2             |

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**List of Fire Fighting Equipments ....(continue**

| S. No. | Items/ Description             | Qty Available |
|--------|--------------------------------|---------------|
| 12     | Fire Proximity Suit            | 1             |
| 13     | Foam Trolley (200 litres Tank) | 3             |
| 14     | Resuscitator                   | 2             |
| 15     | Stretcher                      | 2             |
| 16     | First Aid Box                  | 2             |
| 17     | Double Headed Hydrant Points   | 82            |
| 18     | Fire Hose Boxes                | 68            |
| 19     | AFFF (3%)                      | 78 KL         |
| 20     | ATC FOAM                       | 7.6 KL        |
| 21     | Hand Siren                     | 11            |
| 22     | Electrical Siren               | 2             |

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**List of Fire Fighting Equipments ....(continue**

| S. No. | Items/ Description    | Qty Available |
|--------|-----------------------|---------------|
| 23     | SCABA                 | 1             |
| 24     | Emergency Trolley     | 1             |
| 25     | Jet Nozzle Spare      | 2             |
| 26     | Fog Nozzle            | 2             |
| 27     | Water Curtain Nozzle  | 2             |
| 28     | Universal Nozzle      | 2             |
| 29     | Foam Branch pipe (3%) | 2             |
| 30     | Red / Green Flags     | 2/2           |
| 31     | Safety Helmets        | 60            |
| 32     | Sand Buckets          | 20            |
| 33     | HP for Portable HVLR  | 4             |

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**Few Pics of Fire Fighting Equipments:**

2.0 Kg CO2 Fire Extinguisher



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**Few Pics of Fire Fighting Equipments:**

4.5 Kg CO2 Fire Extinguisher



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**Few Pics of Fire Fighting Equipments:**

9 Kg DCP Fire Extinguisher



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Few Pics of Fire Fighting Equipments: 

□ 25 Kg DCP Fire Extinguisher



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Few Pics of Fire Fighting Equipments: 

□ 75 Kg DCP Fire Extinguisher




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Few Pics of Fire Fighting Equipments: 

□ Double Headed Hydrant Point



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Few Pics of Fire Fighting Equipments: 

□ Fire Hose



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Few Pics of Fire Fighting Equipments: 

□ Foam Compound Trolley




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23

Few Pics of Fire Fighting Equipments: 

□ Foam Branch Pipes



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Few Pics of Fire Fighting Equipments: 

□ Fog Nozzle



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25


Few Pics of Fire Fighting Equipments: 

□ Jet Nozzle




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Few Pics of Fire Fighting Equipments: 

□ Mayur Nozzle or Water Curtain Nozzle



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27

Few Pics of Fire Fighting Equipments: 

□ Universal Nozzle



05/11/20 Una Terminal 28

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Few Pics of Fire Fighting Equipments: 

□ Water Monitor



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Few Pics of Fire Fighting Equipments: 

□ Water Cum Foam Monitor



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Few Pics of Fire Fighting Equipments: 

- Remote Operated HVLR Monitor



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Few Pics of Fire Fighting Equipments: 

- MEFG: Medium Expansion Foam Generator



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Few Pics of Fire Fighting Equipments: 

- Sand Bucket



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**With  
Sincere Thanks**

05/11/20 Una Terminal 34

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**Presentation on On-Site DMP by Ruchira Paper Mill Ltd-Sirmaur**

**OFF-SITE DMP ON CHEMICAL (INDUSTRIAL) DISASTER**

(Dr. R.K. Pruthi, IAS)  
Deputy Commissioner  
Sirmaur at Nahana  
District Sirmaur, HP

1

**“OFF-SITE DMP ON CHEMICAL (INDUSTRIAL) DISASTER”**

**Industrial Areas in District Sirmaur**

- Total Industries 1238 nos
- IA Kala Amb - 530 nos
- IA Paonta Sahib - 561 nos
- MAH Units - 3 nos in IA Kala Amb
- Population of Kala Amb Permanent - 5394 nos Floating - 20,000 nos

2

**“OFF-SITE DMP ON CHEMICAL (INDUSTRIAL) DISASTER”**

**Sources of Chemical Disaster**

Chemical accidents may originate in:

- **Transportation** (loading & unloading )
- **Material handling and storage** in manufacturing facilities and isolated storage; warehouses and godowns including tanks etc.
- Manufacturing and formulation installations including during commissioning and **process operations; maintenance and disposal.**

3

**“OFF-SITE DMP ON CHEMICAL (INDUSTRIAL) DISASTER”**

**Causative Factors Leading to Chemical Disasters**

Chemical disasters, in general, may result from:-

- Fire
- Explosion
- Toxic Release
- Poisoning
- Combination of the above

4

**“OFF-SITE DMP ON CHEMICAL (INDUSTRIAL) DISASTER”**

**MAH Units in Kala Amb**

4(b) - Isolated storage of a hazardous chemical listed in Schedule 2 in a quantity equal to or more than the threshold quantity specified in Column 3 thereof.

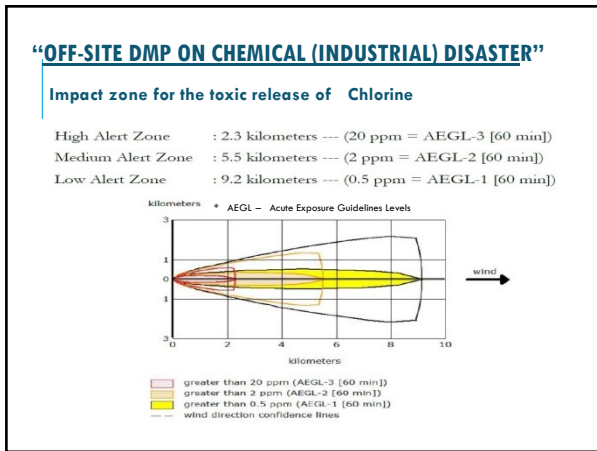
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**“OFF-SITE DMP ON CHEMICAL (INDUSTRIAL) DISASTER”**

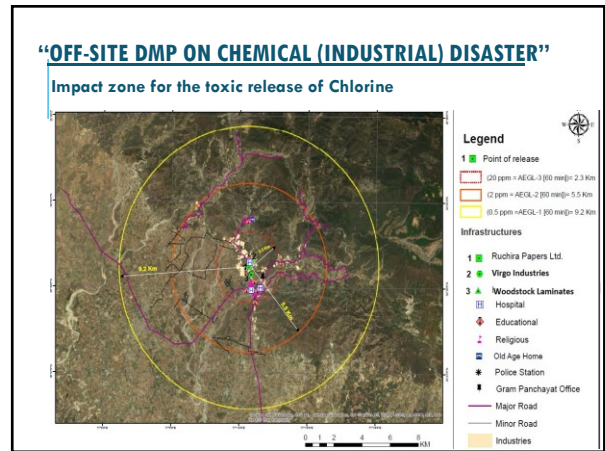
**MAH Units in Kala Amb**

| Inventories at MAH Industries of Kala Amb |   |                           |                         |              |                        |
|---|---|---------------------------|-------------------------|--------------|------------------------|
| Sr. No.                                   | Name of Unit  | Hazardous Chemical        | Onsite Storage Quantity | Max. Storage | Threshold Limit        |
| 1   | Ruchira Papers Ltd., Trilokpur Road, Kala Amb                     | Chlorine                  | 25 T                    | 45 T         | 10 T                   |
|   |   | Sodium Chlorate           | 30 T                    | 100 T        | 25 T                   |
|   |   | Liquid Oxygen             | 20 KL                   | 20 KL        | 200 T                  |
|   |   | Sulphur Dioxide           | Nil                     | 9T           | 20 T                   |
| 2   | Virgo Industries, Village Rampur Jattan, Kala Amb                 | Formaldehyde (36 % Conc.) | 65 MT                   | 100 MT       | 5 T                    |
|   |   | Phenol                    | 67 MT                   | 100 MT       | Sr. No. 481 of Part II |
| 3   | Woodstock Laminates Ltd., Village Moginand, Nahana Road, Kala Amb | Formaldehyde (36 % Conc.) | 2 T                     | 4.5 T        | 5 T                    |
|   |   | Phenol                    | 8.5 T                   | 60 T         | Sr. No. 481 of Part II |

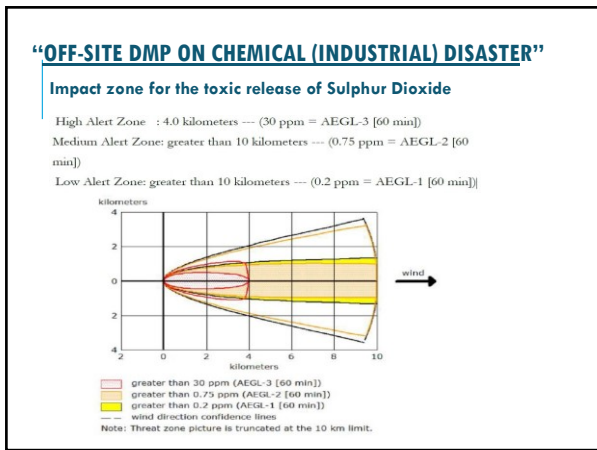
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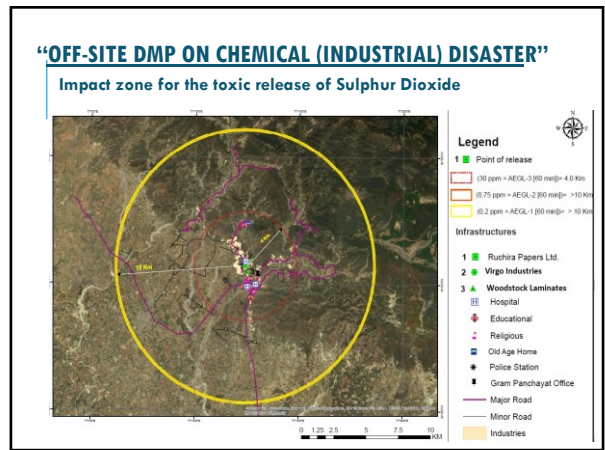
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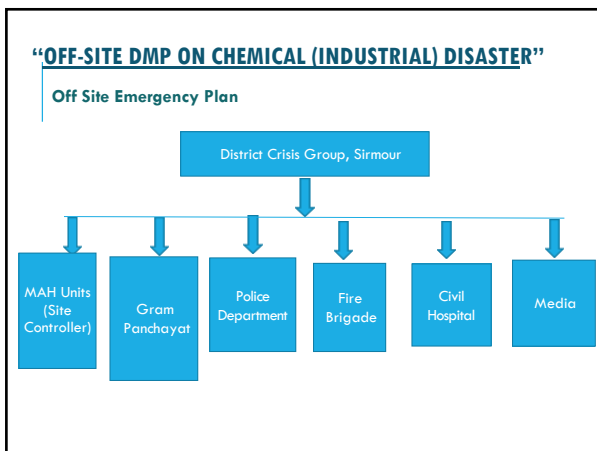
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### “OFF-SITE DMP ON CHEMICAL (INDUSTRIAL) DISASTER”

#### Composition of District Crisis Group

| Sl. No. | Designation & Address  | District Crisis Group (Designation) |
|---------|--|-------------------------------------|
| 1       | The Deputy Commissioner-DM-cum-Chairman, DDMA, District Sirmour        | <b>Chairperson</b>                  |
| 2       | The Addl. Deputy Commissioner, ADM, District Sirmour                   | <b>Vice Chairperson</b>             |
| 3       | The Superintendent of Police, District Sirmour                         | Member                              |
| 4       | The Superintending Engineer, (I) (Shakti), District Sirmour            | Member                              |
| 5       | The Superintending Engineer, (DPP/VD), District Sirmour                | Member                              |
| 6       | The Superintending Engineer, (HSE/EL), District Sirmour                | Member                              |
| 7       | The Sub-Divisional Officer (C), Nahan & Paonta Sahib, District Sirmour | Member                              |
| 8       | The Commandant, (Home Guards & Civil Defence), District Sirmour        | Member                              |
| 9       | The Deputy Director (Agriculture), District Sirmour                    | Member                              |
| 10      | The Deputy Director (Animal Husbandry), District Sirmour               | Member                              |
| 11      | The District Labour Officer, District Sirmour                          | Member                              |
| 12      | The District Controller, Food & Civil Supplies, District Sirmour       | Member                              |
| 13      | The Principal, Dr. YSPG Medical College, District Sirmour              | Member                              |
| 14      | The Chief Medical Officer, District Sirmour                            | Member                              |
| 15      | The District Revenue Officer, District Sirmour                         | Member                              |
| 16      | The District Information Officer, District Sirmour                     | Member                              |
| 17      | The District Public Relations Officer, District Sirmour                | Member                              |
| 18      | The District Fire Officer, District Sirmour                            | Member                              |
| 19      | The Sub-Divisional Officer (BSNL), District Sirmour                    | Member                              |
| 20      | The Regional Transport Officer, District Sirmour                       | Member                              |
| 21      | The Executive Officer, A/C, Nahan, District Sirmour                    | Member                              |
| 22      | The Executive Officer, A/C, Paonta Sahib, District Sirmour             | Member                              |
| 23      | The HES Head, Terapan Group of Industries, Paonta Sahib, Sirmour       | Member                              |
| 24      | The Factory Officer, Ruchira Papers Ltd., Kala Amb, District Sirmour   | Member                              |
| 25      | The Factory Officer, Marico Ltd. Dhaulakuan, District Sirmour          | Member                              |
| 26      | The Factory Officer, Woodstock Ltd., Kala Amb, District Sirmour        | Member                              |
| 27      | The Factory Officer, Virgo Pvt. Ltd., Kala Amb, District Sirmour       | Member                              |
| 28      | The Chartered Engineer, (HPE, Haryana State), District Sirmour         | Member                              |
| 29      | The Regional Officer (Pollution Control Board), District Sirmour       | <b>Member-Secretary-I</b>           |
| 30      | The General Manager, DIC, District Sirmour                             | <b>Member-Secretary-II</b>          |

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## “OFF-SITE DMP ON CHEMICAL (INDUSTRIAL) DISASTER”

### Emergency Response Committee

- **Law and Order Committee**  
Already formed and aware of role and responsibilities as specified in offsite emergency management plan of District Administration.
- **Fire and Toxic Gas Release Control Committee**  
Already formed and aware of role and responsibilities as specified in offsite emergency management plan of District Administration.
- **Communication Committee**  
Already formed and aware of role and responsibilities as specified in offsite emergency management plan of District Administration.
- **Transport Arrangement Committee**  
Already formed and aware of role and responsibilities as specified in offsite emergency management plan of District Administration.
- **Rescue Committee**  
Already formed and aware of role and responsibilities as specified in offsite emergency management plan of District Administration.
- **Health and Welfare Committee**  
Already formed and aware of role and responsibilities as specified in offsite emergency management plan of District Administration.

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## “OFF-SITE DMP ON CHEMICAL (INDUSTRIAL) DISASTER”

### Response Functions

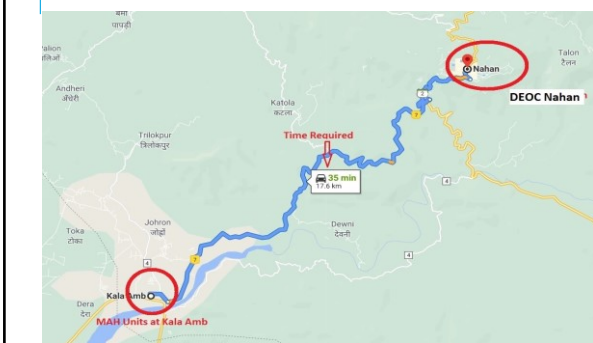
The response functions, which are to be carried out in the event of an emergency in an area, are given below: -

- Emergency warning and notification
- Operational Directions and Coordination
- Quick Situation Assessment.
- Effective Operation of DEOC
- Appraisal of meteorological conditions
- Communication
- Public information
- Fire control
- Protection of people
- Medical relief
- Relief and Temporary Shelter
- Management of the deceased
- Accident investigation

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## “OFF-SITE DMP ON CHEMICAL (INDUSTRIAL) DISASTER”

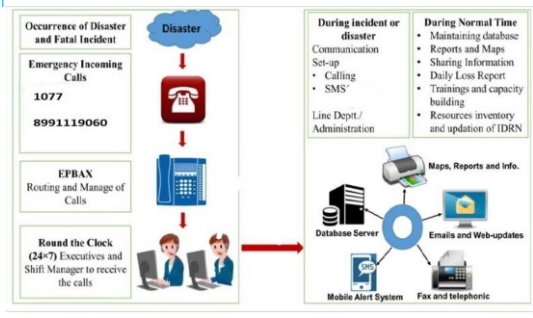
### Response Time



15

## “OFF-SITE DMP ON CHEMICAL (INDUSTRIAL) DISASTER”

### Response Time



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## “OFF-SITE DMP ON CHEMICAL (INDUSTRIAL) DISASTER”

### Nearby Facilities ( LCG) First Responders

1. **Fire Station Location:** - Johron, (Kala Amb-Trilokpur Road) - 5 KM
2. **Distance of Kala-Amb Industrial Area from Nahan Headquarter:** - 19 Km
3. **Fire Hydrants at Kala-Amb:** - 15 nos
4. **Fire Vehicles:** - Water Tender- 2 nos (4500 Ltrs each)  
Water-1 nos (300 Ltr with 50% Foam)
5. **Fire Station Manpower:** - 14 nos
6. **Water Refilling Point:** - DIC Johron & DIC Pump House at Joddon.
7. **Distance from Industrial Area Kala-Amb to Ambala Railway Station:** - 45.1 KM
8. **Distance from Industrial Area Kala-Amb to Chandigarh Airport:** - 65.7 KM
9. **Distance of Ruchira Company to Fire Station Kala-Amb:** - 300Mtr.
10. **Distance of Virgo Company to Fire Station Kala-Amb:** - 500Mtr.
11. **Police (SHO) - 1 KM**
12. **Shortest Distance from Ruchira Company to nearest Hospital:** - 300Mtr. (Poonam Nursing Home).

