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Abbreviations

BPCL Bharat Petroleum Corporation Limited

IOCL Indian Oil Corporation Limited

HPCL Hindustan Petroleum Corporation Limited

EOC Emergency Operations Centre

ICP Incident Command Post

IMT Incident Management Team

QRT Quick Response Team

NGO Non-Government Organization

MTNL Mahanagar Telephone Nigam Limited

CATS Centralized Accidents Trauma Services

DJB Delhi Jal Board

SOP Standard Operating Procedure

ESF Emergency Support Function

IC Incident Commander

ADM Additional District Magistrate

DC Deputy Commissioner

MCD Municipal Corporation of Delhi

DDMC District Disaster Management Committee

CDMO Chief District Medical Officer

DDUH Deen Dayal Upadhyaya Hospital

GGSH Guru Govind Singh Hospital

CD & HG Civil Defence and Home Guards

NYKS Nehru Yuva Kendra Sangthan

DFS Delhi Fire Services

SDM Sub-Divisional Magistrate

DRMP Disaster Risk Management Programme



BACKGROUND



UNIT 1: BACKGROUND

1.0 Introduction

Delhi with a population of more than 14 million is vulnerable to multiple hazards. The entire region of Delhi is in Seismic Zone IV, which is a high risk zone to earthquakes. In addition, Delhi is also vulnerable to chemical explosions, domestic fire, terrorist attacks, riots, nuclear wars and other biological and chemical hazards. More than 50% of population is living in highly congested and precarious housing structures that could be seriously affected in any disaster of considerable magnitude. As the National Capital, the hub of national government business, the impact of any such occurrence has serious implications on the country.

The Delhi Government has initiated many activities in reducing risk due to unprecedented event such as earthquake, fire and other hazards. The 'Government of India-United Nations Development Programme sponsored Disaster Risk Management Programme' (Gol-UNDP DRMP) launched in Delhi is one of the major interventions through which the government is conducting various preparedness and mitigation activities. The Delhi Disaster Management Authority (DDMA) has been constituted to provide a platform for all the respective departments to participate and coordinate in such initiatives. The office of the Divisional Commissioner has been identified as a nodal agency in carrying out such activities in the National Capital Territory of Delhi. Delhi has also prepared a roadmap outlining priorities and interventions that could be initiated through a participatory and coordinated manner.

1.1 Need of the Mock-drill

It has been observed that lack of preparedness and ill-coordination in administration and communities multiplies the human and economic loss during the emergency situation. Therefore, it is essential to have a robust response mechanism which integrates the efforts of communities, administration and other stakeholders so that disaster situation can be overcome efficiently and effectively.

Mock drill is one of the ways to inculcate the culture of preparedness. This gives an opportunity to various agencies to participate together and rehearse their response plans. Agencies responsible to respond in case of any actual disaster to come face to face with each other and



evaluate their own levels of preparedness and improve their response levels and efficiency. Mock-drill also gives an opportunity to all the departments to evaluate their resource status and use the feedback to improve them resource capabilities to face actual disasters.

As desired by the Ministry of Home Affairs, Govt. of India, The Govt of Delhi has adopted the Incident Command System (ICS) for the management of disasters. Departments have been grouped in Emergency Support Functions (ESFs) as a part of response system. Further, Emergency Support Functions based response plans formulated and integrated under ICS ensuring interdepartmental and interagency co-ordination.

Earlier, the Ministry of Home Affairs, Government of India has directed the Government of Delhi to organise an Off-site Chemical Disaster mock drill so that the level of preparedness and response coordination in the administration can be tested and evaluated.

1.2. Aim and Objectives

To rehearse the Office-site Emergency Response Plan in a well-coordinated manner.

Following objectives were identified to be fulfilled during the mock-drill

- Evaluation of Standard Operating Procedure of the Emergency Response Plan
 - Evaluation of the coordination among various Emergency Support Functions at the district and the state levels
 - Practicing the Incident Command System of response
 - Building of team spirit among public-private stakeholders at various levels while working together to face disaster

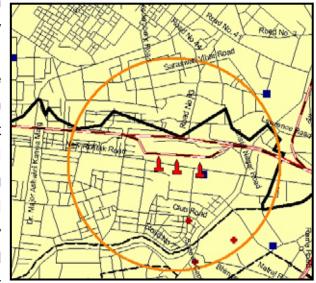
1.3. Selection of Mock-drill Site and Development of Scenario

The West district of the Delhi was selected to organise the mock-drill for off-site emergency. The site chosen was Shakur basti where apart from BPCL, other hazardous installations namely Indian Oil Corporation Limited, Hindustan Petroleum Corporation Limited, Ordinance Depot and Railway Diesel Shed are also present. Therefore, it was assumed that this place had maximum probability of chemical leakage accidents and the potential damage was also expected to be very high.



Mock-drill scenario assumed that around 3,00 o'clock in afternoon, at Bharat Petroleum Corporation Limited, a tank was filling Motor Spirit (MS) which developed a leak in the filling

valve resulting in dripping of Motor Spirit. On noticing the leakage, cleaner of tank lorry climbed down to rectify the problem. Meanwhile, the tank lorry overflowed. While hammering the valve, spark was generated leading to the fire in the tank lorry. The fire also melted the hydrant pipes of the BPCL and due to varying wind directions chemical fire also started affecting outer areas of the incident site. Railway Diesel Shed and nearby *jhugies* were also captured by fire. Other hazardous installations like Indian Oil and Hindustan Petroleum are also located just



adjacent to the Bharat Petroleum installation. Situation can aggravate suddenly if railway-diesel storage shed or train passing through the railway line also catches fire. About 50 people affected and many are captured in the BPCL, *jhuggies* and railway diesel shed. Situation got out of control of BPCL. Therefore, a state of emergency need to be declared and rescue operation started

1.4 Scope and Limitations

The mock-drill was organized to evaluate the Incident Command System based emergency response mechanism at district and state level. Standard Operating Procedures of Emergency Support Functions at district level were mainly prepared to handle chemical disasters in Delhi. But this response mechanism can also be followed to combat any other natural and manmade disaster by suggesting suitable changes in the standard operating procedures of the emergency response functions.

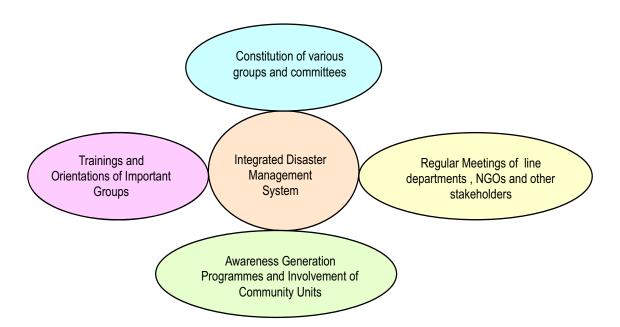
1.5 Preparation for the Drill

 As it has already been stated above, that mock-drill aims to generate a good coordination among various lines departments and other public-private



- stakeholders. Therefore, various preparations steps were taken by the administration.
- Documents on Standard Operating Procedure of Emergency Support Functions,
 District Disaster Management Plan, Incident command system etc were developed
- Regular meetings of DDMC and ESFs were conducted where government officers and private counterparts were oriented to develop a general coordination and personal relation with each other
- Training and orientation of ESFs on Incident Command System, disaster
 management plans and actions plans etc was also provided to the senior officers.
 They were also to share these documents with their junior staff so that coordination
 can be developed in at every level of response.

Figure 1: Components of developing Integrated Emergency Response System



• Various nearby communities like vulnerable installations, residential quarters, *ihuggies*, school etc were involved in the mock-drill programme

STEPS UNDERTAKEN TO DEVELOP EMERGENCY RESPONSE MECHANISM IN THE WEST DISTRICT



UNIT 2: STEPS UNDERTAKEN TO DEVELOP EMERGENCY RESPONSE MECHANISM IN THE WEST DISTRICT

2.0 Introduction

This was the first mock-drill for the West District. As such, it warranted preparations in various aspects. The mock-drill was based on various preparedness activities which were carried out under the directions of the Deputy Commissioner (DC)-West. Before conducting the drill, responsible agencies were identified and oriented about their roles and responsibilities. On the basis of discussions with technical experts and key line departments, a mock-drill scenario was developed and accordingly, mock-drill site was also identified. A close partnership was developed with officers of the hazardous installations concerned to involve them in the mock-drill. Various volunteer-based organizations like Nehru Yuva Kendra Sangthan-Nangloi (NYKS), Local NGOs, Civil Defence etc were also involved in the mock-drill. Departments under various Emergency Support Functions (ESFs) were geared up by providing regular orientations to their nodal and supporting agencies about their roles and responsibilities.

Stepwise description has been given below to elaborate the efforts done by the DC-West office in developing a well-coordinated disaster management mechanism.

2.1 Identification of the Responsible Agencies

Various line departments, technical experts, private agencies and volunteer based organizations were identified and listed down as per their roles during the chemical disasters. Delhi Police, Delhi Fire Services, Municipal Corporation of Delhi, Delhi Jal Board, MTNL, Directorate of Health Services, Major Hospitals, CATS, St. John, Bharat Petroleum Corporation Limited, Indian Oil Corporation Limited, Railway Diesel Shed, NYKS and Local NGOs were the main departments which were persuaded to be involved actively. Their roles and responsibilities were prepared and discussed with their nodal officers. List of identified departments is enclosed as Annexure 2.1.