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## “OFF-SITE DMP ON CHEMICAL (INDUSTRIAL) DISASTER”

### Medical Health Facilities

- 1 Zonal Hospital Nahan
- 2 Poonam Nursing Home
- 3 Chabra Hospital
- 4 Sneh Hospital
- 5 ESI Kala Amb
- 6 Ayurvedic Hospital Trilokpur
- 7 PHC Barmapapri

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## **“OFF-SITE DMP ON CHEMICAL (INDUSTRIAL) DISASTER”**

### **Futuristic Plan**

- Mock drill with NDRF and neighboring State Haryana within 6 months.
- Training to DCG members & MAH units
- Enhancing community awareness , sharing MSDS ( Material Safety Data Sheets)
- Special burn wards at medical college
- Updation of DMP
- Risk & safety analysis of MAH units
- Substitution of hazardous chemicals( gas pipeline)/ senser tecnology
- Third party safety audits

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***Thank You***

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**Presentation by Deputy Commissioner Sirmaur on Off-site Industrial Disaster Management Plan**

**OFF-SITE DMP ON CHEMICAL (INDUSTRIAL) DISASTER**

**(Dr. R.K. Pruthi, IAS)**  
Deputy Commissioner  
Sirmaur at Nahan  
District Sirmaur, HP

1

**“OFF-SITE DMP ON CHEMICAL (INDUSTRIAL) DISASTER”**

**Industrial Areas in District Sirmaur**

- Total Industries 1238 nos
- IA Kala Amb - 530 nos
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- MAH Units - 3 nos in IA Kala Amb
- Population of Kala Amb Permanent - 5394 nos  
Floating - 20,000 nos

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**“OFF-SITE DMP ON CHEMICAL (INDUSTRIAL) DISASTER”**

**Sources of Chemical Disaster**

Chemical accidents may originate in:

- **Transportation** (loading & unloading )
- **Material handling and storage** in manufacturing facilities and isolated storage; warehouses and godowns including tanks etc.
- Manufacturing and formulation installations including during commissioning and **process operations; maintenance and disposal.**

3

**“OFF-SITE DMP ON CHEMICAL (INDUSTRIAL) DISASTER”**

**Causative Factors Leading to Chemical Disasters**

Chemical disasters, in general, may result from:-

- Fire
- Explosion
- Toxic Release
- Poisoning
- Combination of the above

4

**“OFF-SITE DMP ON CHEMICAL (INDUSTRIAL) DISASTER”**

**MAH Units in Kala Amb**

4(b) - Isolated storage of a hazardous chemical listed in Schedule 2 in a quantity equal to or more than the threshold quantity specified in Column 3 thereof.

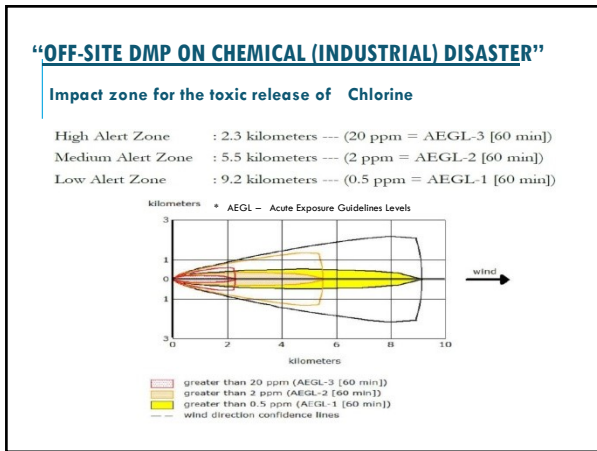
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**“OFF-SITE DMP ON CHEMICAL (INDUSTRIAL) DISASTER”**

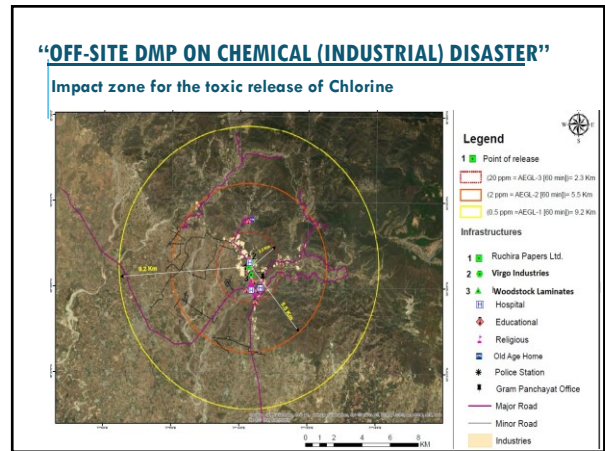
**MAH Units in Kala Amb**

| Inventories at MAH Industries of Kala Amb |  |                           |                         |              |                        |
|---|--|---------------------------|-------------------------|--------------|------------------------|
| Sr. No.                                   | Name of Unit   | Hazardous Chemical        | Onsite Storage Quantity | Max. Storage | Threshold Limit        |
| 1   | Ruchira Papers Ltd.,<br>Trilokpur Road, Kala Amb                       | Chlorine                  | 25 T                    | 45 T         | 10 T                   |
|   |  | Sodium Chlorate           | 30 T                    | 100 T        | 25 T                   |
|   |  | Liquid Oxygen             | 20 KL                   | 20 KL        | 200 T                  |
|   |  | Sulphur Dioxide           | Nil                     | 9T           | 20 T                   |
| 2   | Virgo Industries,<br>Village Rampur Jattan,<br>Kala Amb                | Formaldehyde (36 % Conc.) | 65 MT                   | 100 MT       | 5 T                    |
|   |  | Phenol                    | 67 MT                   | 100 MT       | Sr. No. 481 of Part II |
| 3   | Woodstock Laminates Ltd.,<br>Village Moginand,<br>Nahan Road, Kala Amb | Formaldehyde (36 % Conc.) | 2 T                     | 4.5 T        | 5 T                    |
|   |  | Phenol                    | 8.5 T                   | 60 T         | Sr. No. 481 of Part II |

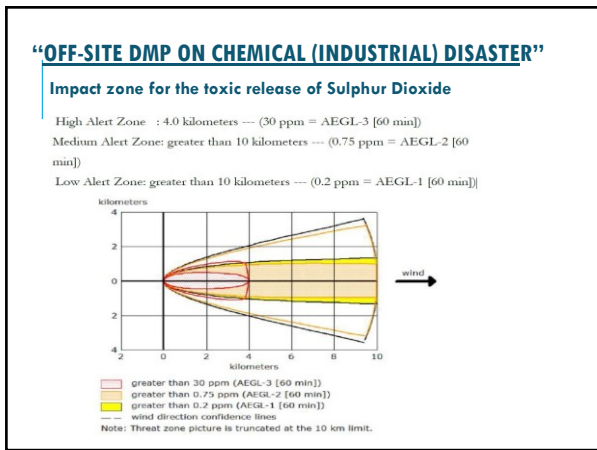
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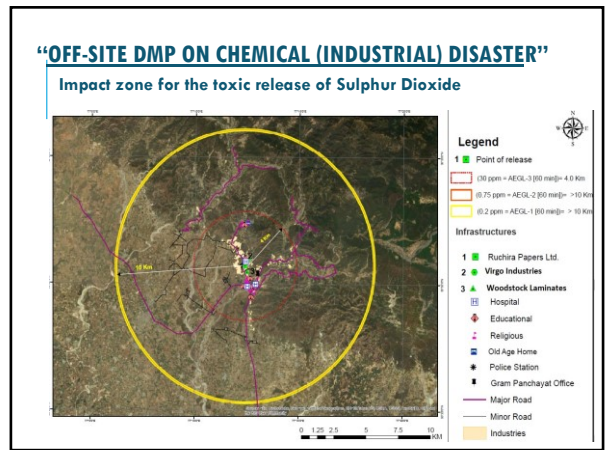
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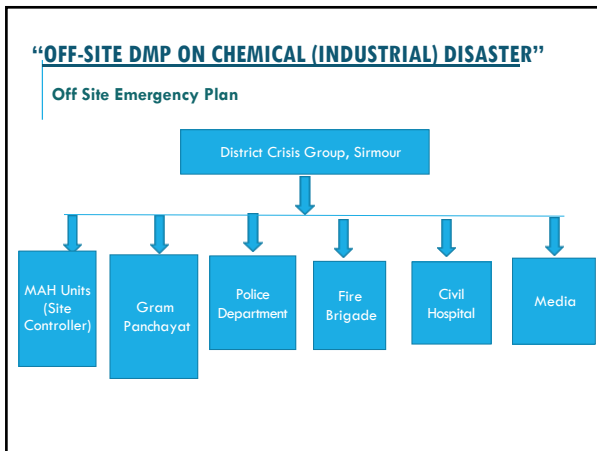
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9



10



11

### “OFF-SITE DMP ON CHEMICAL (INDUSTRIAL) DISASTER”

#### Composition of District Crisis Group

| Sl. No. | Designation & Address  | District Crisis Group (Designation) |
|---------|--|-------------------------------------|
| 1       | The Deputy Commissioner/DM-cum-Chairman, DDMA, District Sirmour        | <b>Chairperson</b>                  |
| 2       | The Addl. Deputy Commissioner, ADM, District Sirmour                   | <b>Vice Chairperson</b>             |
| 3       | The Superintendent of Police, District Sirmour                         | Member                              |
| 4       | The Superintending Engineer, (I) (Shakti), District Sirmour            | Member                              |
| 5       | The Superintending Engineer, (DPP/VD), District Sirmour                | Member                              |
| 6       | The Superintending Engineer, (HSE/EL), District Sirmour                | Member                              |
| 7       | The Sub-Divisional Officer (C), Nahan & Paonta Sahib, District Sirmour | Member                              |
| 8       | The Commandant, (Home Guards & Civil Defence), District Sirmour        | Member                              |
| 9       | The Deputy Director (Agriculture), District Sirmour                    | Member                              |
| 10      | The Deputy Director (Animal Husbandry), District Sirmour               | Member                              |
| 11      | The District Labour Officer, District Sirmour                          | Member                              |
| 12      | The District Controller, Food & Civil Supplies, District Sirmour       | Member                              |
| 13      | The Principal, Dr. YSPG Medical College, District Sirmour              | Member                              |
| 14      | The Chief Medical Officer, District Sirmour                            | Member                              |
| 15      | The District Revenue Officer, District Sirmour                         | Member                              |
| 16      | The District Information Officer, District Sirmour                     | Member                              |
| 17      | The District Public Relations Officer, District Sirmour                | Member                              |
| 18      | The District Fire Officer, District Sirmour                            | Member                              |
| 19      | The Sub-Divisional Officer (BSNL), District Sirmour                    | Member                              |
| 20      | The Regional Transport Officer, District Sirmour                       | Member                              |
| 21      | The Executive Officer, A/C, Nahan, District Sirmour                    | Member                              |
| 22      | The Executive Officer, A/C, Paonta Sahib, District Sirmour             | Member                              |
| 23      | The HES Head, Tarapur Group of Industries, Paonta Sahib, Sirmour       | Member                              |
| 24      | The Factory Officer, Ruchira Papers Ltd., Kala Amb, District Sirmour   | Member                              |
| 25      | The Factory Officer, Marico Ltd. Dhaulakuan, District Sirmour          | Member                              |
| 26      | The Factory Officer, Woodstock Ltd., Kala Amb, District Sirmour        | Member                              |
| 27      | The Factory Officer, Virgo Pvt. Ltd., Kala Amb, District Sirmour       | Member                              |
| 28      | The Chartered Engineer, (HPE, Haryana State), District Sirmour         | Member                              |
| 29      | The Regional Officer (Pollution Control Board), District Sirmour       | <b>Member-Secretary-I</b>           |
| 30      | The General Manager, DIC, District Sirmour                             | <b>Member-Secretary-II</b>          |

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## “OFF-SITE DMP ON CHEMICAL (INDUSTRIAL) DISASTER”

### Emergency Response Committee

- **Law and Order Committee**  
Already formed and aware of role and responsibilities as specified in offsite emergency management plan of District Administration.
- **Fire and Toxic Gas Release Control Committee**  
Already formed and aware of role and responsibilities as specified in offsite emergency management plan of District Administration.
- **Communication Committee**  
Already formed and aware of role and responsibilities as specified in offsite emergency management plan of District Administration.
- **Transport Arrangement Committee**  
Already formed and aware of role and responsibilities as specified in offsite emergency management plan of District Administration.
- **Rescue Committee**  
Already formed and aware of role and responsibilities as specified in offsite emergency management plan of District Administration.
- **Health and Welfare Committee**  
Already formed and aware of role and responsibilities as specified in offsite emergency management plan of District Administration.

13

## “OFF-SITE DMP ON CHEMICAL (INDUSTRIAL) DISASTER”

### Response Functions

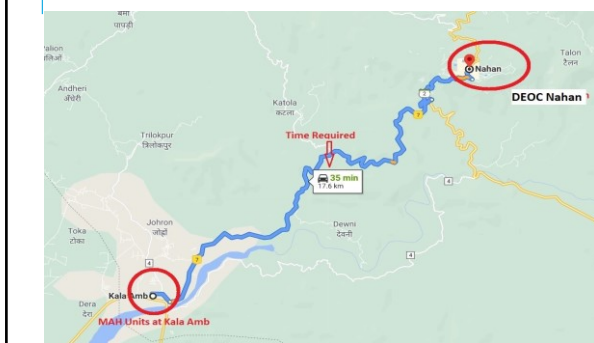
The response functions, which are to be carried out in the event of an emergency in an area, are given below: -

- Emergency warning and notification
- Operational Directions and Coordination
- Quick Situation Assessment.
- Effective Operation of DEOC
- Appraisal of meteorological conditions
- Communication
- Public information
- Fire control
- Protection of people
- Medical relief
- Relief and Temporary Shelter
- Management of the deceased
- Accident investigation

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## “OFF-SITE DMP ON CHEMICAL (INDUSTRIAL) DISASTER”

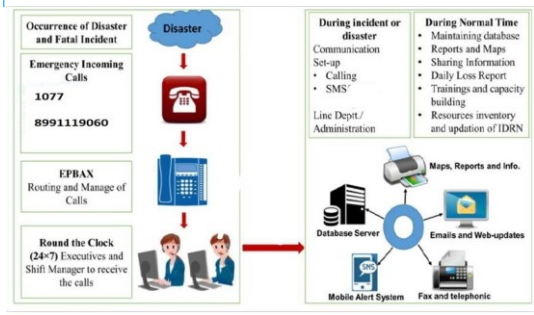
### Response Time



15

## “OFF-SITE DMP ON CHEMICAL (INDUSTRIAL) DISASTER”

### Response Time



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## “OFF-SITE DMP ON CHEMICAL (INDUSTRIAL) DISASTER”

### Nearby Facilities ( LCG) First Responders

1. **Fire Station Location:** - Johron, (Kala Amb-Trilokpur Road) - 5 KM
2. **Distance of Kala-Amb Industrial Area from Nahan Headquarter:** - 19 Km
3. **Fire Hydrants at Kala-Amb:** - 15 nos
4. **Fire Vehicles:** - Water Tender- 2 nos (4500 Ltrs each)  
Water-1 nos (300 Ltr with 50% Foam)
5. **Fire Station Manpower:** - 14 nos
6. **Water Refilling Point:** - DIC Johron & DIC Pump House at Joddon.
7. **Distance from Industrial Area Kala-Amb to Ambala Railway Station:** - 45.1 KM
8. **Distance from Industrial Area Kala-Amb to Chandigarh Airport:** - 65.7 KM
9. **Distance of Ruchira Company to Fire Station Kala-Amb:** - 300Mtr.
10. **Distance of Virgo Company to Fire Station Kala-Amb:** - 500Mtr.
11. **Police (SHO) - 1 KM**
12. **Shortest Distance from Ruchira Company to nearest Hospital:** - 300Mtr. (Poonam Nursing Home).

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## “OFF-SITE DMP ON CHEMICAL (INDUSTRIAL) DISASTER”

### Medical Health Facilities

- 1 Zonal Hospital Nahan
- 2 Poonam Nursing Home
- 3 Chabra Hospital
- 4 Sneh Hospital
- 5 ESI Kala Amb
- 6 Ayurvedic Hospital Trilokpur
- 7 PHC Barmapapri

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## **“OFF-SITE DMP ON CHEMICAL (INDUSTRIAL) DISASTER”**

### **Futuristic Plan**

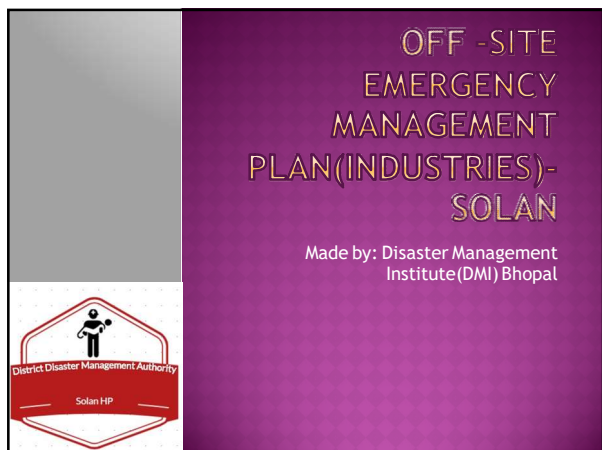
- Mock drill with NDRF and neighboring State Haryana within 6 months.
- Training to DCG members & MAH units
- Enhancing community awareness , sharing MSDS ( Material Safety Data Sheets)
- Special burn wards at medical college
- Updation of DMP
- Risk & safety analysis of MAH units
- Substitution of hazardous chemicals( gas pipeline)/ senser tecnology
- Third party safety audits

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***Thank You***

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**Presentation by Deputy Commissioner Solan on Off-site Industrial Disaster Management Plan**



1

### INTRODUCTION

Solan is one of the developing industrial districts of Himachal Pradesh and has four industries notified as **Major Accidental Hazard(MAH) units**, on account of their inventories of hazardous chemicals i.e. **Ammonia, Hydrogen Peroxide, Silane, VAM, Hydrochloric Acid, Hydrofluoric Acid, Toluene, LPG etc.**

These toxic products on accident can create on-site and off-site emergency, which may lead to, damage to property, environment and living beings.

The on-site emergency will attract liability under Factories Act while off-site emergency will attract the legal liabilities under Environment (Protection) Act, 1986.

2

### OBJECTIVE OF THE OFF SITE EMERGENCY PLAN, SOLAN:

The objective of this off-site emergency management plan is to provide guidelines to the district and local administration regarding prevention of accidents involving hazardous substances, mitigation of adverse effects and response to accidents that may occur despite all precautions.

3

### INDUSTRIAL POCKETS

**Parwanoo Industrial pocket** comprises of many Small and Medium Scale Industries. There are no MAH industries located in this Industrial Pocket.

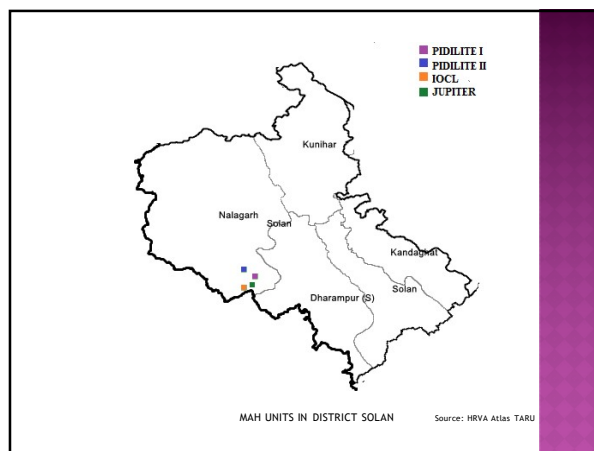
**Nalagarh industrial pocket** has various Medium and small scale industries although no MAH unit exists in this Industrial pocket Greenlam Industries Limited ,Nalagarh stores Methanol which may cause fire hazards .

**Baddi Industrial pocket** has 4 industries identified as Major Accidental Hazard (MAH) Industries ,namely, IOCL Indane Bottling Plant, Jupiter Solar Power Limited, Pidilite industries Limited Unit I and Pidilite Industries Limited Unit II. Although Vardhaman Auro textiles is not an MAH industry but due to handling and storage of toxic material, the industry has been categorized as "Hazardous" in the off site plan.

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| Industrial Pocket | Name of industry                 | Category                               | Major Products manufactured by the industry |
|-------------------|----------------------------------|--|---|
| <b>Baddi</b>      | IOCL Indane bottling plant       | Major Accidental Hazard(MAH)           | LPG Cylinders                               |
|                   | Jupiter Solar Power limited      | Major Accidental Hazard(MAH)           | Solar cells                                 |
|                   | Pidilite Industries Ltd. Unit-I  | Major Accidental Hazard(MAH)           | Fevicol and adhesives                       |
|                   | Pidilite Industries Ltd. Unit-II | Major Accidental Hazard(MAH)           | Fevicol and adhesives                       |
|                   | Vardhaman Auro Textiles Ltd.     | Hazardous(as per survey by DMI Bhopal) | Textiles, clothing/apparel                  |
| <b>Nalagarh</b>   | Greenlam Industries Ltd.         | Hazardous(as per survey by DMI Bhopal) | Laminates                                   |

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## IOCL BOTTLING PLANT, BADDI



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## IOCL BOTTLING PLANT, BADDI

| Hazardous Chemical | Total Quantity stored | Nature of chemical |
|--------------------|-----------------------|--------------------|
| LPG                | 300 MT                | Explosive          |

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## PIDILITE UNIT I, BADDI



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| Hazardous Chemical             | Total Quantity stored | Nature of chemical |
|--------------------------------|-----------------------|--------------------|
| a) Toluene                     | 150 MT                | Toxic              |
| b) Sodium Benzene Phosph Inate | 150 MT                |                    |

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## PIDILITE UNIT II, BADDI



11

| Hazardous Chemical          | Total Quantity stored | Nature of chemical |
|-----------------------------|-----------------------|--------------------|
| Venyl Acetate Monomer (VAM) | 450 MT                | Explosive          |

12

### JUPITER SOLAR POWER LTD., BADDI



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| Hazardous Chemical              | Total quantity stored | Nature of chemical |
|---------------------------------|-----------------------|--------------------|
| a) Ammonia                      | 3 Cylinder            | Toxic              |
| b) Silane                       | 2 Cylinder            | Toxic              |
| c) Hydrochloric Acid            | 4 Ton                 | Toxic              |
| d) Hydrofluoric Acid            | 4 Ton                 | Toxic              |
| e) Nitric Acid                  | 4 Ton                 | Toxic              |
| f) Potassium Hydroxide          | 3 Ton                 |                    |
| g) Phosphorus Oxide Trichloride | 60 Kg                 | Toxic              |

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### VARDHMAN AURO TEXTILES, NALAGARH



15

| Hazardous Chemical   | Total quantity stored | Nature of chemical |
|----------------------|-----------------------|--------------------|
| a) Propane           | 70 MT                 |                    |
| b) Ammonia           | 38 KL                 | Toxic              |
| c) Hydrogen Peroxide | 20 KL                 | Toxic              |
| d) Sodium Hydroxide  | 60 Ton                |                    |
| e) Acetic Acid       | 4000 Kg               |                    |

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### GREENLAM LTD, NALAGARH



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### GREENLAM LTD, NALAGARH

| Hazardous Chemical | Total quantity stored | Nature of Chemical |
|--------------------|-----------------------|--------------------|
| Methanol           | 40 KL                 | Toxic              |

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## PROBABLE CATASTROPHIC SCENARIOS

| Baddi Industrial Pocket    | Scenario  | High alert zone    |
|----------------------------|---|--------------------|
| IOCL, Baddi                | Failure of single tank of LPG                           | 911 Meters-1.2 Kms |
| Jupiter Solar Power, Baddi | Failure of single tank of Ammonia                       | 137 Meters         |
|                            | Failure of single cylinder of silane                    | 821 Meters         |
|                            | Failure of single tank of Hydrochloric acid             | 121 Meters         |
|                            | Failure of single tank of Hydrofluoric acid             | 73 Meters          |
|                            | Failure of single tank of Nitric acid                   | 17 Meters          |
|                            | Failure of single tank of Phosphorous oxide trichloride | 2.5 Kms            |

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| Baddi Industrial Pocket       | Scenario  | High alert zone    |
|-------------------------------|---|--------------------|
| Pidilite Unit I & II          | Failure in storage of toluene                     | 1.0 Kms            |
|                               | Failure in storage of Vinyl Acetate Monomer (VAM) | 6.1 Kms            |
|                               | Failure due to toxic release of propane           | 450 -586 Meters    |
|                               | Failure due to toxic release of Ammonia           | 260 Meters         |
| Auro Textiles Ltd. ,Baddi     | Failure due to toxic release of Hydrogen Peroxide | 2.5 Kms            |
|                               | Failure due to toxic release of Acetic Acid       | 318 Meters         |
|                               |   |                    |
| Nalagarh Industrial Pocket    | Scenario  | High alert zone    |
| Greenlam Industries, Nalagarh | Failure of methanol storage tank                  | 276 Meters-1.1 Kms |

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## ORGANISATIONAL STRUCTURE

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## DISTRICT CRISIS GROUP(DCG)

The DCG is the apex body in the district to deal with major chemical accidents under the guidance of the District Collector, chairperson of DCG. Responsibilities of DCG include preparation of off-site emergency plan, management of chemical accidents and keeping the State Crisis Group informed regarding any accident situation.

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## COMPOSITION OF DISTRICT CRISIS GROUP

| District Crisis Group, Distt. Solan               |              |
|---|--------------|
| Deputy Commissioner, Distt Solan                  | Chair Person |
| Superintendent of Police Solan, Distt Solan       | Member Secy. |
| Superintendent of Police Baddi, Distt Solan       | Member       |
| Sub Divisional Magistrate, Solan, Distt. Solan    | Member       |
| Sub Divisional Magistrate, Nalagarh, Distt. Solan | Member       |
| Senior Engineer, HPSEBL, Distt Solan              | Member       |
| Senior Engineer, I&PH, Distt Solan                | Member       |
| Chief Medical Officer, Distt. Solan               | Member       |
| Deputy Director, Industries, Distt. Solan         | Member       |

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|   |        |
|---|--------|
| Deputy Director, Higher Education, Distt. Solan         | Member |
| Deputy Director, Elementary Education, Distt. Solan     | Member |
| Deputy Director, Animal Husbandry, Distt. Solan         | Member |
| District Controller Food and Civil Supply, Distt. Solan | Member |
| District Information Officer Distt. Solan               | Member |
| Executive Officer, MC Baddi, Distt. Solan               | Member |
| Regional Transport Officer, Distt. Solan                | Member |
| Station Fire Officer, Distt. Solan                      | Member |

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## LOCAL CRISIS GROUP

LCG is a local body in an industrial pocket with aim to deal with chemical accidents under the guidance of Sub-Divisional Magistrates. LCG is responsible for preparation of local off-site emergency plan.

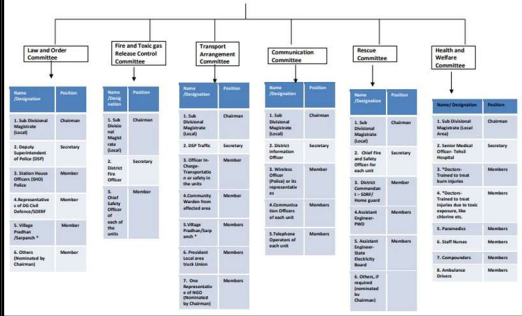
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## COMPOSITION OF THE LOCAL CRISIS GROUPS PARWANOO/BAROTTWALA/BADDI/NALAGARH

|   |              |
|---|--------------|
| (i) Sub-divisional Magistrate / District Emergency Authority                | Chair person |
| (ii) Inspector of Factories   | Member Secy. |
| (iii) Industries in the District/ Industrial area/ industrial pocket        | Member       |
| (iv) Transporters of Hazardous Chemicals (2 Numbers)                        | "            |
| (v) Fire Officer  | "            |
| (vi) SHO (Police)   | "            |
| (vii) Block Development Officer   | "            |
| (viii) One Representative of Civil Defence                                  | "            |
| (ix) Block Medical Officer  | "            |
| (x) Editor of local News paper  | "            |
| (xi) Community leader/Sarpanch/Village Pradhan nominated by Chair-person    | "            |
| (xii) One Representative of Non-Government                                  | "            |
| (xv) Two Doctors eminent in the Local area, to be nominated by Chair-person | "            |
| (xvi) Two Social Workers to be nominated by the Chair-person                | "            |

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### District Crisis Group/ Local Crisis Group



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## EMERGENCY COMMITTEES

| Committee                               | Role/Responsibility   |
|---|---|
| 1. Law and order Committee              | The committee on receiving information, will move to the spot and take charge of the law and order situation  |
| 2. Fire and toxic gas release committee | The committee will gather information about status of emergency from the factory manager of the industry/industries and there on take necessary steps to manage gas leak or fire incidents. |
| 3. Rescue committee                     | The committee will be responsible for managing safe rescue of individuals trapped during an incident at or around the plant site.   |
| 4. Health and welfare committee         | The committee will be responsible for establishment of first aid camps at a safe location.  |
| 5. Communication Committee              | The committee will maintain all communication equipment required during emergency and take responsibility of communication system during crisis situation.                                  |
| 6. Transportation arrangement Committee | The committee is made responsible for evacuation and management of transport of people from hazardous areas.  |

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## MEDICAL RESOURCES AVAILABLE IN SUB DIVISION NALAGARH

| Hospital                                     | Treatment available  |
|--|--|
| 1. CHC Nalgarh                               | First aid for burns, chemical injuries (preliminary treatment) |
| 2. Lord Mahvira Hospital,                    |  |
| 3. Gagan Hospital, Baddi                     |  |
| 4. NRI Hospital, Baddi                       |  |
| 5. Malhotra super speciality hospital, Baddi |  |
| 6. Sri Kant Hospital, Khera                  |  |
| 7. Ameesh Hospital, Bagbannia                |  |
| 8. Aakash Hospital, Nalagarh                 |  |

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## RESOURCE INVENTORY OF SUB DIVISION NALAGARH

| Department         | Equipment                   | Quantity |
|--------------------|-----------------------------|----------|
| SDM Office         | Mike                        | 4        |
|                    | Search Light                | 4        |
|                    | Tarpauline                  | 3        |
| HPPWD              | Tipper                      | 4        |
|                    | JCB                         | 4        |
|                    | Truck                       | 1        |
|                    | Ballastor                   | 1        |
|                    | B.A. Set                    | 6        |
|                    | Protective Suits            | 4        |
|                    | Blanket Wooden              | 6        |
|                    | Crowbar                     | 2        |
|                    | Shovel                      | 4        |
|                    | Hammer                      | 1        |
| Fire Station Baddi | Hydraulic Jack with Handle  | 1        |
|                    | Plastic Folding Stretcher   | 4        |
|                    | Concrete Breaker            | 1        |
|                    | Search Light                | 1        |
|                    | Hydraulic Door Opener       | 1        |
|                    | Evacuation System           | 1        |
|                    | Pulling and lifting Machine | 2        |
|                    | Circular Saw                | 1        |
|                    | Smoke exhaustor             | 1        |
|                    | only one copy is using set  | 1        |

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| Department            | Equipment          | Quantity |
|-----------------------|--------------------|----------|
| Fire Station Baddi    | Debris Basket      | 6        |
|                       | Shear Bolt Cropper | 1        |
|                       | Axes Felling       | 2        |
|                       | Wire Rope          | 1        |
|                       | Leather Gloves     | 2 Pairs  |
|                       | Ambu Bags          | 2        |
| Fire Station, Nalgarh | BA Set             | 2        |
|                       | Portable Light     | 1        |
|                       | Chain Saw          | 1        |
|                       | Fire Fighting Suit | 1        |
|                       | Crow Bar           | 4        |
|                       | Pick Axe           | 3        |
|                       | Shovel             | 3        |
|                       | Ladder             | 3        |
|                       | Stretchor          | 6        |
|                       | Ropes              | 4        |
|                       | Portable Pump      | 1        |
|                       | Bolt/Cutter        | 3        |
|                       | First Aid Kit      | 2        |
|                       | Door Breaker       | 1        |
|                       | Combi Tool         | 1        |
|                       | Axe                | 3        |
|                       | Rope Ladder        | 2        |
|                       | Fire Man Axe       | 12       |
|                       | Rubber Gloves      | 3        |
|                       | Helmet             | 15       |

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| EXISTING FIRE FIGHTING FACILITIES           |                                 |  |
|---|---------------------------------|--|
| S.No  | Location                        | Available fire fighting facilities   |
| 1   | Vardhman Auro textile           | Main source of water and total water storage-                                  |
|   |                                 | No. of Diesel engine driven Pump 01/273 M <sup>3</sup> /Hr (Capacity)          |
| 2   | Pidilite Industries Ltd. Unit-1 | No. of Electrically driven Jockey 01 / 10.8 M <sup>3</sup> /Hr Pump (Capacity) |
|   |                                 | 661 No's Fire Extinguishers  |
|   |                                 | Total water storage- Underground water tank & capacity 400 KL                  |
|   |                                 | No. of Diesel engine driven Pump- 02 (137m <sup>3</sup> /Hr)                   |
|   |                                 | No. of Electrically driven Jockey Pump - 01                                    |
|   |                                 | Fire hoses - 18 No's   |
|   |                                 | Hoses reel - 1 No's  |
|   |                                 | Fire extinguisher(DCP) - 60 Nos  |
|   |                                 | Fire extinguisher (foam) - 5 Nos   |
|   |                                 | Fire extinguisher (Water)-5 Nos  |
|   |                                 | Foam monitor (fixed) - 01 Nos  |
|   |                                 | Foam Monitor portable-01 Nos   |
|   |                                 | Foam AFFF 200 Kg   |
|   |                                 | Sprinkler 320 Nos  |
|   |                                 | BA set 2 Nos   |
| Total water storage- Underground water tank |                                 |  |

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|   |         |   |
|---|---------|---|
| 3 | Jupiter | Total water storage- Underground water tank & capacity 01 lakh ltrs |
|   |         | No. of Diesel engine driven Pump- 01 (1702 ltr/Hr)                  |
|   |         | No. of Electrically driven Pump - 01                                |
|   |         | No. of Electrically driven Jockey Pump - 01                         |
|   |         | Fire tenders - fire fighting engines 0/03                           |
|   |         | Fire hoses - 40 No's  |
|   |         | Fire extinguishers - 20 No's  |
|   |         | Foam Branch - 01  |
|   |         | Foam Compound 200 Ltrs  |
|   |         | Fire water pump - 410 KWH / 2 x 610 KWH / 1                         |
| 4 | IOCL    | Fire water pump - 410 KWH / 2 x 610 KWH / 1                         |
|   |         | Fire water detector - Fenix make Gas leak detection system          |
|   |         | Fire Hydrant system   |
|   |         | Sprinkler System fire & safety Mezzum                               |
|   |         | Video spray system fire & safety Mezzum                             |
|   |         | & 20.4 L/min/M2   |
|   |         | Main source of water and total water storage - 2X0 tanks 400 KL     |
|   |         | No. of Diesel engine driven Pump (Capacity) - 2X 410 KWH            |
|   |         | No. of Electrically driven Jockey Pump (Capacity) - 2 X 30 KWH      |

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|   |                                 |   |
|---|---------------------------------|---|
| 5 | Pidilite Industries Ltd. Unit-I | & capacity 400 KL   |
|   |                                 | No. of Diesel engine driven Pump- 02 (171 m <sup>3</sup> /Hr) |
|   |                                 | No. of Electrically driven Jockey Pump - 01                   |
|   |                                 | Fire hoses - 36 Nos   |
|   |                                 | Hoses reel - 4 Nos  |
|   |                                 | Fire extinguisher(DCP) - 83 Nos                               |
|   |                                 | Fire extinguisher (foam) - 10 Nos                             |
|   |                                 | Fire extinguisher (Water)-10 Nos                              |
|   |                                 | Foam monitor (fixed) - 01 Nos                                 |
|   |                                 | Foam Monitor portable-01 Nos                                  |
|   |                                 | Foam AFFF 250 Kg  |
|   |                                 | Sprinkler 339 Nos   |
|   |                                 | Smoke detector 84 Nos   |
|   |                                 | BA set 2 Nos  |

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### EMERGENCY CONTROL CENTRE-1077

DEOC, Solan established as per EOC Manual fortifies with all basic and advance communication and IT infrastructure in constraint of limited space and resources.

It has been set up with basic hazard resistant structural features and communication facilities.

DEOC Solan can be used to coordinate planning, and managing of Industrial/Chemical disasters .

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### PREVENTION AND MITIGATION

Fostering a safety culture in the MAH Units.