2.2 Identification of Important Emergency Support Functions

Evacuation, Search and Rescue, Fire Fighting, Food and relief Supply, Law and Order, Help Lines, Medical, Water Supply and Power Supply are the important Emergency Support functions(ESFs) which were identified to streamline the operations.



Based on the main responsibilities of the organization, primary and supporting officers were identified for each response function. For example, primary responsibility to conduct search and rescue and fire fighting was given to Delhi Fire Services where as Delhi Police, BPCL, HPCL, IOCL, Ordinance Depot, Railway Diesel Shed, Civil Defence and Home Guards were the supporting agencies. (Annexure 2.2)

2.3 Preparation of Standard Operating Procedures of Emergency Support Functions

Based of the main responsibilities of the organization and emergency support functions, standard operating procedures were developed. The draft of SOPs was also finalized by compiling feedback provided by the nodal and supporting departments. Finally, these SOPs were distributed to all nodal officers in the District Disaster Management Committee meeting held on December 2004. A copy of Standard Operating Procedures of Emergency Support Functions is attached as Annexure 2.3.

2.4. Meetings with ESF Nodal Officers and Supporting Officers

The DC-West office also conducted regular meeting with nodal and supporting department to institutionalize the Emergency Support Functions (ESFs) into the district administration.

Meetings of all the ESF leaders were convened to discuss the Standard Operating Procedures (SOPs) of each ESF. The DC-West has also convened ESF wise separate meetings with primary and secondary agencies during the month of December, 2004 and January, 2005 towards developing inter and intra agency coordination among various ESFs. In the meetings, primary agencies were suggested to conduct regular meetings with their supporting agencies in order to prepare their ESF wise action plan so that they can take up their responsibilities in well-coordinated manner when the time comes. Directorate of Health Services, Delhi Fire Service, Municipal Corporation of Delhi, Food and Civil Supply Department, Revenue Department and Delhi Police also conducted regular meetings and developed their respective action plan.

2.5 Nomination of the Officers under Incident Command System in the West District

One of the main objectives of organizing mock-drill was also to introduce Incident Command System in the district. On the basis of the guidelines of trained officers and booklets available on the subject, various officers were nominated. The Deputy Commissioner of the district was designated as Incident Commander(IC) and the Deputy Commissioner of Police-West was



nominated as an alternate Incident Commander. Senior officers of ADM rank were nominated as Section chiefs for Operations, Planning and Finance/Administration. DC (MCD) was designated as Logistic section chief. and Planning. Similarly unit leaders, technical experts and other important officers were designated as per the Incident Command structure.

2.6 Orientations and Meetings under Incident Command System

Meetings were convened by the DC-West to provide orientations and trainings to the officers

nominated under Incident Command System and Emergency Support Functions. Lecturers were delivered by Sh. S.K. Jha-ADM(HQ) who is a National Level Core Trainer in ICS. During these meetings officers were detailed about their responsibilities during the mock-drill under the ICS. Section chiefs of Operations, Administration and Finance, Planning and Logistics were advised to conduct separate meetings with their team members to develop coordination among them. Further, the Incident Commander



(Deputy Commissioner -West) also conducted separate meetings for section chiefs which was followed by other meetings undertaken by section chiefs. Refer annexure 2.4 for details of main meetings conducted before mock-drill.

2.7 Target Oriented Meetings

• A core group of technical experts from Delhi Fire Services, Oil Industry Safety Directorate, Directorate of Health Services, Delhi Police, installations managers from IOC, BPCL and HPCL was constituted. Meetings were also conducted to finalize s cenario details and incident action plan. The experts suggested a list of important equipments, resources and manpower required during chemical disasters. Oil Industry and Safety Directorate also suggested some instructions to be repeated during a chemical disaster drill.



- Another group of officers from oil installations, railway diesel shed, Local NGOs, Local SHO, NYKS and Civil Defence and Home Guards was formed. Meetings of this group were conducted at the Bharat Petroleum Corporation Limited (i.e. incident site) to generate awareness about chemical disaster so that drill does not lead any panic in the public at large and to finalize initial action plan.
- A meeting of the selected DCs and ADMs and personnel trained in ICS was convened at
 - the DC-West office to finalize the location of the facilities such as incident command post and staging areas etc. A layout plan of Incident command post and staging area was prepared (attached as annexure 2.5). Requirement of logistics was also discussed and finalized (attached as annexure 2.6). A draft of the action plan was discussed and finalized during the meeting (attached as annexure 2.7).

the District to finalise Logistics and Initial action plan

Photo 2.2: Meeting of selected Senior Officers in

2.8 Documentation

Various base documents were prepared for the Mock-drill. Standard Operating Procedures (SOPs) were finalized for all ESFs. In the process, District Disaster Management Plan was finalized and shared with the District Disaster Management Committee. An emergency response plan, Schedule of action plan, mock-drill scenario, emergency directory and evaluation formats for observers etc were the other important documents which were prepared and distributed to the officers for their reference.

2.9 Special Initiatives

2.9.1 Preparation of Medical Action Plan

In view of the special importance of providing immediate medical aid in the district incase of any disaster, taskforce of medical officers from various health related departments was formed. The group was advised to prepare a medical action plan which could be implemented during the disasters. The members of this medical taskforce are the responsible officers from near by hospitals, ambulance services, local NGOs, Major Hospitals, MCD-Health department, Civil Defence and Home Guards and other volunteer organization. Chief District Medical Officer and nodal officers from Deen Dayal Upadhyaya Hospital and Guru Govind Singh Hospital were responsible to facilitate the group towards preparation of the action plan.

2.9.2 Awareness Generation Campaign for Communities living around the Mock drill

A community awareness programme addressing basic do's and don'ts of chemical disasters was conducted with the partnership of various NYKS, NGOs, Civil Defence and Fire Department. People living in the nearby installations, *jhuggies*, schools and residential quarters were the important areas covered for awareness generation. People living in these areas were advised not to panic and evacuate their places if so required during the drill.

Photo2.3: Ms. Lalita Kumari Incharge NYKS(Nangloi) and ARADHYA(NGO)Team conducting Nukkad Nattaks in jhuggies and other Residential Areas









2.9.3 Liaison with Other Stakeholders

- Bharat Petroleum Corporation Limited (BPCL), Hindustan Petroleum Corporation Limited (HPCL), Indian Oil Corporation Limited (IOCL), Ordinance Depot (OD), Railway Diesel Shed, NGOs and NYKS(Nangloi) etc were involved for various tasks in the mock-drill.
- The drill was conducted in the premises of BPCL and open ground of Railway Diesel Shed. BPCL was responsible to create a dummy fire on their one of the tank and initiate fire drill by spreading message of fire explosion to the Police, Fire and their near by installations. All installations have provided their manpower and resources for the search and rescue and fire fighting to DFS as supporting agencies.
- NGOs and NYKS(Nangloi) volunteers also provided their services in conducting awareness generation campaign in nearby communities located around the drill.

2.10 Logistics Arrangements

Out Door Logistics

 An open ground near Railway diesel shed was selected for Incident Command Post and Staging Areas.



- BPCL and Delhi Fire Service were directed to create dummy fire to start the Mock Drill.
- About 30 desks were arranged for Incident Command Teams and Emergency Support Functions.
- Emergency Operations Centre was made operational with telephone lines, PCR wireless equipments, mobile phones, computer and fax machines.
- Separate Desks fore ESFs and section and unit leaders were erected, labelled and furnished with fans, tables and chairs so that team members can work in coordination.
- Temporary hospital to treat immediate injuries and temporary relief shelters for immediate relief were also arranged. A school was also selected as a temporary relief shelters.

Indoor Logistics

- Observers were assigned to evaluate the response of emergency response functions vis-à-vis their SOPs
- Evaluation formats were prepared to check attendance and preparedness of departments. Formats under ICS like Unit Log, Medical Plan, Communication Plan, Operations Planning Sheet were also introduced.
- Technical experts were nominated from various departments including Oil Industry safety Directorate, Delhi Fire Services, Directorate of Health Services and Ministry of Environment and Forest etc.
- All the nodal officers were advised to be present with their teams, equipments and vehicles to show their preparedness to the administration.
- Emergency Directory containing phone numbers of all nodal officers, incident command staff and supporting officers have been prepared.
- Arrangements for drinking water and some refreshments were made available.

PROCEEDINGS OF DISTRICT LEVEL RESPONSE OF THE MOCKDRILL



UNIT 3: PROCEEDINGS OF DISTRICT LEVEL RESPONSE OF THE MOCKDRILL

3.0 Introduction

Mock-drill was initiated by the local safety branch of the Bharat Petroleum Corporation Limited. They passed the information to the first responders i.e. Police, Fire and the Emergency Control Room of DC-West and also started evacuating their installation. Within 15 minutes of information, first responders reached the incident site with their quick response teams. Rescue operation started by the Fire services where teams of Police, Civil Defence and team of near by oil installations also joined them. The DC-West activated the Emergency Operations Centre and the Incident Management Team and Emergency Support functions-team leaders reported at the Incident Command post with their resources and quick response teams. The drill was on for two hours. During this time Incident Management Team and Emergency Support Functions team leaders revised their responsibilities according to their Standard Operating Procedures.