Encouraging regular preventive and predictive maintenance and repairs of mechanical parts by managements.

Ensuring that safety audits, as mandated by law are done through creditable agencies and that the audit recommendations are faithfully implemented.

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## RESPONSE PLAN

37

## EMERGENCY RESPONSE AT INDUSTRY LEVEL

CONTROL MEASURES AT PLANT LEVEL(leak control, shut down etc.)

MOBILIZATION OF RESOURCES(medical aid, transport, fire fighting etc.)

TRAFFIC CONTROL(within the plant)

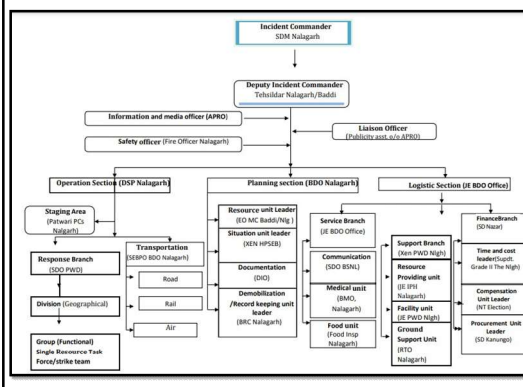
EVACUATION(Manning of assembly points, accounting evacuated individuals)

RESCUE(casualty clearance, moving to safe spot)

REHABILITATION

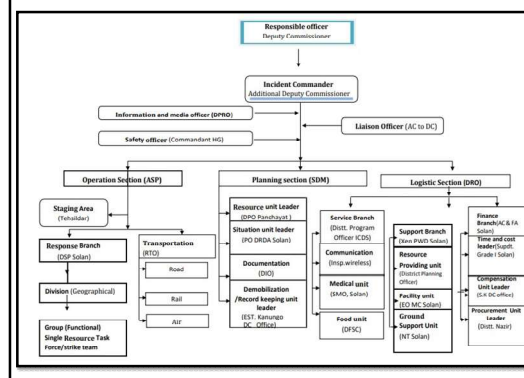
38

## IRS SUB DIVISION NALAGARH



39

## IRS SOLAN DISTRICT



40

Economic Rehabilitation: Revival of essential economic activities such as daily/weekly markets.

Psychology: There is a need to involve NGOs, District Inter Agency Group members for providing psychosocial first aid to children, senior citizens and women who need special attention being more vulnerable.

Environmental Rehabilitation

Long term up clean up(Industrial spills, toxic gas clean up etc.)

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## WAY FORWARD

The plan will be circulated amongst all stake holders upon approval from HPSDMA(already shared with department of industries and MAH units and hazardous industries).

District Crisis Group/ Local Crisis group will hold meetings (physical/virtual) with a frequency of at least one meeting quarterly.

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**Presentation by Deputy Commissioner Una on Off-site Industrial Disaster Management Plan**



**OFF-SITE DISASTER MANAGEMENT  
PLAN ON INDUSTRIAL DISASTERS  
FOR  
DISTRICT UNA (HP)**

**Introduction**

Una is one of the developing industrial districts of Himachal Pradesh and has two industries notified as Maximum Accident Hazard units, These two units are located in **Mehatpur and Pekhubela**. One of these units stores LPG and the other units has different inventories of petroleum products.

**List of Major Accidental Hazard (MAH) Unit  
District: Una**

| Sr. No. | Name & Address of Industry  |
|---------|---|
| 1       | Indian Oil Corporation Ltd., Una Terminal, Village Pekhubela , Una-Satoshgarh Road, Distt. Una, HP. |
| 2.      | Indian Oil Corporation Ltd., Bottling Plant, Village Raipur Sohran , PO Mehatpur, Distt. Una, HP.   |
| 3.      | Cozy Touch Polyfoams India Pvt. Ltd. Village Hir Thara , Neal Laluwal , Distt. Una, HP.             |
| 4.      | Kanahya Industries, Village Basal, Distt. Una,HP.   |
| 5.      | Intergral Foam Products, VPO Jankaur, Distt. Una,HP.  |
| 6.      | Punjab Lamiates (P) Ltd., Plot no. 9-10, Industrial Area Mehatpur, Distt. Una, HP.                  |
| 7.      | Him Chem Enterprises, Belabathari, Tehsil Haroli, Distt. Una,HP.                                    |
| 8.      | Raghav Industries, VPO Basal, Distt. Una, HP.   |

**Gagret and Tahliwal Industrial Areas** are devoid of any Major Accidental Hazard (MAH) industry but two MAH industries are:-

- **IOCL LPG Bottling Plant at Mehatpur.**
- **IOCL Una Terminal located at Pekhubela.**

**Issues of Concern....**

| Name of Unit                        | Hazardous Chemical | Total Quantity Stored | Remark                                   |
|-------------------------------------|--------------------|-----------------------|--|
| 1. Indane Bottling Plant , Mehatpur | a) LPG             | 900 MT                | 3 mounded bullets of 300MT each capacity |
|                                     | b) HSD             | 20KL                  |  |
| 2. Indian Oil Bulk ToP, Pekhubela   | a) Petrol          | 24,000 KL             | 3 x 8000 KL each                         |
|                                     | b) Diesel          | 48,000 KL             | 3 x 16000 KL each                        |
|                                     | c) Kerosene        | 12,000 KL             | 2 x 6000 KL each                         |
|                                     | d) Ethanol         | 1,800 KL              | 3 x 600 KL each                          |
|                                     | e) Transmin        |                       |  |

- **A number of tankers transporting hazardous material**
- **Highly aware and sensitized population**

**Industrial Hazards**

That can affect areas both inside and outside of these industries.

- **Fire**
- **Explosion**
- **Toxic/chemicals release**
- **Environmental Damaged**

**Presentation by Deputy Commissioner Una on Off-site Industrial Disaster Management Plan**

**What is?**

|   |  |
|---|--|
| <p><b>Onsite Emergency Plans</b> are prepared by the industries for dealing with major accidents on the sites where industrial activities are carried on.</p> | <p><b>Offsite Emergency Plan</b> is prepared in anticipation of any such onsite events spreading outside the boundary of the industry.</p> |
|---|--|

Why Off Site Emergency Plans ?

Una District has a number of **Chemicals, Petrochemicals** and other industries where **hazardous materials** are handled.

Experience has shown that **pre-planned and practiced procedures** for handling an emergency can considerably **reduce loss of life and minimize damage to property and environment.**

Objectives of the Plan

- To control and contain the incident/accident and if possible, eliminate it.
- To minimize the effects of the incident on person, property and environment.
- To save lives and injuries.
- To prevent or reduce property losses and
- To provide for quick resumption of normal situation or operation.

Objectives are achieved through:-

- Providing information to all concerned on the estimated consequences.
- Warning and advising people affected.
- Mobilizing on-site resources available in the industry to contain the emergencies.
- Calling up assistance from district agencies.
- Initiating and organizing effective evacuation of affected people.
- Providing necessary first aid and other medical services.
- Co-ordinating action taken by various agencies.

The offsite emergency plan gives the **action plan for the crisis management** and specifies the **functions of various agencies** in the crisis management group.

**Presentation by Deputy Commissioner Una on Off-site Industrial Disaster Management Plan**

**The Plan covers information on:-**

- Major Accident Hazard Installations
- Chemical Data Sheets
- Roles of service agencies like police, fire service and health services,
- Role of Non Governmental Organisations (including District Inter Agency Group-DIAG)
- First aid and antidotes,
- The requirements in transportation of hazardous substances, etc.

**ACTION PLAN FOR OFF- SITE EMERGENCY IN UNA DISTRICT**

**CONTROL ROOM**

A 24\*7 working full fledged District Emergency Operation Center is set up at the Office of the Deputy Commissioner, Una and the Control Room at the Office of Superintendent of Police , Una is to be used as district control room.

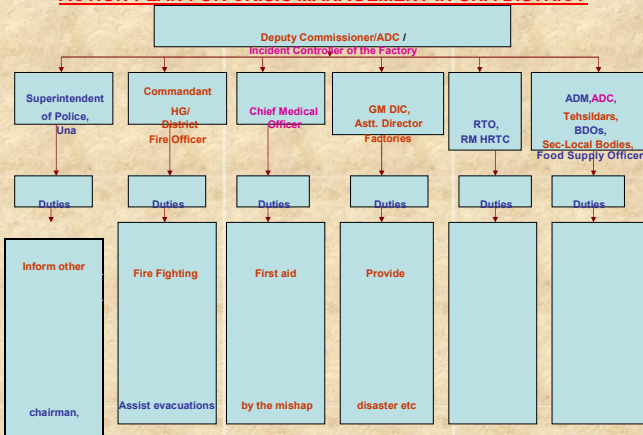
The control room of Fire Department at Village Rampur, Una is to be used as stand by.

**STRUCTURE**

The emergency control cell has the following structure

- District Emergency Controller (DEC): Deputy Commissioner
- Emergency Coordinators: ADC/ADM/SP/SDM

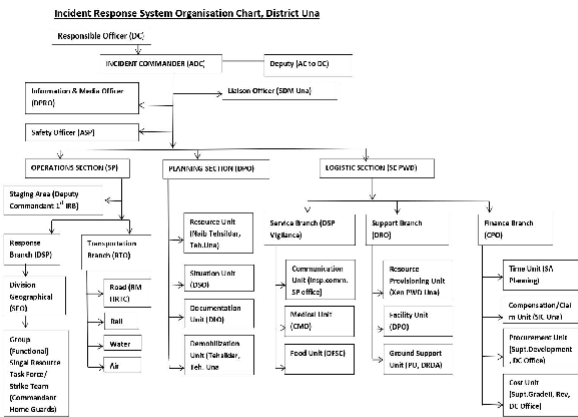
**ACTION PLAN FOR CRISIS MANAGEMENT IN UNA DISTRICT**



**District Crisis Group, District Una**

|   |              |
|---|--------------|
| Deputy Commissioner, Una, Distt. Una                    | Chair Person |
| Superintendent of Police Una, Distt. Una                | Member Secy. |
| Additional Deputy Commissioner, Una, Distt. Una         | Member       |
| Commandant Home Guard, Una, Distt. Una                  | Member       |
| Sub Divisional Magistrate, Una, Distt. Una              | Member       |
| Sub Divisional Magistrate, Haroli, Distt. Una           | Member       |
| Sub Divisional Magistrate, Gagret, Distt. Una           | Member       |
| Regional Transport Officer, Distt. Una                  | Member       |
| Superintendent Engineer, HPPWD, Distt. Una              | Member       |
| Superintendent Engineer, HPSEBL, Distt. Una             | Member       |
| Superintendent Engineer, I & PH, Distt. Una             | Member       |
| Chief Medical Officer, Distt. Una                       | Member       |
| General Manager, District Industries Centre, Distt. Una | Member       |
| Assistant Director, Factories, Distt. Una               | Member       |
| Deputy Director, Animal Husbandry, Distt. Una           | Member       |
| District Controller Food and Civil Supply, Distt. Una   | Member       |
| District Information Officer, Distt. Una                | Member       |
| Executive Officer, MC Una, Distt. Una                   | Member       |
| Station Fire Officer, Distt. Una                        | Member       |

**Presentation by Deputy Commissioner Una on Off site Industrial Disaster Management Plan**



**Fire Fighting Availabilities**

|                           |   |
|---------------------------|---|
| Fire Station, Una         | Fire Tender-2 (1 advance fire tender 4500 ltr capacity)<br>(1 Compressed Foam and Co2 tender 3500 + 500 ltr capacity)<br>Jeep QRV- 1<br>Motorcycle CAFS - 1 |
| Fire Post, Tahlwal        | Fire Tender-1 (4500 ltr capacity)<br>Jeep QRV- 1  |
| Fire Post, Amb            | Fire Tender-1 (4500 ltr capacity)<br>Jeep QRV- 1  |
| Sub-Fire Station, Bangana | Under Construction  |

**Health/Medical Facilities**

| Primary   | Secondary  |
|---|--|
| <ul style="list-style-type: none"> <li>Regional Hospital- 1</li> <li>Civil Hospital - 3</li> <li>Community Health Centre - 8</li> <li>Primary Health Centre - 23</li> <li>ESI Dispensary – 3</li> <li>Ayurvedic Hospital-5</li> <li>Major Private Hospital- 22</li> </ul> | <ul style="list-style-type: none"> <li>PGI Chandigarh</li> <li>RPGMC Tanda, Kangra</li> <li>IGMC Shimla</li> </ul> |

**Rehabilitation**

(ADC/ADM, SDM, Tehsildar, BDO, Food Supply Officer, Corporation Secretary, Municipal Secretaries etc.)

- Make arrangements for transport and evacuation.
- Make arrangements for rehabilitating people evacuated.

- Provide emergency measure in the area with necessary facilities.
- Make arrangements for food, medical & hygiene facilities.
- Maintain telephone and other communication facilities in efficient working condition.

**Support Services**

- Home Guards,
  - Superintendent Engineers of HPPWD, IPH, HPSEBL,
  - Manager BSNL, RTO, RM HRTC, Railways, etc.]
  - Deputy Directors, Factories, Animal Husbandry, Education Dept.
- To provide necessary support services as required.

**Presentation by Deputy Commissioner Una on Off-site Industrial Disaster Management Plan**

**Mock Drills**

The emergency plan has to be tested for its efficiency by conducting mock drills.

Major Mock-Drills were done for fire incident and chemical leakage at

- IOCL LPG Bottling Plant, Mehatpur.
- Nestle India Pvt. Ltd. Tahliwal Industrial Area
- Nayasa Multiplast, Bathu, Bathdi Industrial Area, Tehsil Haroli.

**At Nestle India Pvt. Ltd. Tahliwal**



**At IOCL LPG Bottling Plant Mehatpur**



**Nayasa Multiplast, Bathu, Bathdi Inds. Area**



**Recent Mishaps Reported**

| <b>TYPE of INCIDENT</b> | <b>Date</b> | <b>LOCATION</b>  | <b>INJURED</b> | <b>CASUALTY</b> | <b>Remark</b>                                    |
|-------------------------|-------------|--|----------------|-----------------|--|
| Fire Incident           | 10-04-2019  | Nyasa Multi Industry (Deal in Plastic products), Bathri, Tehsil Haroli | Nil            | Nil             | Due to Short Circuit. Loss of approx. Rs. 15 cr. |
| Gas Leakage             | 28-02-2020  | Cold Store, Tahliwal, Tehsil Haroli                                    | 1              | 1               | Due to technical fault.                          |

**Gaps Identified**

- “Mutual aid between industries”. Large industries do provide help to smaller units on request from them or district authorities.
- Important to build capacity of fire fighting and emergency service at advance standard not limited basic awareness of chemical emergency.

**Presentation by Deputy Commissioner Una on Off-site Industrial Disaster Management Plan**

Gaps Identified Cont...

- “Local Emergency Response Teams (LERTs) in an industrial pocket area. LERT should be well trained and well equipped to deal with small scale and frequent local emergencies (90% of chemical incidents)

Conclusion

- On-site and Off-site emergencies are interlinked and cannot be dealt in isolation.
- The Off-site Emergency Plan is basically an extension of the Onsite Emergency Plan.
- On-site emergency may lead to Off-site emergency situations if not contained.

Thank You

**Presentation on Preparedness for Chemical (Industrial) Disaster by Labour Department**

**Presentation on Chemical (Industrial) Management Disaster**

1

**Role of the Labour Department**

- Labour Department is basically a regulatory department entrusted with responsibility of implementation of various labour laws.
- Factories Act, 1948 is a Central Legislation which regulates Health, Safety and Welfare of the workers working in the factories.
- If the provisions contained in Factories Act, 1948 are complied with by the industrial units the disaster could be minimized.

2

**Obligations of the Department under the Factories Act, 1948**

- To grant the licence to the Factories which are coverable under the said act.
- To implement the Health, Safety and Welfare provisions by way of periodic inspections from time to time.

3

**Other Legislations connected with prevention of disasters**

- Manufacture, Import and Storage of Hazardous Chemical Rules 1989.
- Public Liability Insurance Act, 1991.

4

**Profile of the department**

| Designation                                      | Sanctioned Filled |    |
|--|-------------------|----|
| Chief Inspector of Factories                     | -                 | 1  |
| Additional Chief Inspector of Factories          | -                 | 1  |
| Deputy Director Factories( Dy CIF)               | 1                 | 1  |
| Assistant Director Factories( Mechanical)        | 1                 | 1  |
| Assistant Director Factories (Chemical)          | 1                 | -  |
| Additional Inspector Factories(Labour Officer)   | -                 | 12 |
| Additional Inspector Factories(Labour Inspector) | -                 | 25 |

5

**Detail regarding number of registered factories in Himachal Pradesh**

| Description   | Number                       |
|---|------------------------------|
| No. of factories registered under Factories Act, 1948 | 4995                         |
| No. of factories under section 2(m)(i) & 2 (m) (ii)   | 3791                         |
| No. of factories covered under section 85             | 1204                         |
| No. of MAH units identified by the department         | 8                            |
| No. of Hazardous units identified by the department-  | 362                          |
| The districts having the concentration of factories   | Solan, Sirmour, Kangra & Una |

6

## Possibilities of Industrial Disasters in Himachal Pradesh

- Main possibilities is due to fire related disasters
- Handling of hazardous chemicals etc.

7

## Mechanism being followed in the department for ensuring compliance of provisions of Factories Act, 1948

- The department grant license only to those industrial establishments which meets the standards laid down in Factories Act, 1948.
- The department grant licence to industrial units if the unit possess valid NOC Chief Fire Officer and Pollution Control Board.
- Conducting of inspections has been mandated on the basis of risk profiling. Hazardous units and MAH units has been mandated to be inspected once in six months. Moreover, Hazardous & MAH units have been categorized as High Risk units irrespective of number of workers.
- Department ensures the compliance of Factories Act, 1948 through periodical inspections

8

## The data regarding inspections conducted under Factories Act, 1948 and fine imposed by Courts:-

| Year    | Total no. of inspection conducted | Total no. of cases filed | Total no. of cases decided | Total amount of fine Imposed |
|---------|-----------------------------------|--------------------------|----------------------------|------------------------------|
| 2017-18 | 1101                              | 110                      | 69                         | ₹ 11,02,000/-                |
| 2018-19 | 1373                              | 95                       | 87                         | ₹ 16,84,500/-                |
| 2019-20 | 1293                              | 147                      | 119                        | ₹ 12,70,000/-                |

9

## Status of implementation of MSIHC Rules, 1989

- All 8 MAH units have prepared onsite emergency plans
- Safety Audit is being conducted by MAH units
- All MAH units have taken public liability insurance under Public Liability Insurance Act, 1991
- Off site emergency plans have been prepared in the district of Una, Sirmour & Kullu.