3.1 First Response: Bharat Petroleum Corporation Limited

• The drill started at 3.00 p.m. on 9th June 2005 within the message passed by the Bharat Petroleum Corporation Limited about the chemical fire expolsion in their premises to Police, Fire and District Disaster Control Room(in DC-West Office) and near by installations.







- The Deputy Commissioner- West activated the District Emergency Operation
 Centre at 3.02 p.m which passed the information to the team leaders of
 Emergency Supporting Functions. DC-West directed Area-SDM to reach incident
 site.
- Near by vulnerable sites evacuated their installations immediately after receiving the information. They dispatched their manpower and equipments to BPCL to combat the fire.

Photo 3.2: Bharat Petroleum Corporation Limited combating Fire in their Premises



Photo 3.3: Evacuation Teams of Bharat Petroleum Corporation Limited





Photo 3. 4: Medical Team of Bharat Petroleum Corporation Limite

Situation aggravated when outside area of Railway Diesel Shed also caught fire

3.2 Arrival of the First Responders at Incident Site

• Fire and Police department reached to the site by 3.15 p.m. with their fire fighting and search and rescue teams where team of supporting agencies had also joined them.



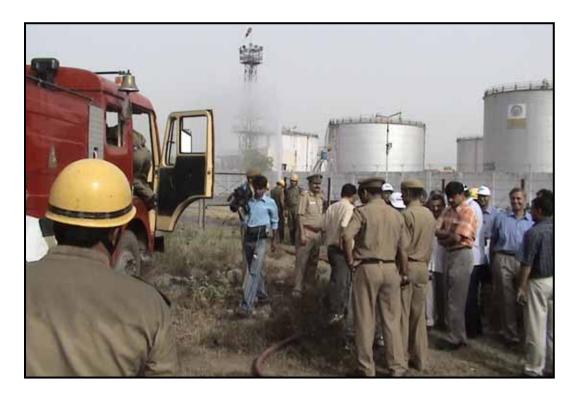
Photo 3.5: Fire Explosion affecting Railway Diesel Shed



Photo 3.6: Delhi Fire Service combating Fire by using foam tenders



Photo 3.7: Fire and Police Services at Incident Site





 Area SDM (Punjabi Bagh) reached the incident site to provide directions to the field teams and also to report back to the DC-West. In-charge of Bharat Petroleum joined SDM to provide latest updates of the incident site.





Photo 3.9: Various Quick Response Teams in Action at Incident Site



 DC-West also reached the incident site at 3.15 p.m. and established Incident Command Post and Incident Management Team



3.3 Response of the Field Team: Working at Railway Diesel Premises

 Quick Response Teams (QRTs) were performing their functions under the guidance of field and headquarter team leaders. Fire and Police were the first one to reach at the site. A team of volunteers and police constables joined fire services at BPCL and at Railway Diesel Shed for evacuating affected people.





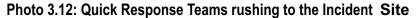
- Another team of Police and civil defence volunteers started cordoning the near by areas. Public entry was also restricted at the incident site by the police. Nearby jhuggies were also evacuated on the directions of Incident Commander.
- Fire was out of control by 3.20 p.m. However, 5 fire tenders with foam dispenser reached the incident site by that time. About 3 to 4 ambulance vans also reached to the site by 3.25 p.m.

Photo 3.11: Quick Response Team of Fire Service





At 3.25 p.m. first injury was reported and shifted to the ambulance immediately. Within minutes 2-3 more injury cases were reported and shifted to the ambulance with the help of stretcher. By 3.30 p.m. rescue operations was on full swing. About 100 civil defence and 60 NYKS volunteers reported at the incident site/staging area to provide first aid and help in evacuating and fire fighting.



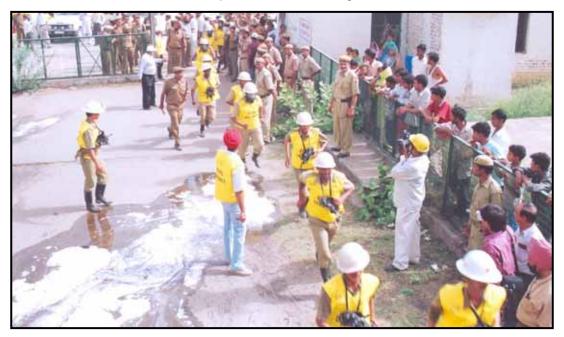


Photo 3.13: Fire, Police and Volunteers working together for search and rescue operation





Photo 3.14: Search and Rescue Team of Civil Defence Volunteers



Photo 3.15: First Aid Team of Civil Defence Volunteers





 Indian Red Cross Society, NGOs and NYKS Teams reached at the incident site to provide relief to the victims and quick response team
 Photo 3.16 Indian Red Cross Society Distributing Tea and Bread to the victims



Photo 3.17: NYKS and NGOs team reached at Incident Site





Photo 3.18: Temporary Hospital Established by CMDO and Their Supporting Teams



Photo 3.19: Quick Response Team for Providing First Aid





- Simultaneously screening of burnt cases was provided at temporary hospital.
 Severely burnt cases were taken to the hospitals for further treatment after first.
 Forensic science laboratory, Dean Dayal Hospital, Safdar Jang hospital, Balaji Hospital, Maharaja Agarsen hospital and other major hospitals were contacted for their treatment. In all 55 casualties shifted to the hospitals for further treatments.
- Water sprinkle shower facilities were arranged for the search and rescue team to disinfect them from chemical effects. Finally fire was declared under control till 4.30 p.m.
- DC-West informed State EOC that fire explosion is under control. Demobilization of resources had started at 5.15. p.m. Overall drill was over by 5.45 p.m.



3.4 Important Resources used at the Mock-drill Site

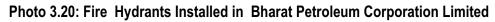




Photo 3.21 : Water Pumps at Bharat Petroleum Corporation Limited





Photo 3.22: Ambulance Services at Temporary Hospital



Photo 3.23: Fire Tenders with their fire fighting Teams



Photo 3.24: Equipments of Hazmat Van (Water Sprinkle Shower and Safety Suit)







Photo 3.25: Fire fighters in Protective Suits



Photo 3.26: Computer System with other facilities in Emergency Operations Centre

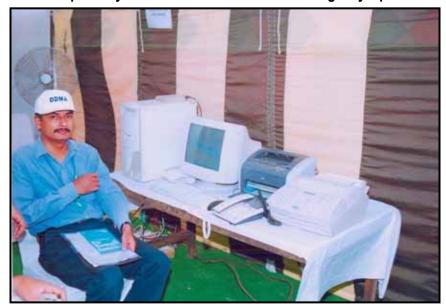


Photo 3.27: Satellite Communication Kit Installed in Emergency Operations Centre





Photo 3.28:Hazmat Van



Photo 3.29: Mobile Communication Van



Photo 3.30:Mobile Control Room





Photo 3.31: Water tanker of Delhi Jal Board



Photo 3.33: Trucks from MCD and other Departments



Photo 3.34: Other Important Vehicles from various Departments





3.5 Response of Incident Commander Team and Emergency Response Functions

 After reaching to the Incident Command Post (ICP), Incident Commander conducted a Planning meeting with section chiefs and his command staff and discussed the present situation, resource status and consulting the experts. He also delegated work to the Incident command team as per their responsibilities



Photo 3.35: Incident Engrossed in discussion with the Incident Management Team



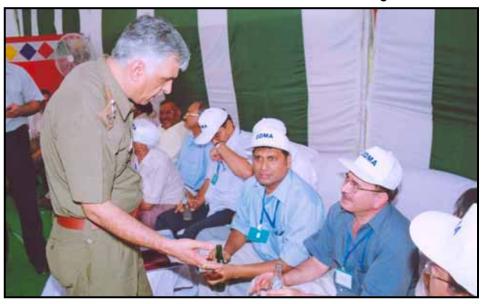




Photo 3.36: Incident Commander Conducting meeting with Team Leaders



Photo 3.37: Incident Command Post established near to the Incident Ste







Photo 3.38: Staging Area and Base



Photo 3.39: Temporary Relief Area



- Incident Commander also directed all the section chiefs, unit leaders, emergency support functions team leaders were directed to take their positions and coordinate with their teams
- Planning Section Chief, Operations Section Chief, Finance and Administration Section Chief and Logistic Section Chief conducted meetings and prepared action plan (see photo 16 and 17)



Photo 3.39: Sections allotted to the Team Leader of Incident Command System



Photo 3.40: Planning Section Chief with Unit Leaders



Photo 3.41: Planning Section displayed Incident Plan and District Map in Incident Command Post





Photo 3.42: Logistic Section Chief in action while making the arrangements with his Unit leaders



Photo 3.43: Finance and Administration Chief with Unit Leaders





Photo 3.44: Resource Unit Team



 All ESFs also undertook their duties as per the directions of Operations Section Chief. Officers from various departments along with their quick response team reached to the incident site and reported to the their team leaders

Photo 3.45: Desks Arrangements for Emergency Support Functions





 Help desks in tents were set up for all Emergency Support Functions where the nodal officers and the team leaders of supporting agencies discussed their action plan.



Photo 3.46: Desk for Law and Order and Evacuation









Photo 3.48: Desk of Equipment Support and Debris Clearance and Electricity

- All the ESFs team leaders prepared their line of action and also Operation Section Chief(Photo 18)
- DCs from the other districts were appointed as observers. They also started preparing report as per the response of the various agencies.



Photo 3.49: Fire and Police Control Rooms



Photo 3.50: Desk of Relief Shelter and Help Lines



Photo 3.51: Desk of Water Supply



Photo 3.52: Incident Commander with Observers and members of Management Team





• The Divisional Commissioner, ADM-HQ Sh. Rajiv Ranjan - Sr. Deputy Director from Lal Bahadur Shastri Academy arrived at incident site. They obtained details from observers, DC-West, Section Chiefs, Bharat Petroleum representatives and Team Leaders. They also visited the incident site to evaluate the response mechanism at each level.

Photo 3.53: Observers briefing the Divisional Commissioner about ESFs response



Photo 3.54: Team Leader from Bharat Petroleum providing details of initial response to the Divisional Commissioner





Photo 3.55: Divisional Commissioner Overseeing mock-drill activities along with Observers and Sections Chiefs of ICS



Photo 3.56: Divisional Commissioner with State and District level Incident Management Teams at the Site





Photo 3.57: Sh. Rajiv Ranjan Mishra -Sr. Dy. Director of LBS National Academy of Administration, Mussoori, ADM-HQ and ADM (West)visiting the drill site



Photo 3.58: Incident Commander briefing the Media





3.6 Observations of Emergency Support Functions

Search and Rescue and Fire-Fighting, Law and Order and Evacuation, Help lines and Information dissemination, Medical and Trauma Counseling, Relief distribution and Sanitation provisions and equipment support were identified as primary ESFs for the chemical disaster of moderate scale. But to evaluate the preparedness of other departments communication, transport and water supply ESFs were also involved in the mock-drill. These ESFs were activated as per their SOPs. Below given details are summarized from the forms filled by observers about the response of ESFs. A matrix of ESFs reponse has been attached as Annexure-3.1

1. Search and Rescue and Fire-Fighting:

Nodal Officer - Sh. A.K. Sharma, Deputy Chief Fire Officer

Alternate Nodal Officer - Sh. Rajesh Panwar, Additional Divisional Officer

Supporting Officers - Sh. R.C. Sapra, ACP-PG Cell, Rajouri Garden

Sh. G.S. Tomar, District Liaison Officer, CD & HG

Sh. Ramesh Kumar, Installation Manager, Bharat Petroleum

Corporation Limited, Shakur Basti

Manager, Indian Oil Corporation Limited, Shakur Basti

Railways Diesel Shed, Shakur Basti

Hindustan Petroleum Corporation Limited, Shakur Basti

Immediate Response

- The Deputy Chief Fire Officer received information at 3.04 p.m. from their control room and he reached immediately at the incident site with his field team.
- Supporting teams from near by installations and Civil Defence had also joined him at the incident site.
- One Police team also joined DFS to support them in evacuation of people from the affected areas

Duties undertaken by the •

team leaders

- Reached at the site at 3.15 p.m with his field team
- Activated his emergency support function and coordinated with his supporting agencies
- Collected information about total resources, material and manpower available with supporting agencies also
- Contacted resource unit leader to give details about resources and manpower



- Also acted as a safety officer and technical expert for Incident Commander
- Guided field teams to perform search and rescue at affected areas like Bharat Petroleum Corporation Limited, Railway diesel shed and other near by areas
- Coordinated with police and civil defence to conduct evacuate vulnerable areas of the site
- Coordinated with Operations chief for mobilizing their staff members to the incident site
- DFS came up with a team of approx. 100 firemen
- They also brought fire fighting equipments like three MPs, one foam tender, one WB, one dry chemical powder, one HT, one- RR, One- Hazmat Van and one Ambulance
- CD & HG provided a team of 68 men and women, four buses, one truck, one ambulance, one gypsy and rescue equipments.
- IOCL provided a team of firefighters, 10 kg dry chemical powder, four foam generator, one gypsy
- Similarly BPCL provided two teams of firefighters, 10 to 70 kg of dry chemical powder, one foam generator, two foam monitor, three fire engine, staff car and ambulance

Observer's Comments

Resources available

- Overall Response of all nodal and supporting agencies was good. Team Leader of search and rescue reached to the incident site along with the teams within 15 minutes of information
- Nodal and supporting officers were aware about their responsibilities
- Some more inter-coordination can be developed through regular practice and meetings.



2. Help Lines and Information Dissemination

Nodal Officer - Sh. A.S. Dagar, DC-West

Alternate Nodal Officer: Sh. Sandeep Jain District Information Officer(West)

Supporting Officers - Smt. Lalita Kumari-NYKS In-charge

Sh. Umesh Kumar-ARADHYA-NGO
Insp. Communication- Police Wireless

General Manager, MTNL

Observer - Sh. V.K. Gupta, ADM-New Delhi

Immediate Response

 DIO-West took overall charge of his duties after receiving message at 3.05 p.m. He had also passed the message to his supporting agencies and guided them to reach at the site immediately.

Duties undertaken by the team leaders

- Reached at the site within 20 minutes with his field team
- Activated emergency support function and coordinated with his supporting agencies
- Arranged announcing system and mikes for regular announcement of instructions
- Contacted resource unit leader to give details of the resources available at site
- Displayed emergency numbers at the prominent places of Incident Command Post
- Regular announcements about present condition and important instructions

Resources available

- NIC and revenue department provided a computer, printer, fax, UPS, and a modem to the Emergency Operations Centre
- NYKS and NGOs team was present with their manpower
- MTNL had provided 6 telephone connections for communications with extra lines

- Overall response of all nodal and supporting agencies was good.
- Nodal and supporting officers were aware about their responsibilities



3. Law and Order and Evacuation

Nodal Officer

- Sh. R.C. Sapra, ACP-PG Cell, West District

Supporting Officers

- Sh. A.K. Sharma, Deputy Chief Fire Officer, DFS

Smt. Trishna Chatopadhyay, Instructor, Civil Defence and

Home Guards

Observer

- Smt. Manisha Saxena, DC-South West

Immediate Response

 The nodal officer has received information at 3.07 p.m. and immediately he directed his team to reach at incident site

Duties undertaken by the team leaders

- Nodal officer reached at the site by 3.20 p.m. with his team and assessed the evacuation points
- He activated emergency support function and contacted his supporting agencies
- He directed team to cordoning off the area and maintain law and order
- Team leader also directed his another team to evacuate vulnerable sites
- Civil Defence also provided their volunteers to support the primary functions of police
- He has prepared a list of total resources, material and manpower available
- Team Leader contacted to resource unit leader also to provided details of resources and manpower
- Team Leader coordinated with operations chief to provide his services

Resources available

- Police department came with three inspector, 9 ASI/SI and 30 constable
- Police department also brought materials like 8 search light, 6 ropes, 10 stretchers and 1 first-aid box. They has also arranged one bus and one ambulance for evacuation purpose

- Response of all nodal and supporting agency was good
- Overall all coordination among the various ESFs was reasonably good but needs more improvement



4. Medical and Trauma Counseling

Nodal Officer -Sh. S.K. Dass, Addl. CDMO, DHS

- Sh. A.K. Sharma, Deputy Chief Fire Officer, DFS Supporting Officers

- Smt. Trishna Chatopadhyay, Instructor, Civil Defence and Home

Guards

- Smt Punya S. Srivastava DC-South Observer

Immediate Response

• The nodal officer has received information at 3.10 p.m. and immediately he directed his team to reach at incident site

• Nodal officer reached at the site at 3.20 p.m. with his team

• He activated his emergency support function and contacted his supporting agencies

 He established a temporary hospital near to the staging area to provide first aid to burnt cases

He directed his team to provide basic first aid at the incident site

 He developed a medical action plan and provided quidelines to the QRTs

 Supporting officers of Civil Defence, CATS, St. John, DDU Hospital, ESI Hospital, Guru Govind Singh Hospital, MCD-Health department, NYKS, ARADHYA-NGO etc also provided quick response team and resources to perform various functions

 Team Leader has also prepared a list of total resources, material and manpower available

 Team Leader contacted to resource unit leader also to provided details of resources and manpower

• Team Leader coordinated with operations chief to provide his services

 Prepared 29 quick response teams consisting about 205 trained personnel from various supporting departments

 About 22 ambulances and other vehicles were present at the incident site

 DHS has also arranged various equipments at the temporary hospital like oxygen cylinder, IV sets, Ambu bags, bandages, important medicines, sterilized pads, stethoscopes, face masks, OPD slips, torches, OPD register etc. A detailed list is attached with annexure-

3.2

Response of all nodal and supporting agency was guite

 Overall all coordination among the various ESFs was very good

More meetings and clear guidelines to the various departments about their responsibilities can develop more coordination among themselves.

Duties undertaken by the team leaders

Resources available



5. Relief: Food and Shelter

Nodal Officer -Sh. G.S. Prasad, A.C. Food & Civil Supply (West)

Supporting Officers - Sh. B.M. Jain SDM- Rajouri Garden, DC-West

Smt. Lalita Kumari-NYKS In-charge Sh. Umesh Kumar-ARADHYA-NGO

Smt. Sneh Chug, Indian Red Cross Society

Observer - V.K. Gupta, ADM-New Delhi

Immediate Response

 AC- Food & CS (W) took overall charge of his duties after receiving message at 3.05 p.m. He had also passed the message to his supporting agencies and guided them to reach at the site immediately.