10

## Post Lockdown initiatives

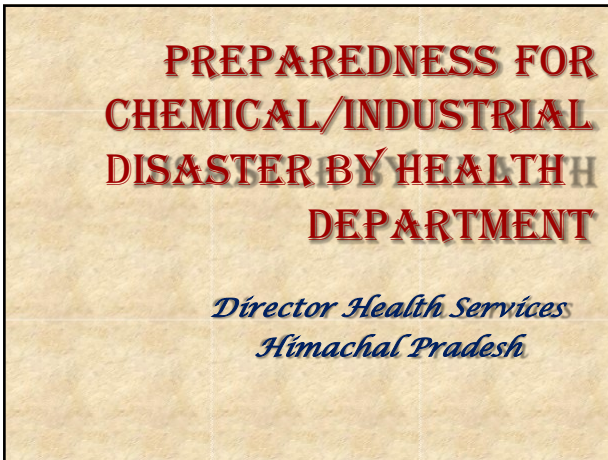
- As per the advise of Principal Secretary (Revenue) vide letter dated 09.05.2020 field functionaries were directed to conduct special inspection of 18 vulnerable industrial units as a special drive.
- Out of 18 units compliance was received in respect of 6 units and 1 unit has been prosecuted in Court
- In rest of the units compliances are awaited and further action is proposed to be taken as per the law.

11

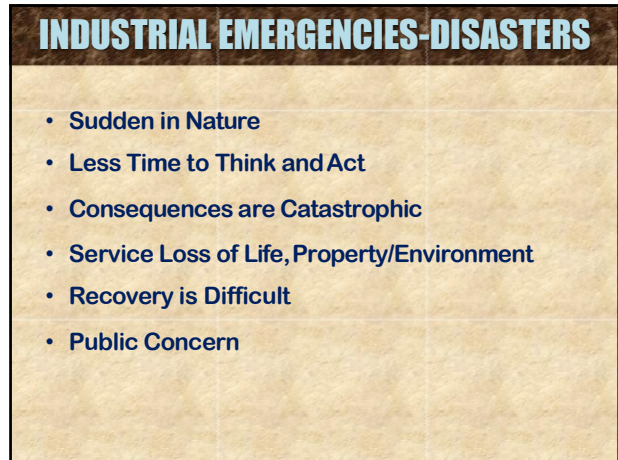
## Constraints being faced by the department

- In order to deal with the issues related to chemical disasters manpower with technical qualification is required in the department.
- Poor Mobility in the department

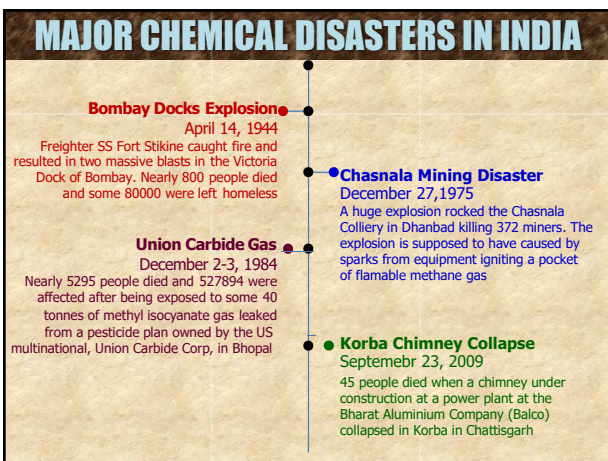
**Presentation on Preparedness for Chemical (Industrial) Disaster by Family and Health Welfare Department**



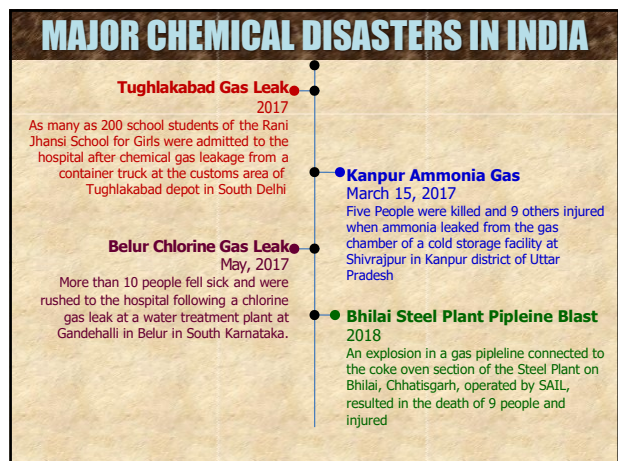
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2



3



4



5



6

## FORMS OF CHEMICALS

- Liquids
- Gases
- Vapours
- Mist
- Toxic Fumes (CO/CO<sub>2</sub>/Nitro Di-oxide)
- Smoke and Products Combustion (Hydrocarbon & HCN)

7

## TOXIC/POISONOUS GAS LEAKAGE

- Ammonia
- Chlorine/Hydrogen Chloride Vapours
- K+Hydrogen Cynaide
- Bromine Vapours
- Acid Fumes
- Any Toxic Gas from Hazardous Waste

8

## PREVENTION

- Prevention by Design/ Engineering Control and
- Operational Practices
- When Fail
- Emergency Mitigation

9

## PREPAREDNESS

- First Aid Fire Fighting Facilities
- Fixed Fire Protection Installations
- Emergency Leak Control Kit (suitable for particular chemicals of liquids or material)
- Emergency First Aid Kit (suitable for general and specific chemicals)
- Emergency Vessels to Hold Leaking Material

10

## BREATHING & SPECIAL PPE



- Appropriate Protective Equipment such as including SCBA for Protection against possible exposure:-
- Safety Helmet
  - Face Shield/Goggles
  - Protective Clothing
  - Insulating Gloves
  - PVC/Safety shoes

11

## ADVERSE HEALTH EFFECTS

- Eye Contact- May cause eye irritation, stinging, watering, redness & swelling
- Skin Contact-Prolonged or repeated skin contact tends to remove skin oils, possibly leading to irritation and dermatitis
- Inhalation
- Ingestion-May irritate mouth, throat, stomach
- CNS
- Chronic (Prolong & Repeated)
- Organ Damage (possible risk of impair fertility)

12

## FIRST AID

- Move victim to fresh air
- Remove and isolate contaminated clothing
- For eye contact flush with water for 15 minutes. Get medical help
- If not breathing, give artificial respiration. If breathing is difficult give oxygen and continue to monitor

13

## EMERGENCY RESPONSE

- To do use small fire, use DCP (Dry Chemical Powder) extinguisher or water spray
- For large spills, evacuate the nearby area at least for 800 meters
- Contain the spills wearing the required PPE. Equipments used for spill control must be grounded. Absorb it with dry sand or earth
- Protective gloves are recommended to protect against contact with product. Use SCBA for breathing support, if possible
- Keep Combustibles (wood, paper, oil etc) away from spilled
- Ventilate area & wash spill site after material pick up is complete
- Avoid run off into storm sewers & ditches which lead to waterways.

14

## MEDICAL SERVICES PLAN

Round the clock Medical Centre headed by qualified Doctor and other paramedical staff is the basic requirement for industries. Having following facilities.

1. First – Aid facility at important locations
2. Round the clock Ambulance with saving medicines for emergency transportation & pre hospital care
3. Important Antidotes and life saving medicines
4. Oxygen cylinders
5. Emergency showers
6. Treatment of casualties

15

# THANK YOU

16

**Presentation on Preparedness for Chemical (Industrial) Disaster by Fire Department**

**Himachal Fire Services Department**

**Action Plan to deal with Chemical Disasters**

1

**What is Chemical Disaster**

A chemical disaster is unintentional release of one or more hazardous substances which could harm human health and environment. Chemical hazards are incidents where chemical accidents occur.

2

**Role of Fire Services Department**

- Fire Fighting
- Search and Rescue Operations
- Fire Audit
- Issue Fire NOCs
- Awareness generation and Mock drills

3

**Provision for Fire NOC**

As per section 15 - A of Himachal Pradesh Fire Fighting Services Act, all building plans in respect of buildings of above 15 meters of height, industrial units and commercial establishments dealing with or using explosive and highly inflammable substances shall require **No Objection Certificate** from Director Fire Services or Chief Fire Officer.

4

**Year wise detail of Fire NOCs issued**

| Year         | Industrial Units | Educational Institutions (School, Coaching Centre) | Hotels     | Commercial Establishments and Hospitals etc. | Total       |
|--------------|------------------|--|------------|--|-------------|
| 2018 - 19    | 754              | 1055   | 42         | 39   | 1890        |
| 2019 - 20    | 641              | 1140   | 121        | 77   | 1979        |
| <b>Total</b> | <b>1395</b>      | <b>2195</b>  | <b>163</b> | <b>116</b>                                   | <b>3869</b> |

5

- Hazardous Chemicals used in Industries in H.P.**
- Chlorine
  - Sodium chlorate
  - Liquid Oxygen
  - Sulphur Dioxide
  - Formaldehyde
  - Phenol
  - Hydrochloric Acid
  - Sodium Hydroxide
  - Vinyl Acetate Monomer
  - Cyanoacrylate
  - Ammonia
  - LPG
  - Ethyl Alcohol
  - Formalin
  - Methanol
  - Polyol
  - HSD
  - N-Pentane
  - Nitric Acid
  - Potassium Hydroxide
  - Phosphorous oxy chloride
  - Hydrofluoric Acid
  - Toluene
  - Hexane
  - Acetone
  - Cyclohexane
  - Caustic soda
  - Isopropyl Alcohol
  - Di-phenyl methane Di isocyanate
  - Liquid Nitrogen
  - Methanol

6

## Number of Units Using Chemicals

| S. N. Districts | No. of Units. | No. of F.S. and Fire Posts       |
|-----------------|---------------|----------------------------------|
| 1. Solan        | 14            | 4 Fire Stations and 2 Fire Posts |
| 2. Sirmour      | 17            | 2 Fire Stations and 1 Fire Post  |
| 3. Kangra       | 15            | 3 Fire Stations and 9 Fire Posts |
| 4. Una          | 20            | 1 Fire Station and 2 Fire Posts  |

7

## Training of Fire Personnel to deal with chemical hazard

- Regular training courses held at State Fire Training Centre Baldeya.
- Advance training at NFSC Nagpur.
- Fire Stations and Fire Posts are primary responders.
- First Response Team consists of 6 personnel i.e. one LFM, 4 Firemen and 1 driver cum pump operator – role of each personnel in the team defined.
- Departure time of team from help call is less than 2 minutes.
- 35 chemicals identified, nature of hazard & response SOP outlined.
- Water, Foam Compound, CO<sub>2</sub>, Dry Chemical Power mainly used to deal with the Chemical Disaster.

8

## Hazardous Chemical used and Fire Deptt Resource inventory

| S. N. Name of Chemical | Hazard  | Fire Fighting Method/ Instructions  | Existing resource inventory   | Remarks   |
|------------------------|---|---|---|---|
| 1. Chlorine            | May cause intensify fire or oxidizer.                             | Use water spray or fog.   | 1. Water Tender Type - B<br>2. Water Bowser<br>3. Combined Foam and Co <sub>2</sub> Tender  | Existing resource inventory is adequate for fire fighting and rescue operation. |
| 2. Sodium chlorate     | May cause fire or explosion                                       | Use water spray or fog.   | Co <sub>2</sub> Tender<br>4. Rescue Tender<br>5. Quick Response Vehicle.  |   |
| 3. Liquid Oxygen       | Excessive exposure to heat cause violent rupturing of the vessel. | In case of Fire stop leakage if safe to do so.                              | 6. Water Mist and Compressed Air Foam System.<br>Note:- Above fire fighting vehicles contain personal protective equipment such as fire proximity suits, chemical Suits, Breathing Apparatus Sets, Helmets, Gloves etc. and fire fighting media such as Water, Foam Compound, Dry Chemical Powder, Co <sub>2</sub> Gas etc. |   |
| 4. Perfume             | Acute toxicity  | Co <sub>2</sub> or dry powder.  |   |   |
| 5. Formaldehyde        | May cause cancer.   | Use dry chemical powder, CO <sub>2</sub> , alcohol resistant foam or water. |   |   |
| 6. Hydrochloric acid   | Causes severe and eye damage.                                     | Use dry chemical powder, CO <sub>2</sub> , alcohol resistant foam or water. |   |   |

9

| S. N. Name of Chemical | Hazard   | Fire Fighting Method/ Instructions                                 | Existing resource inventory  | Remarks   |
|------------------------|--|--|--|---|
| 7. Cyanoacrylate       | Irritating to eyes.                                  | Alcohol resistance foam DCP, CO <sub>2</sub> & water Spray or fog. | 1. Water Tender Type - B<br>2. Water Bowser<br>3. Combined Foam and Co <sub>2</sub> Tender<br>4. Rescue Tender<br>5. Quick Response Vehicle. and rescue operation.   | Existing resource inventory is adequate for fire fighting |
| 8. Ammonia             | May cause temporary blindness and eye damage.        | Fog Water Spray.   | 6. Water Mist and Compressed Air Foam System.<br>Note:- Above fire fighting vehicles contain personal protective equipment such as fire proximity suits, chemical Suits, Breathing Apparatus Sets, Helmets, Gloves etc., and fire fighting media such as Water, Foam Compound, Dry Chemical Powder, Co <sub>2</sub> Gas etc. |   |
| 9. LPG                 | May explode if exposure heated.                      | Fine Water Spray.  |  |   |
| 10. Ethyl Alcohol      | May cause drowsiness or dizziness.                   | Use Dry chemical powder, Co <sub>2</sub> , Water spray & Foam      |  |   |
| 11. Nitric Acid        | Contact with eyes can cause permanent cornea damage. | Use water moderately and if possible collect or contain it.        |  |   |
| 12. Acetone            | May cause serious eye irritation.                    | Water Spray alcohol resistant foam DCP or Co <sub>2</sub>          |  |   |

10

**THANKS**

11

**Discussion on Scenarios, Maj Gen (Retd) V.K. Naik, Senior Consultant  
NDMA**

**Likelihood of Chemical Disasters in H.P.**  
**District-Solan**

**Ammonia Gas Leakage in Baddi (Vardhman Auro Textile Ltd.)**

**Incident –**  
Ammonia storage tank is breached, sprinkler system did not function.  
•20 workers are serious.  
•Wind Direction – South East  
•Likely Population Affected – 30,000

**Action-**  
•Containment (Industries, Fire Service, DDMA-Solan)  
•Evacuation Police.  
•Health emergency.  
•2000 persons seriously affected.

**Scenario-1**

**District-Solan**

**Class 1 Pesticides i.e. Mono-Crotophos and Oxydemeton-methyl spillage in Parwanoo Bazar.**

**Incident –**  
While transporting Class 1 Pesticide compound to factory in sector- 5 of industrial area of Parwanoo, a truck met with an accident and overturned causing the containers to fall out and break up causing fumes and spillage in bazaar Driver and Co-driver are seriously injured. Due to seepage 20 peoples in immediate vicinity have collapsed, 200 peoples around the accident site are feeling severe nausea.  
•Wind direction- South West (SW)  
•Likely population to be affected –5000

**Action-**  
•Containment of slippage.  
•Evacuation  
•Health Emergency.

**Scenario-2**

**District-Sirmaur**

**Chlorine Gas leakage at Kala Amb (M/s Ruchira Papers Ltd.)**

**Incident –**  
There was fire incident reported in paper mill in the early morning which spread immediately to storage area of Chlorine and Sulphur-dioxide Cylinders which started to explode resulting in leakage of gases by 7.30 AM, 2 workers died and 6 workers have severe burn injuries. People in the surrounding area are complaining of health concerns.  
•Wind direction- NNW 30 KM/H  
•Likely population to be affected –5000

**Scenario-3**

**District-Sirmaur**

**Class 1 Pesticides release in Air, Kala Amb (Sarv Bio Lab Pvt. Ltd.)**

**Incident –**  
There was a fire incident in the Pesticide factory in Kala Amb, due to which Class 1 Pesticide components stored were also damaged causing the fumes and seepage. The people living nearby are complaining of burning eyes, breathlessness and nausea.  
•Wind direction- NNW 30 KM/H  
•Likely population to be affected –5000

**Scenario-4**

**District-Kullu**

**Fire and Oil Spill in HSD Depot (Indian Oil Corporation Ltd Depot, Kullu)**

**Incident –**  
There has been a Fire incident at the Petrol Bulk Depot. Later the fire has caused a blast in the storage tank resulting in spillage which may reach river Beas. It is raining heavily with strong winds because of which noxious fumes have spread to about 5 Km in wind direction.  
•Wind direction- NNW 60 KM/H  
• Heavy Rain  
•Likely population to be affected –10,000 to 15,000  
•Chances of spill reaching Beas River.

**Scenario-5**

**District-Una**

**Fire and fumes in high speed derail storage depot of Indian oil Bulk Depot (20km) Mehatpur, Una**

**Incident:-**  
There is accidental fire in the HDS storage facility at Mehatpur, UNA. Because of which thick plume of smoke has spread in around 5 sq km area. There is chance of major explosion in the storage facility.  
•Wind direction- West 5 KM/H  
**Point:-**  
•Containment  
•Evacuation  
•Medical requirement

**Scenario-6**

**District-Una**

**Chemical spill in a chemical factory in Industrial Area, Gagret, UNA.  
( Royal Green Agro Chemicals)**

**Incident:-**

Chemical spill has happened in Industrial area of Gagret. Most probably "Phenol-formaldehyde" and "Unsaturated Polyester Resin" may be released. Four workers have become unconscious and people around 500 meters from incident site complaining of Nausea, Drowsiness and Headache.

**Scenario-7**

**District-Una**

**Chemical release due to explosion in chemical factory at Haroli, UNA  
(Shri. Om Vinyl & Chemicals Pvt. Ltd.)**

**Incident:-**

Due to minor explosion in the chemical factory, a noxious fume of "Styrene compounds" has spread in 1sq km area. Causing severe Nausea to the people.