Duties undertaken by the team leaders

- Reached at the site at 3.20 p.m with his field team
- Activated his emergency support function and coordinated with his supporting agencies
- Collected information about total resources, material and manpower available from supporting agencies also
- Contacted resource unit leader to give details
- Also acted as a food unit leader in ICS Team
- Guided field teams to go to the incident site, temporary shelter and hospital to distribute food items to the victims and field staff
- Indian Red Cross society distributed tea and bread at the staff members and victims present at the staging area and temporary hospital
- Coordinated with Operations chief for mobilizing their staff members to the incident site
- A school was identified as temporary shelter where teams of DC-West staff, NGOs and school staff was present to help affected people
- F & CS department has brought one quintal wheat, one quintal sugar, one quintal rice and 20 litres kerosene oil
- The department has also provided one quails, 3 vehicles for transportation of food items to the incident sites, Incident Command Post and temporary shelters
- F & CS department also came up with a field team of 29 manpower

Resources available



- DC-West has arranged temporary shelter, 250 food packets and drinking water for victims, field staff and volunteers
- Indian Red Cross society was present with breads and tea arrangements for victims
- NYKS and NGOs were present with a team of 60 volunteers to provide their services of cooking and distributing food items
- Response of all nodal and supporting agencies was good. Team Leader of Food and relief i.e. AC-West reached to the incident site along with the teams of Indian Red Cross Society and NGOs at 3.25 p.m..
- Nodal and supporting officers were aware about their responsibilities
- Overall coordination among all the ESFs was reasonably good

6. Equipment Support and Sanitation Provisions

Nodal Officer

-Sh. S.C. Kohli, DC-MCD, West Zone

Alternate Nodal Officer Supporting Officers

-Sh. Amar Singh, Superintending Engineer, MCD-West

- Sh. R.K. Gupta, Executive Engineer, PWD

- Sh. A.K. Jain, Superintending Engineer, DJB

- Sh. Sanjay Saxena, Executive Engineer, Irrigation and

flood Control, West Zone

Observer

- Smt Achla Singh, DC-North

Immediate Response

 The nodal officer has received information at 3.04 p.m. and directed his team to reach at incident site immediately

Duties undertaken by the team leaders

- Nodal officer reached at the site within 10 minutes of information
- He activated his emergency support function and contacted his supporting agencies
- He has prepared a list of total resources, material and manpower available
- Team Leader contacted to resource unit leader also to provided details of resources and manpower
- Team Leader coordinated with operations chief to provide his services
- Team Leader also assigned responsibilities of Logistic Section Chief
- Supporting officers of PWD, DJB, Irrigation and Flood Control Department also reached to the Incident Command Post and reported to the team leader to provide their assistance

Resources available

- MCD-West Zone provided 11 trucks, two JCBs, tokries, bans, bamboo ladders, pickaxes, rope and ballies etc
- MCD also provided a team of 60 beldars, a team of 15 Asst. Engineers and 8 Junior Engineers
- PWD provided 2 trucks and 1 JCB
- Irrigation and Flood Control Dept. and DJB also extended their support as required

- Overall response of all nodal and supporting agency was very well
- Team leaders ability to coordinate with the other agencies was excellent
- All officers were fully aware about their responsibilities
- Overall all coordination among the various ESFs was very good. However the Incident Command Post should be placed at the stage so that team leaders can observe the response teams easily.



7. Transport

Nodal Officer

- Sh. S.S. Gill, DC-Transport(Enforcement), Delhi

Supporting Officers

- Delhi Transportation Corporation, Delhi

Observer

- Sh. Sanjeev Kumar, DC-New Delhi

Immediate Response

- The DC-Transport took overall charge of his duties after receiving information at 3.05 p.m.
- He coordinated with his supporting team i.e. DTC and reached at the site immediately

Duties undertaken by the team leaders

- Reached at the site at 3.35 p.m with his field team
- Activated his emergency support function and coordinated with his supporting agency
- Collected information about total resources, material and manpower available from supporting agencies also
- Contacted resource unit leader to provided details about resources and manpower
- Also acted as a Ground Support Unit Leader for Incident Command Team
- Coordinated with Operations chief for providing transport services

Resources available

 DC-Transport had arranged a staff of 30 people, two DTC buses, one motor cycle and one wireless set

- Overall Response of all nodal and supporting agencies was good. Team Leader reached to the incident site along with the teams ad resources by 3.35 p.m.
- Nodal and supporting officers were aware about their responsibilities
- To improve coordination among other ESFs nodal officer should try to coordinate with various departments also

8. Communication

Nodal Officer

- Sh. Katar Singh, Dy. General Manager, MTNL

Supporting Officers - Sh. Sandeep Jain, District Information Officer, DC-West Office

Inspector, Communication, Police Wireless

Observer

- Sh. A.B. Shukla DC-Central

Immediate Response

- The nodal officer has received information at 3.15 and immediately contacted his team and supporting agencies
- He reached at the site with his team and provided telephone connections at Incident command post.

Duties undertaken by the team leaders

- All the team leaders reached at the site by 3.40 p.m.
- MTNL has activated his emergency support function and coordinated with his supporting agency
- MTNL provided 7 wireless lines at the ICP and a field team to restore telephone lines at the incident sites
- Contacted resource unit leader to provided details about resources and manpower
- Coordinated with Operations chief to provide their services

Resources available

- MTNL was present with 10 Garuda lines and 5 FWT lines and three vehicles. They also came up with a field team of 12 people.
- Police came with 10 wireless sets
- Revenue department used their all wireless systems for communications
- NIC/DC-West installed computer with Modem for internet communications at EOC
- MHA provided one satellite kit also

- Overall Response of all nodal and supporting agencies was good.
- Nodal and supporting officers were fully aware about their responsibilities
- Overall coordination amongst the agencies was good and can further improved



9. Water Supply

Nodal Officer - Sh. A.K. Jain, Superintending Engineer, DJB

Supporting Officers - Sh. Sanjay Saxena, Irrigation and Flood Control Department,

West Zone

Observer - Sh. C.P. Tripathi, DC-North West

Immediate Response

• The nodal officer has received information at 3.10 p.m. and immediately contacted his team

Duties undertaken by the team leaders

- Nodal Officer reached within 20 minutes of information
- He has activated his emergency support function and coordinated with his supporting agency
- DJB provided three water tankers for drinking purpose
- Team Leader collected information about total resources, material and manpower available with supporting agencies also
- Team Leader contacted to resource unit leader also to provided details of resources and manpower
- Team Leader coordinated with operations chief to provide their services
- Supporting officer from Irrigation and Flood Control also provided equipments and manpower support

DJB provided 3 mounted water tanker and one Jetting cum Suction machine

- Flood and Irrigation Control department also came up with a team of Junior Engineers, team of 41 beldars (repairing workers)
- Flood and Irrigation Control department also provided two Diesel Pumps, 324 pumps, eight vehicles and two gypsies

Observer's Comments

Resources available

- Overall Response of all nodal and supporting agencies was good.
- Team leaders were able to coordinate with their respective agencies
- Overall all coordination amongst various ESFs was satisfactory
- Nodal and supporting officers were fully aware about their responsibilities

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10. Power Supply

Nodal Officer Observer Sh. U.N. Gupta, Manager, BSES
 Sh. C.P. Tripathi, DC-North West

Immediate Response

Duties undertaken by the team leaders

- The nodal officer has received information at 3.17 p.m. and immediately he has contacted to his team
- Nodal Officer reached at the site at 3.32 p.m. with his team and assessed the damage to power infrastructure
- He has activated his emergency support function
- He prepared a list of total resources, material and manpower available
- Team Leader contacted to resource unit leader also to provided details of resources and manpower
- Team Leader coordinated with operations chief to provide his services
- He offered his assistance for restoration and temporary power supply

Resources available

- BSES provided manpower support of 02 engineers, three drivers, two linemen and 09 labourers for restoration works
- BSES has also provided tool kit with line staff, bamboo ladder, LT cables of different size, 11 KW cable, conductor and sundries and three vehicles
- BSES has also provided mobile transformer, one TATA Sumo, electricity maintain support at base station

- Response of all nodal agency was very good.
- Team leaders were able to coordinate respective ESFs
- Nodal officer was fully aware about his responsibilities
- Need to build coordination with TRANSO, NDPL etc incase of large scale disaster

RESPONSE OF THE EMERGENCY SUPPORT FUNCTIONS DEPARTMENTS AT STATE EMERGENCY OPERATIONS CENTRE



UNIT 4: RESPONSE OF THE EMERGENCY SUPPORT FUNCTIONS DEPARTMENTS AT STATE EMERGENCY OPERATIONS CENTRE

4.1 Preparations

- Emergency Support Functions and their Standard Operating Procedures were developed last year. During this mock-drill, the state level nodal officers were informed that as per SOP, they were expected to report to the State EOC since admittedly, these are still for each ESF.
- State level EOC was furnished with separate desks and telephone lines, computer with fax, photocopier, television, LCD projector etc.
- Evaluation forms and emergency telephone directory was prepared for the ESFs
- Detailed map of Delhi and an enlarge map of West district was displayed on the walls of the State EOC for further reference.