**Scenario-8**

**District-Kangra**

**Fire and fumes from the furnace oil storage at the Steel factory  
Kandrori , District Kangra**

**Incident:-**

During reopening of the steel factory there was accidental fire in the furnace oil storage (about 50 Kilolitres) because of which noxious fumes of oil have spread into 5 km<sup>2</sup> which is increasing. There is a likelihood of major explosion in the storage area, 20 people are serious due to inhalation of fumes, about 500 people in way of fumes have reported irritation in the eyes, lungs and facing difficulty in breathing

**Points**

- Containment
- Evacuation
- Medical requirements

(A fire case has also been reported 2 years back)

**Scenario-9**

**District-Kangra**

**Chemical spill and fumes due to accident in the Chemical factory at  
-Nagrota bagwan Industrial Area (K.S. Subbu of Chemical limited)  
-Thakurdawara (Chamunda Chemical)**

**Incident:-**

Due to minor explosion and fire in the Chemical factory "Styrene Phenol formaldehyde" fumes have spread in the area of about 500 Mts<sup>2</sup>, 3-4 workers have become unconscious, people in nearby vicinity are complaining of Nausea Drowsiness and Headache.

**Scenario-10**

## Media Coverage of Training

## सूबे में रासायनिक आपदाएं रोकने को होगी मॉक ड्रिल

अमर उजाला ब्यूरो

शिमला। मुख्य सचिव अनिल खाची ने वीरवार को शिमला में रासायनिक आपदाओं पर एक ऑनलाइन टेबल-टॉप प्रशिक्षण की अध्यक्षता की। उन्होंने कहा कि रासायनिक आपदाओं पर यह टेबलटॉप प्रशिक्षण पांच जिलों कांगड़ा, कुल्लू, सोलन, सिरमौर और ऊना मुख्य रूप से औद्योगिक क्षेत्रों में हो रहा है। इससे औद्योगिक खतरों के कारण उत्पन्न होने वाली संभावित आपदाओं से निपटने के लिए हमारी तैयारियों का पता चल सकेगा।

कहा कि हमें रासायनिक औद्योगिक जोखिमों की गंभीरता की जानकारी होनी चाहिए। इसे कम करने की तैयारी करनी चाहिए। 1984 की भीमपाल गैस त्रासदी के कारण रासायनिक आपदाओं को रोकने के महत्व पर वैश्विक

कोरोना से निपटने के बाद औद्योगिक क्षेत्रों में बढ़ेगी सतर्कता - मुख्य सचिव ने वेब आधारित सीएआईआरएस विकसित करने पर बल दिया

जागरूकता की शुरुआत हुई थी। खाची ने राज्य में औद्योगिक घटनाओं और रासायनिक भंडारण के लिए उचित रिपोर्टिंग प्रणाली और व्यापक आम प्रारूप में दुर्घटनाओं के साथ उचित डाटा संरक्षित की आवश्यकता पर जोर दिया। ऑफ-साइट आपातकालीन योजना की समीक्षा करने, दुर्घटना के बाद की स्थिति की निगरानी करने आदि के लिए राज्य, जिला और स्थानीय संकट समूहों की नियमित बैठकें करने पर भी बल दिया। कोविड-19 का प्रभाव कम होने के बाद इस तरह का अभ्यास शुरू किए जाने चाहिए। उन्होंने ऐसे हादसों या रासायनिक खतरों के दौरान मीडिया के साथ समन्वय करने के

लिए एक नोडल अधिकारी नियुक्त करने का भी सुझाव दिया। अतिरिक्त मुख्य सचिव, राज्य विभाग आरडी धीमान ने कहा कि हमें उद्योग क्षेत्र में उपयोग किए जा रहे रासायनों के अनुसार औद्योगिक आपदाओं को कम करने के लिए बेहतर तरीके से तैयार होना चाहिए।

निदेशक एवं विशेष सचिव राजस्व-आपदा प्रबंधन डीसी राणा ने धन्यवाद प्रस्ताव प्रस्तुत किया। सदस्य राष्ट्रीय आपदा प्रबंधन प्राधिकरण लेफ्टिनेंट जनरल सैयद अता हसनैन, वरिष्ठ सलाहकार राष्ट्रीय आपदा प्रबंधन प्राधिकरण मेजर जनरल (सेवानिवृत्त) वीके नायक, सलाहकार (ऑफिस एंड कम्युनिकेशन) राष्ट्रीय आपदा प्रबंधन प्राधिकरण ब्रिगेडियर अजय गंगवार, राज्य कार्यकारी समिति एवं राज्य आपदा प्रबंधन प्राधिकरण के सदस्य आदि शामिल हुए।

## Need for web-based chemical mishap info system: Chief Secy

TRIBUNE NEWS SERVICE

SHIMLA, OCTOBER 15

Chemical disasters can be traumatic in their impacts on human lives, infrastructure, assets and ecology, said Chief Secretary Anil Kumar Khachi, adding that a web-based Chemical Accident Information and Reporting System (CAIRS) should be developed. He was presiding over an online table-top exercise on chemical disasters here today.

He said CAIRS should be developed by the Department of Industries/Disaster Management Cell with the help NIC, in which common information on hazardous chemicals, location mapping, processes, storage, handling, decontamination,

accidents and best practices etc are documented for future reference.

This Tabletop Exercise on Chemical Disasters, mainly industrial ones, involving five districts of Kangra, Kullu, Solan, Sirmour and Una is the first initiative to test the state's preparedness on emergencies that may arise due to industrial hazards, he added.

"With the advent of new industries and industrial townships coming up in the state, there is a need to take cognisance of imminent threats of chemical (industrial) disasters whose adverse impacts would encompass the entire biota," he said.

He added that the provisions in various Acts to mitigate industrial hazards needed to be implemented in letter and spirit.

The Chief Secretary stressed the need for regular meetings of the state, district and local crisis groups to review the off-site emergency plan, monitor post-accident situation etc.

I SS- 50462H CAPT SUNIA D/O SH. JAGDEV SINGH 119 ASSAULT ENGR REGT, C/O 56 APO DECLARE THAT I WANT TO APPLY FOR CORRECTION OF MY NAME FROM SUNIA TO SANIA IN MY RECORDS. OBJECTION IF ANY MAY BE FORWARDED WITHIN 7 DAYS.

## आपदा से लड़ने के लिए प्लान तैयार

## ऑनलाइन घटना प्रतिक्रिया प्रणाली संग रासायनिक आपदाओं पर चर्चा

दिव्य हिमाचल ब्यूरो - शिमला

ऑनलाइन घटना प्रतिक्रिया प्रणाली (आईआरएस) प्रशिक्षण और रासायनिक (औद्योगिक) आपदाओं पर सोमवार को यहां एक बैठक आयोजित की गई। इसमें प्रदेश के सभी 12 जिलों की शामिल किया गया, ताकि विभिन्न हितधारकों सहित जिलों, विभागों, सैन्य बलों और अर्द्धसैन्य बलों की भूमिका और उत्तरदायित्व पर चर्चा की जा सके। राज्य विभाग के अतिरिक्त मुख्य सचिव आरडी धीमान ने बैठक की अध्यक्षता की। आरडी धीमान ने कहा कि प्रशिक्षण का उद्देश्य कर्मचारियों और अधिकारियों को आपदा के समय में आईआरएस की भूमिका और

घटना, प्रतिक्रिया बल के उत्तरदायित्व के बारे में जागरूक करवाना है। प्रशिक्षण का एक और बड़ा उद्देश्य आपदा की परिस्थितियों के लिए एक ऐसी प्रतिक्रिया प्रणाली विकसित करना है, जिसमें राज्य और जिला स्तर पर बेहतर समन्वय हो। उन्होंने कहा कि आईआरएस एक बहुत कारगर प्रणाली है, जिसमें वे सभी कार्य शामिल हैं, जिन्हें आपदा प्रबंधन के दौरान प्रयोग में लाया जाता है। संगठन फील्ड में घटना प्रतिक्रिया बलों के माध्यम से प्रशासनिक ढांचे और आपदा प्रबंधन अधिनियम, 2005 के अनुरूप कार्य करता है। अतिरिक्त मुख्य सचिव ने कहा कि घटना प्रतिक्रिया बलों को राज्य, जिला, उपमंडल और तहसील

अथवा खंड स्तर पर पूर्व नामित किया जाता है। किसी भी आपदा की पूर्व चेतावनी मिलने पर जिम्मेदार अधिकारी (आरओ) उन्हें सचेत करेगा। पूर्व सूचना के बिना यदि कोई आपदा घटती है, उस स्थिति में स्थानीय घटना प्रतिक्रिया बल आरओ को सूचित करेगा तथा जिला, राज्य और राष्ट्रीय स्तर पर समन्वय स्थापित करेगा। राष्ट्रीय आपदा प्रबंधन प्राधिकरण के सलाहकार ब्रिगेडियर अजय गंगवार, प्राधिकरण के सदस्य लै. जनरल सैयद अता हसनैन, वरिष्ठ परामर्शदाता मेजर जनरल (सेवानिवृत्त) वीके नायक, राजस्व एवं आपदा प्रबंधन के निदेशक एवं विशेष सचिव डीसी राणा आदि बैठक में शामिल हुए।

पहल

मुख्य सचिव ने वेब आधारित रासायनिक दुर्घटना की सूचना और रिपोर्टिंग प्रणाली विकसित करने पर दिया जोर

## अनहोनी से निपटने को तैयार रहना चाहिए

दिव्य हिमाचल ब्यूरो - शिमला

रासायनिक आपदाओं का मानव जीवन, बुनियादी ढांचे, परिसंपत्तियों और पारिस्थितिकी पर हानिकारक प्रभाव हो सकता है। मुख्य सचिव अनिल कुमार खाची ने कहा कि एक वेब आधारित रासायनिक दुर्घटना की सूचना और रिपोर्टिंग प्रणाली (सीएआईआरएस) को उद्योगों आपदा प्रबंधन सेल द्वारा एनआईसी की सहायता से विकसित किया जाना चाहिए। इसमें हानिकारक रासायनों, स्थान मानचित्रण, प्रक्रियाओं भंडारण, परिशोधन, दुर्घटनाओं और उत्कृष्ट कार्यों आदि को भविष्य के संदर्भ के लिए संरक्षित रखा जा सकेगा। मुख्य

सचिव अनिल कुमार खाची ने गुरुवार को रासायनिक आपदाओं पर एक ऑनलाइन टेबल-टॉप प्रशिक्षण की अध्यक्षता की। इस अवसर पर उन्होंने कहा कि रासायनिक आपदाओं पर यह टेबलटॉप प्रशिक्षण, मुख्य रूप से औद्योगिक क्षेत्र, जिनमें पांच जिले- कांगड़ा, कुल्लू, सोलन, सिरमौर और ऊना शामिल हैं, जिससे औद्योगिक खतरों के कारण उत्पन्न होने वाली संभावित आपदाओं से निपटने के लिए हमारी तैयारियों का पता चल सकेगा। मुख्य सचिव ने कहा कि प्रदेश में उद्योगों को बढ़ावा दिया जा रहा है, इसलिए यह अधिक अनिवार्य हो जाता है कि हमें रासायनिक (औद्योगिक) जोखिमों

की गंभीरता की जानकारी हो और इसे कम करने के लिए तैयारी करनी चाहिए। राज्य में नए उद्योगों की स्थापना और औद्योगिक कस्बे बनने के साथ, रासायनिक (औद्योगिक) जोखिमों का भी संज्ञान लेने की आवश्यकता है। उन्होंने कहा कि औद्योगिक जोखिमों को कम करने के लिए बनाए गए विभिन्न अधिनियमों को पूर्णतः लागू करने

की आवश्यकता है। विभिन्न विभागों की गतिविधियों में तालमेल सुनिश्चित करने के लिए बेहतर और प्रभावी संस्थागत प्रणाली, समन्वय और रणनीतियों पर कार्य करने की आवश्यकता है। उन्होंने सुदृढ़ संस्थागत प्रणाली के अलावा विशेष उपकरणों और विशेषज्ञ मानव संसाधनों का डेटा बेस बनाने पर भी बल दिया।

## ये भी रहे मौजूद

सदस्य राष्ट्रीय आपदा प्रबंधन प्राधिकरण लेफ्टिनेंट जनरल सैयद अता हसनैन, मेजर जनरल (सेवानिवृत्त) वीके नायक, ब्रिगेडियर अजय गंगवार, राज्य कार्यकारी समिति एवं राज्य आपदा प्रबंधन प्राधिकरण के सदस्य, राष्ट्रीय आपदा प्रतिक्रिया बल के अधिकारी, घटना प्रतिक्रिया टीम (आईआरटी) के सभी सदस्य, उपायुक्त, विभागाध्यक्ष, जिलों के प्रतिनिधि और विभागों और विभिन्न हितधारक एजेंसियों के प्रतिनिधि भी टेबलटॉप प्रशिक्षण में अन्य लोगों के साथ उपस्थित थे।

# Incident Response System Training on Chemical (Industrial) Disasters

Date: 12.10.2020

NIC Committee Room, Armsdale Building, HP Sectt. Shimla

## Participant List

Annexure-M

| Sr. No. | Name                    | Designation/Organization                                     | Contact Detail/E-mail ID   |
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| 4.      | Dr. Praveen Sharma      | Scientific Officer, HP State Pollution Control Board, Shimla | <a href="mailto:pcbssoho@gmail.com">pcbssoho@gmail.com</a>   |
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| 13.     | Ravinder Kumar          | Supdt. Gr-II, SAD-I  | 80912-09616  |
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| 15.     | Praveen Bhardwaj        | DMS/DMC-HPSDMA   |  |
| 16.     | Garima Sharma           | CB&D Coordinator-DMC-HPSDMA                                  | 78384-33498  |
| 17.     | Vijay Singh             | IT Specialist, DMC-HPSDMA                                    |  |
| 18.     | ITBP Shq Shimla         |  |  |
| 19.     | Maj. Gen V.K.Datta      |  |  |
| 20.     | NDRF, Bhatinda          |  |  |
| 23.     | Maj. Gen. Dr. V.K. Naik |  |  |
|         |                         |  |  |

| <b>District wise list of participants for Incident Response System Training who attended the training virtually</b> |                          |                                 |              |
|---|--------------------------|---------------------------------|--------------|
| <b>Bilaspur</b>   |                          |                                 |              |
| 1.  | Rajeshwar Goel           | Deputy Commissioner             | 9418081672   |
| 2.  | Torul S. Raveesh         | Additional Deputy Commissioner  | 9650800990   |
| 3.  | Sanjay Sharma            | Deputy Superintendent of Police | 9418474500   |
| 4.  | Dr. Prakash Chand Daroch | Chief Medical Officer           | 9816128996   |
| 5.  | Jagdish Thakur           | Dy. Commandant, Home Guard      | 9817089014   |
| 6.  | Shubhas Chand Mishra     | District Fire Officer           | 7018821469   |
| 7.  | Devi Ram                 | District Revenue Officer        | 9418411500   |
| 8.  | Dhani Ram                | Leading Fire Man, O/o Fire      | 8278842323   |
| 9.  | Dr. Ekta                 | Medical Officer, O/o CMO        | 8894827616   |
| 10.   | Chandan Rathore          | IT Coordinator                  | 9805218923   |
| <b>Chamba</b>   |                          |                                 |              |
| 11.   | Er Rahul Sharma          | Jr.Eng.Eng-I, PCB- Chamba       | 97363-00127  |
| 12.   | Rahul Sharma             | Jr.Eng.Engg-II PCB- Chamba      | 70187-95260  |
| 13.   | Sapna Rani               | Supdt.G-II o/o GM DIC Chamba    | 94591-45776  |
| 14.   | Er R.K Sharma            | Sr.EX Engineer HPSEBL Chamba    | 94180-67438  |
| 15.   | Rajinder Chowdhary       | Station Fire Officer            | 94187-01603  |
| 16.   | Sunil Kumar Kaith        | DRO Chamba Revenue              | 94180-37361  |
| 17.   | Arvind Chaudhary         | Comm.HG Chamba                  | 94181-38110  |
| 18.   | Nitender Sharma          | BN.Admn Officer HG Chamba       | 94180-35696  |
| 19.   | Sher Singh               | Distt.Police Line Chamba        | 82192-13035  |
| 20.   | Er Dixit Kumar           | JE Jal Shakti Vibhag CBA urban  | 94597-53119  |
| 21.   | Tanesh Mehta             | Treasury Officer Chamba         | 94181-84967  |
| 22.   | Narender Kumar           | IC- DDMA , Chamba               | 98055-44820  |
| 23.   | Sumit Gupta              | IT Coordinator, DDMA Chamba     | 98165-38980  |
| <b>Hamirpur</b>   |                          |                                 |              |
| 24.   | Dev Raj Bhatia           | DRO Hamirpur                    | 9418103330   |
| 25.   | Kamal Dev                | PO DRDA                         | 9882207777   |
| 26.   | Vikas Sharma             | CPO /AC(F&A)                    | 9816459225   |
| 27.   | Vinod Kumar              | DPO Hamirpur                    | 01972-222702 |
| 28.   | Vivek Sharma             | EE HPPWD Hamirpur               | 9418058157   |
| 29.   | K.L. Thakur              | EO MC Hamirpur                  | 9418096655   |
| 30.   | Jeet S Thakur            | DDA Hamirpur                    | 9418095146   |
| 31.   | Niku Ram                 | District Language Officer       | 9459754630   |
| 32.   | Shiv Ram                 | DFSC                            | 9817092668   |
| 33.   | Varinder Sharma          | RTO Hamirpur                    | 9418262155   |
| 34.   | Hament Kumar             | DPRO                            | 9817097930   |
| 35.   | Vijay Chaudhary          | GM DIC Hamirpur                 | 9418417171   |
| 36.   | Sunil Kumar              | DSO Hamirpur                    | 9418102934   |
| 37.   | Rajesh Kumar             | SE HPSEBL Hamirpur              | 9418049474   |
| 38.   | Deepak Garg              | SE JSV Hamirpur                 | 9816573293   |
| 39.   | Jitender Sanjta          | ADM Hamirpur                    | 9418904587   |