4.2 Proceedings of the Mock-drill Response at State Level

- The first information of the chemical disaster was received by the State EOC through telephone at 3.10 p.m. After receiving the message the Divisional Commissioner came to be physically present there activated State EOC and himself. (Details of arrival of leaders and actions is attached as annexure 4.1)
- He directed State EOC in charge to inform all the state ESFs to activate their response functions and report at State EOC immediately. EOC in-charge was also directed to inform Hon'ble Lt. Governor, Hon'ble Chief Minister, Chief Secretary, and Police Head Quarters.



Photo 4.1: State EOC Activated



- The officers of State level ESFs reported at State Emergency Operations Centre within 30 minutes of receiving message about the mock-drill.
- The nodal officers activated their Emergency Response Function (ESF) and revised their responsibilities as mentioned in the Standard Operating Procedures.
- Emergency Communications Kit (along with an operator)containing equipments such as Satellite Phone, Radio, Portable Printer, Search Lights-2, VHF sets-3, First Aid Kit, Public Announcement System, and Global Positioning System/GPS device was displayed their used at the State level EOC for the team members to be familiar with their use.
- Unified Commander contacted Incident Commander for the status update. Further EOC in-charge contacted the information officer for the status update.
- State level ESF leader regularly contacted the district level ESF leader to obtain updates of the incident site and provided the status report to their departmental heads



Photo 4.2: Satellite Kit installed at State EOC

 Unified Commander interacted with the ESF leaders to know the current situation of the incident site.





Photo 4.3: Unified Commander conducting Meeting at State EOC

Photo 4.4: Chief Fire Officer and Joint Commissioner Police providing updates of Incident Site to the Unified Commander



- At 4.00 p.m. Unified Commander along with the important officers visited the incident site to oversee, arrangement and exercises under the drill
- EOC in-charge updated Ministry of Home with the current updates of the incident site. A report on resources deployed and other arrangements was also sent to the MHA. Regular reports on response of Police, Fire and Medical were sent to the MHA.



Photo 4.5: ESF Team Leader(Water Supply) calling field officers to get current updates



 DC West called at State EOC and informed that the exercised under the mockdrill were over and demobilisation of resources had started from 5.15 pm.



CONCLUDING REMARKS



UNIT 5: CONCLUDING REMARKS

Observations

- Overall response of various primary and secondary agencies was found satisfactory. It could gauge by the deployment of resources, enthusiasm with which the agencies participated and also the efficiency of their response.
- Considering that this was first mock-drill of any kind in the district, a satisfactory level of
 coordination was observed within the various emergency support leaders and incident
 management team. Various team leaders were able to recognize their nodal officers with
 whom they were required to work.
- All the agencies responded within 45 minutes, First responder department i.e. Police, Fire and DC-West Office reached within 15 minutes. Incident Management Team has took up their positions within half an hour.
- ESF team leaders were aware about their responsibilities and were coordinating as per their SOPs.

Deficiencies

- A general lack of communication was observed among lower field staff, especially incase of medical response. Some teams were directed to report to the hospitals, others were directed towards the temporary hospital. Thus precious time was lost in initiating response relief measures. Some of the ambulances especially CATS were directed by the police personnel to the disaster site itself without first reporting to the ESF team leader.
- Some more trainings and orientation is required especially for the field staff about the incident command system and their responsibilities so that they are not confused at the time of disaster.
- Issues related to traffic control and congestions need to be addressed

Lessons Learnt

- Mock drills for different types of disasters should be organised frequently as they give an
 opportunity to the emergency support function agencies to come together and
 coordinate with each other.
- Such response drills provide an opportunity for the agencies to test their own resources to combat any emergency. It enables them to gauge their capabilities and improve them, if so necessary.
- It is important that the members of emergency support function agencies are familiar
 with the area, various routes etc. In case of any roads being blocked they should know
 the alternate routes. They should also be able to reach the disaster site in minimum time.
- Such drills drive home and reiterate the fact that response time in case of a disaster is very critical in saving life and property.

Annexures



Annexure 2.1

List of Agencies / Department (Participated in the Mock Drill on 9th June 2005)

- 1. Delhi Police Service of West District
- 2. Delhi Fire Service
- 3. St. John Ambulance Bridged, Red Cross Society, Red Cross Bhawan
- 4. Oil Industry Safety Directorate, New Delhi
- 5. Office of the Civil Defence and Home Guard-West District
- 6. Municipal Corporation of Delhi, West Zone, Najafgarh and Karol Bagh
- 7. Delhi Jal Board, West Zone
- 8. BSES (Electric Supply)
- 9. Public Works Department
- 10. Delhi Development Authority
- 11. Directorate of Health Services, West District
- 12. Office of the Food & Civil Supplies, West Zone
- 13. Directorate of Education, West A, Delhi
- 14. Transport Department, Govt. of NCT, 5/9 Under Hil Road, Delhi
- 15. Guru Govind Singh Hospital, Raghubir Nagar, Delhi -110027
- 16. ESI Hospital, Basai Bharapur, Delhi
- 17. Dean Dayal Upadhyay Hospital, Hari Nagar, N.Delhi-64
- 18. Lok Nayak Hospital, New Delhi
- 19. Safdar Jang Hospital, New Delhi
- 20. Forensic Science Department, Rohini
- 21. Maharaja Agarsen Hospital, Shakur Basti
- 22. Action Aid Hospital, Shakur Basti
- 23. Centralized Accident and Trauma Services (CATS), Karol Bagh, Delhi-110005
- 24. Irrigation & Flood Control Department, Basai Dharapur, West Delhi
- 25. Nehru Yuva Kendra Sangthan (NYKS), West Zone, NYKS, West Delhi,
- Local NGOs
- 27. Indian Red Cross Society, Red Cross Bhawan, Golf Links, New Delhi-110003
- 28. Action for Resource Development in Health Education by Youth Association (ARADHYA), E-97, DDA Colony Khyalam New Delhi -110018
- 29. Indian Oil Corporation Limited, Shakur Basti, New Rohtak Road, Delhi
- 30. Bharat Petroleum Corporation Limited, Shakur Basti Installation, New Rohtak Road, Delhi
- 31. Hindustan Petroleum Corporation Limited, Shakur Basti, New Rohtak Road, Delhi
- 32. Railway Diesel Shed, Shakur Basti, Delhi



- 33. Office of the Labour department, 5 Shamnath Marg
- 34. Ordinance Depot, Shakur Basti, New Rohtak Road, Delhi
- 35. Govt. Boys Sr. Sec. School, Panjabi Bagh, Delhi-West
- 36. Mahanagar Telephone Nigam Limited, West Zone, Delhi
- 37. Ministry of Home, Govt. of India
- 38. Office of the Deputy Commissioner, West District
- 39. Office of the Divisional Commissioner, West District
- 40. DRM Programme, UNDP, Delhi



Annexure 2.2: ESFs involved during Emergency Situation

Nos.	ESFs Function	Nodal Officers	Supporting Agencies
1	Communication	MTNL	NIC, Private telecom service operators, mobile phone services operators
2	Evacuation	Police	Police dept, Fire Dept, CD&HG, NCC
3	Search and Rescue, Fire Fighting	Delhi Fire Service	Police dept., CD & HG, IOCL, BPCL, HPCL
4	Law & Order	Delhi Police	CD & HG, NCC
5	Medical Response and Trauma Counseling	DHS	GGSH, DDUH, MCD (WZ, KBZ, NGZ), CD&HG, St. John Ambulance, CATS, Indian Red Cross, Other major hospitals, NYKS, NSS, NGOs, Army
6	Water Supply	Delhi Jal Board	Irrigation and Flood Control Department , MCD(WZ, NGZ, KBZ)
7	Relief A. Food B. Shelter	Department of Food and Civil Supplies Revenue Dept	NYKS, NGOs, Education Department NSS, NCC, Indian Red Cross Society
8	Equipment Support, debris and road clearance and Sanitation	MCD (WZ, NGZ, KBZ)	PWD, DDA, DMRC, Installations (IOCL, BPCL, HPCL), DJB, Army, Railways
9	Help lines	Revenue Department	Department of Information and Publicity, MTNL, AIR, Doordarshan, UNI, Press Information Bureau, Press Trust of India, PTI
10	Electricity	B.S.E.S.	NDPL, MCD-Electricity (KBZ, NGZ, WZ). Railways
11	Transport	Transport Department.	DMRC, Northern Railways, PWD, MCD and Civil Defence etc.