|                |                         |   |            |
|----------------|-------------------------|---|------------|
| 40.            | Chiranjil Lal           | SDM Hamirpur                              | 9418024128 |
| 41.            | Sudhir Chandel          | District Science Supervisor               | 9418049726 |
| 42.            | Sanjay Singh            | SE PWD Hamirpur                           | 9418288963 |
| 43.            | Dr. Sanjay Jagota       | Health Officer                            | 9418096596 |
| 44.            | Nirdesh Kumar           | Assistant of DPRO Hamirpur                |            |
| 45.            | K.K. Bhardwaj           | Sr. EE HPSEBL Hamirpur                    | 9418081907 |
| 46.            | Dr. Usha                | HDO DDH Hamirpur                          | 9419012300 |
| 47.            | Raj Kumar               | JOA IT                                    | 9418255070 |
| <b>Kangra</b>  |                         |   |            |
| 48.            | S. K Thakur             | Jal Shakti Vibhag Dharamshala             | 9418293727 |
| 49.            | Dr Vikas Saklani        | Home Guard and Fire Services              | 7018121114 |
| 50.            | Saroop Kumar            | Fire Station Dharamshala                  | 9418902453 |
| 51.            | Kushal Chand            | BAO Home Guards                           | 7018746095 |
| 52.            | R. K Sharma             | District Labour Officer                   | 9816476789 |
| 53.            | Dinesh Kumar            | Addl. SP Kangra                           | 9418057747 |
| 54.            | Abhimanyu               | Food civil supply & Consumer Affairs      | 9882509828 |
| 55.            | Virendra Singh Patiyal  | Animal Husbandry                          | 9418219222 |
| 56.            | Naseem Bala             | APRO Dharamshala                          | 9418182525 |
| 57.            | Rajesh Dogra            | SMS(Agriculture) Dharamshala              | 9418132747 |
| 58.            | Rajeev Dogra            | AE(M) Jal Shakti Vibhag Dharamshala       | 9418142007 |
| 59.            | Vishal Sharma           | RTO Dharamshala                           | 9459928848 |
| 60.            | Dr R. K Sood            | DSO O/o CMO Dharamshala                   | 9418064077 |
| 61.            | Sandeep Dewan           | DCO O/o Deputy Director Higher Education  | 9418086799 |
| 62.            | Sachina Devi            | Publicity Assistant                       | 8580842624 |
| 63.            | Rajesh Kumar            | GM DIC Kangra                             | 9418103101 |
| 64.            | Lt Col Neeraj Bhakri    | A Commandant Military Station Dharamshala | 9711938690 |
| 65.            | Anju Lata               | Assistant Director Elementary Education   | 9418413444 |
| 66.            | Santosh                 | Se. Supervisor O/o Elementary Education   | 7018207574 |
| <b>Kinnaur</b> |                         |   |            |
| 67.            | Sh. Munish Kumar Sharma | AC to DC                                  | 9418075181 |
| 68.            | Sh. Suresh Kumar        | Commandant Home Guard                     | 9418062998 |
| 69.            | Sh. Dr. Sonam Negi      | CMO Kinnaur                               | 9418060150 |
| 70.            | Sh. Sukh Dev            | Company Commander HG                      | 7018825651 |
| 71.            | Sh. Mohinder Sigh       | HC S.P. office Kinnaur                    | 7018977751 |
| 72.            | Sh. Gopal Singh         | SFO Fire Station Peo                      | 9459277267 |
| 73.            | Sh. Inder Lal Negi      | Labour Insp. Kinnaur                      | 9418453224 |
| 74.            | Sh. Dr. Thakur Bhagat   | Manager DIC Kinnaur                       | 7018951715 |
| 75.            | Sh. Salish Hitesh       | DFSC Kinnaur                              | 7876178892 |
| 76.            | Sh. Amit Negi           | JE HPSEB                                  | 7807516756 |
| 77.            | Sh. Narinder Sharma     | DPRO Kinnaur                              | 9418159210 |
| 78.            | Sh. Girija Mankotia     | DTO Kinnaur                               | 9773736332 |
| <b>Kullu</b>   |                         |   |            |
| 79.            | Dr. Richa Verma         | DC Kullu                                  |            |
| 80.            | Dr. Amit Guleria        | SDM Kullu                                 |            |

|                           |                          |  |             |
|---------------------------|--------------------------|--|-------------|
| 81.                       | Sh. Dinanath             | Home Guard 7 <sup>th</sup> Bn. Kullu   |             |
| 82.                       | Sh. Rattan Chand         | I.O.C.L. Kullu                         |             |
| 83.                       | Sh. Parshant             | Coordinator, DDMA Kullu                |             |
| 84.                       | Sh. Durga Singh          | Sub Fire Officer, Kullu                |             |
| 85.                       | Smt. Chime Angmo         | G.M. DIC, Kullu                        |             |
| 86.                       | Sh. Manoj Kumar          | DRO, Kullu                             |             |
| 87.                       | Smt. Raj Kumari          | KM-II, Kullu                           |             |
| 88.                       | Sh. Rakesh Kumar         | Documentation Coordinator, DDMA Kullu  |             |
| <b>LAHUAL &amp; SPITI</b> |                          |  |             |
| 89.                       | Kamal Kant Saroch (IAS)  | Deputy Commissioner                    | -           |
| 90.                       | Manav Verma (IPS)        | SP                                     | 7018335723  |
| 91.                       | Rajesh Bhandari (HAS)    | SDM                                    | -           |
| 92.                       | Dr. Palzor               | CMO                                    | 9459177507  |
| 93.                       | Sanjeev Vohra            | Ex. IPH                                | 9816121216  |
| 94.                       | Vikram Rana              | Ex. HPSEBL                             | 9418021826  |
| 95.                       | B.C Negi                 | Ex. PWD                                | 9418480101  |
| 96.                       | Bijender Singh           | DFSC                                   | 8424788244  |
| 97.                       | Mangal Chand             | RM HRTC                                | 9418000537  |
| 98.                       | Madan Lal                | Fire In charge                         | 9418980030  |
| 99.                       | Nitin Sharma             | T&CB                                   | -           |
| 100                       | Kalzang Chhunit Dunny    | Coordinator                            | 9418426004  |
| 101                       | Roshan Lal               | Supervisor                             | 898863127   |
| 102                       | Arun Kumar               | Supervisor                             | 9459773384  |
| 103                       | Anuradha                 | Data operator                          | 9418754323  |
| <b>Mandi</b>              |                          |  |             |
| 104                       | Sh. Rugved Thakur        | Deputy Commissioner Mandi              | 98166-55300 |
| 105                       | Sh. Rajeev Sankhyan      | DRO Mandi                              | 98166-62244 |
| 106                       | Sh. Nek Ram              | Senior Platoon Commander Mandi         | 70182-55594 |
| 107                       | Sh. Ram Chand            | ASI Tech.                              | 94182-03571 |
| 108                       | Sh. Rakesh kumar         | Deputy GM BSNL Mandi                   | 94180-52733 |
| 109                       | Sh. Anish Gupta          | SDO BSNL Mandi                         | 94180-01970 |
| 110                       | Sh. Amar Nath Rana       | Deputy Director (Elementary Education) | 82194-20166 |
| 111                       | Sh. Amarjeet Singh       | District SERV Coordinator Mandi        | 98058-17504 |
| 112                       | Sh. Bhanu Pratap         | AE Jal Shakti Vibhag                   | 86289-47709 |
| 113                       | Smt. Meena Rana          | Inspector DFSC Mandi                   | 94182-13884 |
| 114                       | Dr. Ghanshyam Bhupal     | Sr. Veterinary Officer Mandi           | 94180-26267 |
| 115                       | Sh. Gain Chand           | Operator DPRO Office Mandi             | 98173-22951 |
| 116                       | Sh. Naveen Khosla        | District Agriculture Officer Mandi     | 94180-48899 |
| 117                       | Sh. Surinder Paul Sharma | Deputy Director Higher Education Mandi | 70186-34007 |
| 118                       | Sh. Vinay Verma          | O/o DIC Mandi                          | 98160-33805 |
| 119                       | Dr. Pawnesh Kumar        | DPO ZH Mandi                           | 82192-82530 |
| 120                       | Sh. Vikash Sharma        | ITC DDMA Mandi                         | 70187-86237 |
| 121                       | Sh. R.S. Kaundal         | Fire Officer Mandi                     | 98573-33453 |
| 122                       | Sh. Uday Singh           | DEOC Mandi                             | 94183-51400 |

| <b>Shimla</b>  |                                  |   |                     |
|----------------|----------------------------------|---|---------------------|
| 123            | Sh. Amit Kashyap                 | DC  | 94185-00005         |
| 124            | Sh. Praveer Thakur               | ASP   | 88947-28003         |
| 125            | Er Suresh Kapoor                 | SE-4 <sup>th</sup> Circle HPPWD Shimla          | 94180-01941         |
| 126            | Dr Hari Ram Thakur               | CMO Office Shimla                               | 94187-77675         |
| 127            | Sh. B S Chauhan                  | Commandant Home Guard 2 <sup>nd</sup> Bn Shimla | 98160-03564         |
| 128            | Sh. R P Nepta                    | Commandant Home Guard 3 <sup>rd</sup> Bn Shimla | 98164-71717         |
| 129            | Er Tanuj Gupta                   | Sr Xen HPSEBL Shimla-1                          | 94184-85425         |
| 130            | Dharam Chand Sharma              | DFO Fire Division Shimla-2                      | 94184-96040         |
| 131            | Dr Neha Sharma                   | CB&T DDMA DC Office Shimla                      | 98573-79885         |
| 132            | Sh. Dinesh Kumar                 | IT Document DDMA DC Office Shimla               | 96460-05350         |
| <b>Sirmaur</b> |                                  |   |                     |
| 133            | Dr. Raj Krishan Pruthi           | Deputy Commissioner Sirmour                     | DC Office           |
| 134            | Smt. Priyanka Sharma             | A.D.C. Sirmaur                                  | DC Office           |
| 135            | Sh. Ajay Krishan Sharma          | SP Sirmaur                                      | SP Office           |
| 136            | Sh. N.S. Chauhan                 | DRO Sirmour                                     | Revenue             |
| 137            | G.S Chauhan                      | GM DIC Nahan                                    | DIC                 |
| 138            | P.C Naresh Kumar                 | Platoon Commander                               | Home Guard          |
| 139            | Sh. P. S. Sen                    | Station Fire Officer                            | Fire department     |
| 140            | Smt. Shayama Devi                | Commander                                       | Home Guard          |
| 141            | Sh. Arvind Chauhan               | Documentation Coordinator                       | DDMA                |
| 142            | Sh. Rajan Kumar                  | T&CB Coordinator                                | DDMA                |
| 143            | Sh. Simpal Saklani               | DPRO  | DPRO Sirmaur        |
| 144            | Sh. Anup Sharma                  | BDO Nahan                                       | BDO                 |
| 145            | Sh. L.R. Verma                   | SDM Paonta                                      | SDM Office          |
| 146            | Sh. K.K. Prashar                 | CMO   | CMO Office          |
| 147            | Sh. Pawan Sharma                 | -   | PCB                 |
| 148            | Sh. Rahul Jain                   | SDM   | Sangrah             |
| 149            | Sh. Harsh Amrinder Singh         | SDM   | Shillai             |
| 150            | Smt. Nisha Azad<br>(addl.Charge) | Tehsildar                                       | Shillai             |
| 151            | Smt. Sonakshi Tomar              | SDM   | Pacchad             |
| 152            | Sh. Naresh                       | SDM   | Rajgarh             |
| 153            | Sh. Krishan Dutt Sharma          | BDO   | Rajgarh             |
| 154            | Smt. Neeru Sharma                | -   | Animal<br>Husbandry |
| 155            | Sh. Vivek Negi                   | Tehsildar                                       | Tehsildar Rajgarh   |
| <b>Solan</b>   |                                  |   |                     |
| 156            | Keshav Ram                       | DRO   | 9418163780          |
| 157            | Shamsher Singh                   | Supdt. Food SUPply                              | 9418210570          |
| 158            | Surender Singh                   | Incharge Controll room                          | 9459695696          |
| 159            | Ureander Kumar                   | Add- S P  | 7018153300          |
| 160            | Naresh Sharma                    | S D O   | 9816648626          |
| 161            | Bal Krishan                      | Supdt.Cr. I.D.C office solan                    | 9459515950          |

|            |   |   |            |
|------------|---|---|------------|
| 162        | Madan Mohan Sharma                      | Sadar Kanoongo                          | 9418527649 |
| 163        | Dr.Gurmeet Singh                        | M O R H Solan                           | 9418477155 |
| 164        | Er. Surender Sharma                     | S D O Sub Division Oachhghat            | 8091040800 |
| 165        | Kulbhushan Sharma                       | S D K Nalagarh                          | 9805054351 |
| 166        | Lalit Kumar                             | E .O. MC. Solan                         | 9418142121 |
| 167        | Naresh Verma                            | A R T O                                 | 9816160479 |
| 168        | Nitin Gupta                             | Manager / D C Solan                     | 9968117887 |
| 169        | Divesh Gautam                           | District Nazer Solan                    | 9816702053 |
| 170        | Parvesh Thakur                          | S D O Jal Shakti Solan                  | 9816774477 |
| 171        | Rita Mohindra                           | A.D MANREGA                             | 9418056124 |
| 172        | Desh Raj Sharma                         | A.C. (F & A. ) DC office                | 9418027962 |
| 173        | Surender Tegta                          | D P O (WCD) Solan                       | 7018604213 |
| 174        | Kamal Chauhan                           | T.A / DPRO Solan                        | 220089     |
| 175        | Ashok Verma                             | Add. S P Solan                          | 9418400342 |
| 176        | Vikesh Kumar                            | EHS Exucutive pidilite baddi            | 8894602225 |
| 177        | Sanjay kumar                            | DDC BADDI                               | 9418060728 |
| 178        | Shashank Dogra                          | Sn. Opo Office                          | 8847627033 |
| 179        | Lt col Zorawar Singh                    | QM, 11 DOGRA                            | 8427066011 |
| 180        | Dr. Shiv Kumar                          | Commandant Homegaurd                    | 9418175222 |
| 181        | Vijaypal Singh                          | Dy. Manager Jupiter Solan               | 9805087456 |
| 182        | Ashi Rana                               | Dy. Manager Jupiter Baddi               | 8679646867 |
| 183        | Ajay Kumar yadav                        | S D O Solan                             | 8750884399 |
| 184        | T.R Sharma                              | BAO HG Solan                            | 9816013820 |
| <b>Una</b> |   |   |            |
| 185        | Sh. Neelkamal                           | Managers (OPS Safety)IOCL Una, Terminal |            |
| 186        | Er. Ashok Dhiman                        | Sr. Xen HPSEBL Una                      |            |
| 187        | Sh. Vijay Singh                         | D.C.F.C.S & C.A Una                     |            |
| 188        | Dr. Rajnish Kumar                       | Veterinary Officer                      |            |
| 189        | Sh. Nitin Dhiman                        | Fire Officer                            |            |
| 190        | Sh. CC Dhiraj Sharma                    | Battalion A.O (H.H.G.)                  |            |
| 191        | Sh. Raman Sharma                        | Distt. Panchayat Office                 |            |
| 192        | Sh. Surender Singh                      | Asst. Director (Factories)              |            |
| 193        | Sh. Narender Kumar                      | Tech. Asst., DPRO                       |            |
| 194        | Sh. Sanjeev Thakur                      | DPRO, DRDA                              |            |
| 195        | Sh. Sunil Kumar                         | AE PWD Una S.D (II)                     |            |
| 196        | Dr. Sukhdeep Singh Sidhu                | DPO (Health)                            |            |
| 197        | Dr. Amit Kumar, IAS                     | ADC, Una                                |            |
| 198        | Sh. Arijit Sen Thakur                   | SP, Una                                 |            |
| 199        | Sh. Deepak Sharma, AE HPPWD             | AE HPPWD, Circle Una                    |            |
| 200        | Sh. G.S. Rana,                          | Xen HPPWD, Una                          |            |
| 201        | Sh. Jodinder Patial                     | DRO, Una                                |            |
| 202        | Sh. Tilak Raj, D.A.O (P) O/O D.P.O. Una | Distt. Audit Officer (P)                |            |

## Tabletop Exercise on Chemical (Industrial) Disasters

Venue: CS Committee Room, Armsdale Building, HP Sectt. Shimla

### Participant List

Date: 15.10.2020

Annexure-N

| S. No.  | Name                          | Designation/Organization   | Contact                |
|---|-------------------------------|--|------------------------|
| 1.  | A.K.Sood                      | Deputy Director, (Factories) Labour Department   | 94184-73059            |
| 2.  | B.K.Sharma                    | Engineer-in-Chief, HPPWD   | 94184-88-908           |
| 3.  | Dr. S.S.Randhawa              | Principal Scientific Officer, HIMCOSTE   | 94183-82126            |
| 4.  | S.B.Negi                      | ADG Home Guards/Director Fire Services   | 98050-92700            |
| 5.  | J.P.Singh                     | IG, Armed Police and Training  | 95825-01000            |
| 6.  | Ghanshyam Chand, HAS          | Addl. Comm. Transport  | 94180-02410            |
| 7.  | Rakesh Singh                  | SP-SDRF  | 94181-20642            |
| 8.  | Dr. Sushil Negi               | Assistant Director, Directorate AH Deptt.  | 94187-33347            |
| 9.  | Dr. Manoj Chauhan             | PSO (HQ) HP PCB Shimla   | 94180-44033            |
| 10.   | Dr. D.D.Sharma                | DDHS o/o DHS   | 88945-33225            |
| 11.   | Dr. Dr. Bharat Bhushan Katoch | DHS o/o DHS  | 94180-73786            |
| 12.   | Praveen Bhardwaj              | DMS, o/o HPSDMA  |                        |
| 13.   | Lata Thakur                   | DEO, o/o HPSDMA  |                        |
| <b>Venue-2, NIC Committee Room, Armsdale Building, HP Sectt. Shimla</b> |                               |  |                        |
| 14.   | Desh Bandhu Kaith             | Research & Documentation Officer, HP Institute of Public Administration Fairlawn, Shimla-2 | 98160-20434            |
| 15.   | M.K.Upreti                    | C.E. HPSEBL, Shimla  | 9418055480             |
| 16.   | A.S. Negi                     | AGM  | 9418010926             |
| 17.   | Harbans Singh Brascon         | Director, I&PR, HP   | 94180-02996            |
| 18.   | Surender Paul                 | Joint Director   | 9418040560             |
| 19.   | DP Singh                      | Joint Director Horticulture  | 9418080108             |
| 20.   | Dr. Vijaya                    | Asstt. Commissioner (FS), HQ, DHSR   | 8219050131             |
| 21.   | Manmohan Singh                | Director, IMD Shimla   | 9816127668             |
| 22.   | Rajesh Verma                  | SP/CTS, HP Police, Shimla-2  | 9418000238             |
| 23.   | Dr. Praveen Sharma            | S O, HPSPCB, Shimla  | 9418170428             |
| 24.   | Dr. Suresh Kumar Sharma       | Deputy Director (Planning)   | 9816666239             |
| 25.   | Balbir Singh                  | Under Secretary (Home)   | 9418980991             |
| 26.   | Er. Vinod Kumar Negi          | AE Jal Shakti Vibhag   | 9459585564             |
| 27.   | Priya Negi                    | Food Safety Officer  | Negipriya914@gmail.com |
| 28.   | Vijay Singh                   | ITS, HPSDMA  | vskamal@gmail.com      |
| 29.   | Saurabh Sharma                | DEO, HPSDMA  | 8988168967             |

**District wise list of participants for tabletop exercise (TTEX) on Chemical (Industrial) Disasters who attended the training virtually**  
**Participant List (15.10.2020)**

**Bilaspur**

| <b>Sl. No.</b>  | <b>Name</b>              | <b>Designation</b>              | <b>Contact details</b> |
|-----------------|--------------------------|---------------------------------|------------------------|
| 1.              | Rajeshwar Goel           | Deputy Commissioner             | 9418081672             |
| 2.              | Torul S. Raveesh         | Additional Deputy Commissioner  | 9650800990             |
| 3.              | Sanjay Sharma            | Deputy Superintendent of Police | 9418474500             |
| 4.              | Dr. Prakash Chand Daroch | Chief Medical Officer           | 9816128996             |
| 5.              | Jagdish Thakur           | Dy. Commandant, Home Guard      | 9817089014             |
| 6.              | Shubhas Chand Mishra     | District Fire Officer           | 7018821469             |
| 7.              | Devi Ram                 | District Revenue Officer        | 9418411500             |
| 8.              | Dhani Ram                | Leading Fire Man, O/o Fire      | 8278842323             |
| 9.              | Dr. Ekta                 | Medical Officer, O/o CMO        | 8894827616             |
| 10.             | Chandan Rathore          | IT Coordinator                  | 9805218923             |
| <b>Chamba</b>   |                          |                                 |                        |
| 11.             | Er Rahul Sharma          | Jr.Eng.Eng-I-PCB Chamba         | 97363-00127            |
| 12.             | Rahul Sharma             | Jr.Eng.Engg-I PCB Chamba        | 70187-95260            |
| 13.             | Sapna Rani               | Supdt.G-II o/0 GM DIC Chamba    | 94591-45776            |
| 14.             | Er R.K Sharma            | Sr.EX Engineer HPSEBL Chamba    | 94180-67438            |
| 15.             | Rajinder Chowdhary       | Station Fire Officer            | 94187-01603            |
| 16.             | Sunil Kumar Kaith        | DRO Chamba Revenue              | 94180-37361            |
| 17.             | Arvind Chaudhary         | Comm.HG Chamba                  | 94181-38110            |
| 18.             | Nitender Sharma          | BN.Admn Officer HG Chamba       | 94180-35696            |
| 19.             | Sher Singh               | Distt.Police Line Chamba        | 82192-13035            |
| 20.             | Er Dixit Kumar           | JE Jal Shakti Vibhag CBA urban  | 94597-53119            |
| 21.             | Tanesh Mehta             | Treasury Officer Chamba         | 94181-84967            |
| 22.             | Narender Kumar           | IC- DDMA ,Chamba                | 98055-44820            |
| 23.             | Sumit Gupta              | IT Coordinator, DDMA Chamba     | 98165-38980            |
| <b>Hamirpur</b> |                          |                                 |                        |
| 24.             | Harikesh Meena (IAS)     | DC Hamirpur                     | 9816843333             |
| 25.             | Jitender Sanjta          | ADM Hamirpur                    | 9418904587             |
| 26.             | Dev Raj Bhatia           | DRO Hamirpur                    | 9418103330             |
| 27.             | Deepak Garg              | SE JSV Hamirpur                 | 9816573293             |
| 28.             | Rajesh Kumar             | SE HPSEBL Hamirpur              | 9418049474             |
| 29.             | Vijay Chaudhary          | GM DIC Hamirpur                 | 9418417171             |
| 30.             | Sudhir Chandel           | District Science Supervisor     | 9418049726             |
| 31.             | Shiv Ram                 | DFSC                            | 9817092668             |
| 32.             | Jasveer Singh            | DSP/SDPO Barsar                 | 9418069319             |
| 33.             | N.P.S. Chauhan           | SE PWD Hamirpur                 | 9418089849             |
| 34.             | Major S.K. Kaundal       | Commandant Home guard           | 7018254046             |
| 35.             | Hament Kumar             | DPRO                            | 9817097930             |
| 36.             | Niku Ram                 | District Language Officer       | 9459754630             |
| 37.             | Dr. Arvind Kaundal       | DPO O/o CMO Hamirpur            | 9418025566             |
| 38.             | Dr. Usha                 | HDO DDH Hamirpur                | 9419012300             |
| 39.             | Suresh Kumar             | DAO (Parts)                     | 9816319827             |
| 40.             | Vivek Sharma             | EE HPPWD Hamirpur               | 9418058157             |
| 41.             | K.L. Thakur              | EO MC Hamirpur                  | 9418096655             |

|                |                            |                                      |              |
|----------------|----------------------------|--------------------------------------|--------------|
| 42.            | Vikas Sharma               | CPO /AC(F&A)                         | 9816459225   |
| 43.            | Vinod Kumar                | DPO Hamirpur                         | 01972-222702 |
| 44.            | Vinod Kumar                | DSO Hamirpur                         | 9877711253   |
| <b>Kangra</b>  |                            |                                      |              |
| 45.            | Rajesh Dogra               | SMS Dharamshala Agriculture          | 9418132747   |
| 46.            | Sachina devi               | Information 2 public Relation        | 9418182325   |
| 47.            | Naseem bala                | APRO dharamshala                     | 9418182325   |
| 48.            | Shubash Sharma             | Labour Department                    | 9816684682   |
| 49.            | Bhinder kumar              | Distt. Supervisor / police wireless  | 9418293732   |
| 50.            | Er. Subhash Chander        | HPPWD, NH Shahpur                    | 94182-49299  |
| 51.            | Dr. Virendra               | Animal Husbandry                     | 94182-19222  |
| 52.            | Abhimanyu                  | Food civil supply                    | 98825-09828  |
| 53.            | Dr. vishal Sharma          | Regnal inspector office              | 94599-28848  |
| 54.            | Parkush chand              | Finance advisor NAHI palampur        | 7018352197   |
| 55.            | Lt. Col Neeraj Bharti      | Add. Comdt. Military station D/shala | 97119-38690  |
| 56.            | Rekha Kapoor               | Deputy director of higher education  | 94180-68380  |
| 57.            | Dr. RK Sood                | DSO o/o CMO kangra                   | 94180-64077  |
| 58.            | Dev raj                    | Deputy SP HPP                        | 70183-13608  |
| 59.            | Dinesh Kumar               | Add. SP (HQ) Police                  | 94180-57747  |
| 60.            | Mohinder kumar             | DDEE kangra                          | 9459758100   |
| 61.            | Rohit (ADM) Kangra         | O/O Deputy Commissioner              | 94180-89107  |
| 62.            | Rahul Kumar (ADC) kangra   | PO DRDA                              | 8988298888   |
| 63.            | Sarita Sharma              | o/o DDH, horticulture                | 8278730265   |
| 64.            | Saroop kumar               | Fire Station D/shala                 | 9418902453   |
| 65.            | Kushal chand               | B.R.O Home Guard                     | 7018746095   |
| 66.            | Robin kumar                | DDMA                                 | 8894851111   |
| <b>Kinnaur</b> |                            |                                      |              |
| 67.            | Sh. Gopal Chand            | Deputy Commissioner                  | 9418065900   |
| 68.            | Dr. Sonam Negi             | CMO                                  | 9418060150   |
| 69.            | Sh. Suresh Kumar           | Commandant Home Guard                | 9418062998   |
| 70.            | Sh. Munish Kumar Sharma    | AC to DC                             | 9418075181   |
| 71.            | Dr.( Maj) Avaniinder Kumar | SDM Kalpa                            | 7018934714   |
| 72.            | Sh. Salish Hitesh          | DFSC Kinnaur                         | 7876178892   |
| 73.            | Sh. Mohinder Sigh          | HC S.P. office Kinnaur               | 7018977751   |
| 74.            | Sh. Narender Kaith         | DDMA                                 | 9459148880   |
| 75.            | Sh. kuldeep Singh          | DDMA                                 | 9805006902   |
| <b>Kullu</b>   |                            |                                      |              |
| 76.            | Dr. Richa Verma            | DC Kullu                             |              |
| 77.            | Dr. Amit Guleria           | SDM Kullu                            |              |
| 78.            | Sh. Dinanath               | Home Guard 7 <sup>th</sup> Bn. Kullu |              |
| 79.            | Sh. Rattan Chand           | I.O.C.L. Kullu                       |              |
| 80.            | Sh. Parshant               | Coordinator, DDMA Kullu              |              |
| 81.            | Sh. Durga Singh            | Sub Fire Officer, Kullu              |              |
| 82.            | Smt. Chime Angmo           | G.M. DIC, Kullu                      |              |
| 83.            | Sh. Manoj Kumar            | DRO, Kullu                           |              |
| 84.            | Smt. Raj Kumari            | KM-II, Kullu                         |              |

|                |                                     |   |                                |
|----------------|-------------------------------------|---|--------------------------------|
| 85.            | Sh. Rakesh Kumar                    | Documentation C, DDMA Kullu               |                                |
| <b>Mandi</b>   |                                     |   |                                |
| 86.            | Sh. Rugved Thakur                   | Deputy Commissioner Mandi                 | 98166-55300                    |
| 87.            | Sh. Rajeev Sankhyan                 | DRO Mandi                                 | 98166-62244                    |
| 88.            | Sh. Nek Ram                         | Senior Platoon Commander Mandi            | 70182-55594                    |
| 89.            | Sh. R.S. Kaundal                    | Fire Officer Mandi                        | 98573-33453                    |
| 90.            | Sh. OM Parkash Jaryal               | GM DIC Mandi                              | 94180-77126                    |
| 91.            | Dr. Pawnesh Kumar                   | DPO ZH Mandi                              | 82192-82530                    |
| 92.            | Sh. Vijay Singh Guleria             | JE HPPWD Mandi-1                          | 94184-83375                    |
| 93.            | Sh. Tej Singh                       | AE HPPWD Sub Div.-III Mandi               | 70189-07109                    |
| 94.            | Sh. Pawan Kumar                     | AEO O/o Deputy Director Agriculture Mandi | 94596-94286                    |
| 95.            | Sh. Amarjeet Singh                  | District SERV Coordinator Mandi           | 98058-17504                    |
| 96.            | Sh. Vikas Sharma                    | ITC DDMA Mandi                            | 70187-86237                    |
| <b>Shimla</b>  |                                     |   |                                |
| 97.            | Sh. Amit Kashyap                    | DC Office Shimla                          | 94185-00005                    |
| 98.            | Sh. Praveer Thakur                  | SP Office Shimla                          | 88947-28003                    |
| 99.            | Er Suresh Kapoor                    | 4 <sup>th</sup> Circle HPPWD Shimla       | 94180-01941                    |
| 100.           | Dr Hari Ram Thakur                  | CMO Office Shimla                         | 94187-77675                    |
| 101.           | Sh. B S Chauhan                     | Commandant H G 2 <sup>nd</sup> Bn Shimla  | 98160-03564                    |
| 102.           | Sh. R P Nepta                       | Commandant HG 3 <sup>rd</sup> Bn Shimla   | 98164-71717                    |
| 103.           | Er Tanuj Gupta <b>Sr Xen</b>        | HPSEBL Shimla-1                           | 94184-85425                    |
| 104.           | Dharam Chand Sharma <b>DFO</b>      | Fire Division Shimla-2                    | 94184-96040                    |
| 105.           | Dr Neha Sharma <b>CB&amp;T</b>      | DDMA DC Office Shimla                     | 98573-79885                    |
| 106.           | Sh. Dinesh Kumar <b>IT Document</b> | DDMA DC Office Shimla                     | 96460-05350                    |
| 107.           | Sh. Piyush <b>Supervisor</b>        | DDMA DC Office Shimla                     | 94597-38558                    |
| <b>Sirmour</b> |                                     |   |                                |
| 108.           | Dr. Raj Krishan Pruthi              | D.C. Sirmour                              | DC Office                      |
| 109.           | Sh. Ajay Krishan Sharma             | S.P. Sirmour                              | POLICE                         |
| 110.           | Smt. Priyanka Sharma                | A.D.C. Sirmour                            | DC Office                      |
| 111.           | Sh. N.S. Chauhan                    | DRO Sirmour                               | Revenue                        |
| 112.           | Sh. Pawan Sharma                    | RTO Sirmour                               | Transport                      |
| 113.           | Sh. Naveen Kothari                  | Police INSPECTOR                          | POLICE                         |
| 114.           | Sh. Anil Kumar                      | HPSPCB Kala-amb                           | Pollution                      |
| 115.           | Sh. Om Prakash Dubey                | Virgo Industries representative           | Virgo Ind. kala-amb            |
| 116.           | Sh. Bittu Dhaiya                    | Wood Stock Industries representative      | Wood Stock Industries kala-amb |
| 117.           | Sh. D.K. Mishra                     | Ruchira Industries representative         | Ruchira Industries Kala-amb    |
| 118.           | Sh. Arvind Chauhan                  | Documentation Coordinator                 | DDMA                           |
| 119.           | Sh. Rajan Kumar                     | T&CB Coordinator                          | DDMA                           |
| 120.           | Dr.K.K. Prashar                     | CMO Sirmour                               | Medical                        |
| 121.           | Sh. Simpal Saklani                  | DPRO Sirmour                              | Public Relation Office         |
| 122.           | Sh. Aditiya Bindra                  | DFSC Sirmour                              | DFSC                           |
| 123.           | Sh. Anchit Dogra                    | DPO Sirmour                               | District Panchayat Office      |
| 124.           | Sh. Vivek Sharma                    | SDM Nahan                                 | SDM Officer Nahan              |

| <b>Solan</b> |                         |                                    |            |
|--------------|-------------------------|------------------------------------|------------|
| 125          | Keshav Ram              | DRO                                | 9418163780 |
| 126          | Madan Mohan Sharma      | Sadar Kanoongo                     | 9418527649 |
| 127          | Shamsher Singh          | Supdt. Food SUpply                 | 9418210570 |
| 128          | Divesh Gautam           | District Nazer Solan               | 9816702053 |
| 129          | Partap Singh            | D/ S                               | 9418041110 |
| 130          | Bal Krishan             | Supdt.Cr. I.D.C office solan       | 9459515950 |
| 131          | Naresh Sharma           | S D O                              | 9816648626 |
| 132          | Desh Raj Sharma         | A.C. (F & A. ) DC office           | 9418027962 |
| 133          | Parvesh Thakur          | S D O Jal Shakti Solan             | 9816774477 |
| 134          | Dr.Gurmeet Singh        | M O R H Solan                      | 9418477155 |
| 135          | Dr. V K Goel            | D P O Office Solan                 | 8350800800 |
| 136          | Er. Surender Sharma     | S D O Sub Division Oachhghat       | 8091040800 |
| 137          | Nitin Gupta             | Manager / D C Solan                | 9968117887 |
| 138          | Naresh Verma            | A R T O                            | 9816160479 |
| 139          | Rita Mohindra           | A.D MANREGA                        | 9418056124 |
| 140          | Surender Tegta          | D P O (WCD) Solan                  | 7018604213 |
| 141          | Mohinder Singh Rana     | DDMA SOLAN                         | 9625017200 |
| 142          | Pawan Kumar             | DDMA SOLAN                         | 7018679484 |
| 143          | Vijaypal Singh          | Dy. Manager. GHS                   | 9805087456 |
| 144          | Ashi Rana               | Dy. Manager Jupiter Baddi          | 8679646867 |
| 145          | Ashok Verma             | Add. S P Solan                     | 9418400342 |
| 146          | Lt col Zorawar Singh    | QM, 11 DOGRA                       | 8427066011 |
| 147          | Dr. Shiv Kumar          | Commandant Homeguard               | 9418175222 |
| 148          | Vikesh Kumar            | EHS Exucutive pidilite baddi       | 8894602225 |
| 149          | T.R Sharma              | BAO HG Solan                       | 9816013820 |
| 150          | Ajay Kumar yadav        | S D O Solan                        | 8750884399 |
| <b>Una</b>   |                         |                                    |            |
| 151          | Sh. Neelkamal           | Manager ( OPS- Safety) IOCL Una,   |            |
| 152          | Er. Ashok Dhiman        | Sr.                                |            |
| 153          | Sh. Saurabh             | AM ( L- Safety),Una BP             |            |
| 154          | Dr. Raman Sharma        | CMO,Una                            |            |
| 155          | Dr. Amit Kumar          | ADC,Una                            |            |
| 156          | Dr. S.S. Sidhu          | DPO,Health                         |            |
| 157          | Sh.Surender Singh       | Asst. Director (Factories)         |            |
| 158          | Dr. Suresh Dhiman       | Asst. Director ( Animal Husbandry) |            |
| 159          | Sh. Nitin Dhiman        | Fire Officer,Una                   |            |
| 160          | C.C. Dhiraj Sharma      | Battalion A.O (H.H.G.)             |            |
| 161          | Sh. Harbhajan Singh     | Inspt/C.T.S. Una                   |            |
| 162          | Sh. Narinder Pal Singh  | Supdt.,Engineer PWD                |            |
| 163          | Sh. Arijit Sen Thakur   | SP,Una                             |            |
| 164          | Sh. Sandeep Kumar       | DC,Una                             |            |
| 165          | Sh. Joginder Patial     | DRO,Una                            |            |
| 166          | Sh. Arshi Mohammed Khan | TCB Coordinator, DDMA Una          |            |
| 167          | Sh. Dheeraj Kumar       | IT Coordinator, DDMA Una           |            |