Annexure 2.3

STANDARD OPERATING PROCEDURES OF ESFS

1. Communication

Situation Assumption: Due to extreme fire explosions telephone wires get burn and damaged so

communication from the off-site is not possible

There is a need to inform to various departments and to establish a

temporary communication system

Primary Agencies: Mahanagar Telephone Nigam Limited (MTNL)

Supporting Agencies: NIC, Private telecommunication and Mobile phone operators

Immediate Actions:

 The Team Leader (TL) will activate ESF immediately and intimate to his supporting officers

- 2. He will establish a contact with district EOC for First Information Report
- He will decide upon the extent of damage to telecom services and network and will provide possible arrangements to establish reliable networks
- 4. In such kind of large explosion, the communication systems of the affected installation may get severely damaged and be rendered useless. In such case communication coordinator would be responsible to provide emergency communication system to the incident site. It shall comprise through wireless (available within the Delhi Administration), mobile phones and land lines available with the industries.
- 5. Coordinator will establish an all call system on telephonic network for notification of emergency in the areas likely to be affected
- 6. Prepare a standard message format(in hindi and english) for use in radio/television broadcast or outdoor notification through megaphone to facilitate and reduce time necessary to alert the public of a problem and inform them of the protective actions to be taken.
- 7. Establish a warning system for different levels of emergency
- 8. Team Leader should send Quick Response Team(QRT) at the incident site with required equipments and resources
- 9. The Team Leader will inform to IC about the restoration of telecom services and will communicate new phone numbers



- 10. HAM radio operators would be informed about the current requirement and coordination mechanism
- 11. The Team Leader monitors the situation and arranges staff required to operate established systems

Action to be undertaken by Quick Response Teams

- 1. The quick response team (QRT) members will reach to the incident site as soon as they get instructions
- 2. The QRT will take stock of the situation from the IC and also from the members of the other QRTs
- 3. The QRT will assess the ground situation and send reports to state ESF agencies. The report would contain assessment of overall damage listing, overhead route damage(mts/kms), cable damaged(in yards/mts) and specific equipment damage
- 4. Establish a temporary communication facility for the use of public
- 5. Identify requirement of manpower, resources and equipments
- 6. Begin restoration by removing and salvaging wires and poles
- 6. Reporting to the head office

Coordinating ESFs: Help lines, Relief, Medical response, Law and order, Search and rescue etc



2. Evacuation

Situating Assumption: People who are residing in vulnerable location may get affected due to

the chemical explosions. These areas may be near by installation, industries, railways and other institutions. Under such circumstances

TL should take up decision either to evacuate the places or not.

Primary Agency : Revenue Department

Supporting Agencies: Police department, Fire department, MCD-West Zone, Karol Bagh

Zone and Najafgarh Zone, Civil Defence and Home Guard

department, NCC, NSS, NYKS, NGOs

Task Involved: The Team Leader(TL) with the Help of QRTs shall perform

following duties:

a. Identification of people to be evacuated

The decision of the area under dangerous location will largely depend upon the wind speed, direction and rate of explosion.

b. Evacuation of general public

- On the directions of Incident Commander(IC), the ESF Team Leader will perform evacuation. He will instruct the team to initiate evacuation of the areas expected to be exposed and threatened by the explosions
- The QRT shall move along with adequate material and resources to carry out evacuation. People will be directed to move towards safer areas identified by technical experts
- The team leader will designate in-charge of relief centers and keep in touch with them for regular head count and care of evacuees
- Police, Fire, Civil Defence & Home Guard (CD & HG) and other government employees may have to go door to door to ensure that residents have been alerted about the emergency

c. Evacuation routes and assembly points

• In planning process routes shall be defined well in advance. These routes should be clearly spelt out in warning signals as also the location of the shelters to where people with automobiles should



- proceed and people without automobile should gather
- Designated evacuation routes should be major roads preferably but according to the wind speed and directions
- As evacuation would be declared police and fire should be prepared to control roads and traffic on evacuation route

Apart from above mentioned duties TL should also dispatch following notifications

- The Team Leader will ensure that notification has been communicated to the nearby institutions such as schools, hospitals, residential colonies and similar facilities having large group of people
- The team leader will also ensure that near by water users (industries, farm irrigations, drinking supplies) and water treatment plants are informed to get water at the incident sites
- On getting instructions from the Incident Commander(IC), the team leader of the ESF will ensure notification to the general population for evacuation immediately and rush to safer sites
- It is important to note that next kin are promptly notified of fatalities or severe injuries carefully in a supportive fashion. This activity can be discussed with Police, Red Cross society, voluntary organizations and NGOs

Coordinating ESFs

: Law and Order, Search and Rescue, Food and Shelter



3. Search and Rescue, Fire Fighting

Situation Assumption: There may be a massive fire

Expect more aggressive fire explosions

There may be a need of repairing leakages to reduce fire

explosions

Situation can aggravate due to mishandling or carelessness

Primary Agency : Delhi Fire Service

Supporting Agencies: Trained fire fighting team of incident site and near by

installations(IOCL, BPCL, HPCL), Civil Defence and Home

Guard, Police department

Immediate Tasks :

1. The Team Leader will activate the ESF and give instructions to the QRTs to reach at incident site to person rescue operations

2. The team leader will coordinate with LCP and EOC to judge the situation

3. The team leader will coordinate in deputing rescue team to enter in hazardous areas

4. The team leader will coordinate with technical experts, safety coordinators and material coordinator for quick response incase of any requirement in conducing rescue operations

Immediate Tasks of QRTs: Fire fighting teams will undertake these services

a. On-scene Assessment

- First fire vehicle to reach at incident site will contact the site controller and collect the necessary information regarding chemical leak, action taken, current status and type of equipment required
- Driver will park their vehicle in a manner to prevent exposure to air-borne chemical contaminants and fire explosions
- Each crew member will wear the necessary PPEs(Personnel Protective Equipments) before entering in the "hot zone". They will work in pairs and coordination
- The situation will be communicated to the FCR to provide the update of additional resource and manpower requirement



b. Plugging/Stopping of Leaks

 Few crewmembers having good knowledge of basic tools and knowledge to limit the losses from punctured or leaking tanks will work for plugging holes. Plugs of varying sizes and shapes (conical, cylindrical, square or wedge shaped wood pieces, rubber or metal sheets) can be jammed in the wholes to reduce the leaking.

c. Suppression of Hazardous Gas or Vapour Releases

- Based on the guidance of technical co-ordinators, the response team shall take rapid measures to reduce the rate of amount of hazardous vapors or gases entering in the atmosphere using one or combination of the following measures
- Physical restriction of liquid pool surface areas
- Transfer to an alternate or standby container if available
- Use of fire-fighting or specialized hazardous material foams
- Dilute or coverage of liquid pools with water or other compatible liquids
- Use of water sprays or fogs
- Neutralization of spilled liquids
- Cooling of spilled liquids or venting tanks

d. Search and Rescue Operations

- According to the instructions of rescue coordinators QRTs should enter into the hazardous areas and rescue injured and trapped people
- For common safety practice, QRTs should work in pairs
- QRT should initiate search and rescue operations of trapped people under the guidance of technical experts
- QRT of rescue operations should carry a self-contained breathing apparatus (SCBA) to carry out their mission without falling victim. They should also carry spare SCBA units which will help them to escape people trapped in the hazardous areas and also sometimes rescue workers require extra air supplies to accomplish prolonged rescue.

Coordinating ESFs

Law and Order, Relief, Evacuation, Water Supply



4. Law and Order

Situation Assumption: There may be a chaos in the affected area

People may rush without proper following proper instructions

which may increase the expected loss

Traffic may become out of control and lead jams

Primary Agency : Police Department (Police and Traffic Police)

Supporting Agencies: Civil Defence and Home Guard

Immediate Actions of Police:

1. Deploying a quick response teams (QRTs) to maintain law and order at the incident site

- 2. The QRTs deployed at the site will be equipped and will coordinate with following activities
- 3. Quick Assessment of law and order situation in affected areas
- 4. Cordon off the site to restrict movement of curious onlookers, vehicles and pedestrians
- 5. Control and monitor traffic movements
- 6. Support and coordinate with local administration
- 7. Prepare updates on the law and order situation in every 2 hours and brief the authorities
- 8. Ensure law and order at assembly points and evacuation points
- 9. Control situation of rioting and looting and cordon off affected areas
- 10. Provide traffic diversions so a to ease movement of response vehicles to incident site
- 11. Gather and disseminate information about the traffic flow on alternate routes for decongestion
- 12. Ensuring law and order in rehabilitation centers
- 13. Communicate with PCR on regular basis regarding field activities including deployment of manpower and resources
- 14. To advice home-guards and civil defence to remain alert for responding to call from Police
- 15. To contact nearby hospitals for making emergency arrangements for receiving injured persons



Immediate actions of Traffic Police:

- 1. To coordinate and communicate with concerned functionaries
- 2. To detail traffic staff to reach the place of occurrence
- 3. To give directions whenever necessary to ensure free passage for fire brigade ambulance, police vehicles and vehicles of other respondents
- 4. DCP (traffic) to coordinate with the DTC and other private transporters for additional vehicles

Coordinating ESFs

: Communication, Search and Rescue, Transport, Help lines and Warning dissemination and Relief Supply etc.



5. Medical Response and Trauma Counseling

Situation Assumption:

Expect large number of casualties

There may be a requirement of more trained professionals and

specialists in various fields

There may be a requirement to maintain a close contact with the

other major hospitals in case of more severe conditions

Primary Agency : Directorate of Health Service

Secondary Agencies:

DDU Hospital, GGS Hospital, MCD-Health department(WZ, NGZ, KBZ), CGHS, Indian Red Cross Society, St. John Ambulance, Installations (IOCL, BPCL, HPCL), CD & HG, IMA representatives, NCC, NSS, NYKS and NGOs

Immediate Actions:

- 1. Ensure the adequate number of medical professional to reach at the site including specialist in chemical exposure handling
- 2. DDHS in consultation with the respective medical superintendents of major hospitals should also responsible to prepare a mass casualty plan
- 3. Ensure high sanitation standards at resettlement site to reduce epidemic outbreak
- 4. Providing adequate treatments to the victims of explosions
- 5. Trained profession should be mobilized by psychological support
- 6. Ensure setting up of temporary information center at hospitals with the help of communication ESF
- 7. Send vehicle and additional equipments

Immediate Actions of QRTs:

a. Establishment of Triage Station

- Mass casualty situation will require establishment of field hospitals to take care for the injured and to identify stablise and transport more serious cases to the hospitals
- Codes should be used to recognize serious and stable cases such as red critical, yellow-stable and green-wounded
- Treatment should be provided according to the casualty of the victims



- Medical coordinators should propose rehabilitation centers as per the type of casualties
- Field hospitals shall maintain a record of all the patients so as to enable accounting of personnel and their destinations after triage

b. Medical Support for Response Personnel

 Properly equipped medical personnel and ambulances should be made available to check and treat injured or contaminated response personnel

c. Medical support at temporary shelters

- A team will take care of the people who become ill during evacuation or later.
- Team should be aware of the signs and symptoms of exposure to toxic materials so that they can easily identify victims and provide them treatment and care
- Contaminated individuals should be segregated from the unexposed people until they are adequately decontaminated
- Special facility should be given for care of the handicapped and elderly

Coordinating ESFs: Search and Rescue, Evacuation, Communication



6. Water Supply

Situation Assumptions: There may be a need of supplying water for fighting operation

There may be a need for drinking purpose

Rehabilitation site might be requiring temporary/mobile toilets

There may be need to ensure clean environment

Primary Agency : Delhi Jal Board(DJB)

Supporting Agencies: Irrigation and Flood Control Department, MCD, Railways

Immediate Tasks :

1. The team leader will ensure that Quick Response Teams are on the site along with the required resources

- 2. He shall be ensuring uninterrupted supply of water for fire-fighting to all the brigades in operation.
- 3. He shall coordinate with the transport coordinator for replenishing the depleted stick of fire water at the incident site through water tanks
- 4. Carry out the task of repairing all damages to water supply system
- 5. Arranging alternate storage of potable water at temporary shelters
- 6. Ensure restoration of potable water as per standards and procedures laid down under 'Standards for Potable Water'
- 7. Plan for emergency accommodation of water supply in or near temporary shelters
- 8. Establish temporary sanitation facilities at the shelters
- 9. Ensure cleanliness of sanitation facilities, relief shelters and local commandant post

Coordinating ESFs: Shelter, Relief, Evacuation, Medical, Search and Rescue



7. Relief (Food and Shelter) Supply

A. Food Supply

Situation Assumption: There may be a need to distribute food packets and drinking

water to the victims

Action to be taken by: Food and Civil Supplies Department

Supporting Agencies : Indian Red Cross Society, NGOs, NYKS,NCC, NSS and

Education department

Immediate Tasks :

 The team leader(TL) will activate ESF on receiving the information about the incident and will also inform to the supporting agencies

- Food coordinator would gather information about the locations of shelters and number of persons housed in each of these shelters.
- 3. The TL will guide QRTs to reach at rehabilitation centers to provide food packages
- 4. The TL will keep on coordinating about the distribution of food items to the evacuees and will give appraisal to the IC
- 5. Incase of shortage of food items the TL will arrange more food packages and will ensure continuous supply

Tasks for QRTs :

- 1. Management and distribution of relief items to affected victims
- 2. Report the progress on action the to the TL
- 3. Inform the TL about more requirement of staff members, additional materials and food packages
- 4. Initiate procurement of food items available at near by markets
- 5. Prepare take-home food packets for the families
- 6. Ensuring equal distribution of relief material including children, aged groups, women and poor people

Coordinating ESFs: Evacuation, Shelter, Water and Sanitation and Medical response



B Shelter Arrangements

Situation Assumption: There may be a situation of transferring victims to the safer

temporary shelter

There may also be a need to establish triage station for medical

treatments

Primary Agency : Revenue Department

Supporting Agencies: Nehru Yuva Kendra Sangthan, ARADHYA-NGO, Education

Deptt, NSS, NCC

Immediate Actions :

 The team leader (TL) would be the in-charge of rehabilitation centers who will ensure number of people evacuated, care of evacuees and availability of essential supplies

 Those who will reach to the relief centers would also like to know about their missing members. TL will response to their queries and also pass on the message to the evacuation and rescue related coordinators

 The Quick Response Team(QRT) will help them in arranging temporary shelters, food and sanitary facilities

 Medical facilities will also be provided to the victims and injured people

Coordinating ESFs: Search and Rescue, Evacuation, Medical Response, Law and

Order, Relief Supply and Water and Sanitation



8. Equipment Support, Debris and Road Clearance, Sanitation

Situation Assumptions: There may be a requirement of arranging equipments to

perform fire fighting and search and rescue

Roads may get blocked due to debris

Primary Agency : MCD-West Zone (WZ)

Supporting Agencies: MCD Najafgarh(NGZ), MCD-Karol Bagh(KBZ)PWD, DJB, DMRC,

DDA, Installations(BPCL, IOCL, HPCL),

Task Involved:

The team leader (TL) will inform Quick Response Teams(QRTs)
 and Supporting agencies about the incident

Coordinate with supporting agencies to mobilize equipment form warehouse

Assessing road blockage and building damage through QRTs

In addition to the above, coordinator would also coordinatewith following activities

a. Availability of respiratory protective devices

Incase of large scale explosion, sometimes there may be a shortage of protective devices. Therefore, coordinator would judge the requirement of personal protective equipments and clothing for members of emergency teams.

b. Availability of Special Protective Clothing

In the crises situation sometimes there may be requirement of more complete protection of the body by clothing that is resistant to the damaging effects of the spilled substance. Such situation may require clothing such as boots, gloves and disposable suits, air-tight fully encapsulating 'astronaut' suits made of chemical resistant materials.

c. Ensuring availability of support services for response teams

Field response teams would be working day and night at incident site. These personnel will require rest areas, food and sanitation facilities



etc. Therefore material coordinator along with the NGOs and coordinators of food and shelter will arrange rest areas, food , shelter and other facilities.

d. Maintenance of Apparatus and Equipments

There would be few equipments requiring refueling and minor maintenance for uninterrupted operation. Therefore on-scene services should be arranged so that operation can be continued without any problem.

Tasks for Quick Response Teams:

- Conduct damage assessment including location, number of structure damaged and severity of damage
- Enlisting type of equipments required for conducting debris clearance
- Report the situation and progress report to EOC and TL
- Undertake construction of temporary roads to serve as access to the site by other response agencies

Coordinating ESFs:

Search and Rescue, Medical, Evacuation, Helplines and warning dissemination, Food and Shelter



9. Help Lines

Situation Assumptions:

There are a large number of reporter are arriving at the scene to

get the correct information

There is a need to spread cautions to the local people about their

movement towards safer areas

There may be rumors about the information

Primary Agency: Revenue Department

Supporting Agencies

: NIC, MTNL, Publicity and Information department, Press trust of India, Important Media channels and newspapers, AIR, Doordarshan and Press Information Bureau

Tasks Involved:

- Coordinator will transfer an adequate information to the large number of reporters arriving on scene and attempting to interview response teams and officers so that unwanted rumors can be reduced
- Designate one specific individual and an alternate press officer to join the team of press officers
- Coordinator should try to communicate the timely and right information so that confusions and rumors can be reduced
- Compile the list of telephone numbers of local radio, televisions and other related personnel who can help in air announcements
- Provide the desired support to the press officers with secretariat support, photocopy machines, and means of communications with overall command of the response operations
- Establish a firm policy among all local officials and response personnel as to who should speak or should not speak to media personnel
- Ensure that key emergency response personnel understand the need to relay up-to-date "status report" to press on a regular basis

Coordinating ESFs:

Search and Rescue, Evacuation, Relief and Shelter, Transport, law and Order and Medical Response etc.



10. Electricity

Situation Assumptions: Expect electric short circuits in the affected area which may

aggravate the fire explosions

Electric fitting of the affected areas may get damaged and may

need to be repaired

There may be a requirement of temporary lightening arrangements

in the relief shelters and local commandant post

Primary Agency : BSES-Rajdhani Limited/Reliance Energy

Supporting Agencies: NDPL, MCD(WZ, KBZ, NGZ), TRANSCO

Task Involved:

Team leader will activate the Emergency Support Function(ESF)
 by informing his headquarter team and field team

• Informing nodal and supporting agencies about the incident

a. Notification and shutdown of electricity utilities

Major explosions may be caused by breaking of power supply line and electrocution hazard to those who might contact with any downed lines. To avoid such cases, it is desired to shutdown electric power system rapidly in the area and near by areas. As per the instruction given by IC, coordinator should instruct to concerned officers of BSES/NDPL to shut down the power supply immediately.

b. Provisioning Backup Power during Emergency

Once power system is closed down, but power would still be required for response teams, LCP, EOC, water supply stations, temporary houses and temporary hospitals. Therefore electricity coordinator will be responsible for providing back-up or alternate source of uninterrupted power supply for smooth operations

In addition to the above, QRTs should also undertake following responsibilities:



- Take stock of situation immediately on reaching the incident site
- Coordinate with other team leaders and provide essential help expected form the electricity department
- Conduct repairing work of dismantled connections
- Provide temporary electricity supply to EOC, LCP and relief centers
- Report to the team leader about the situation appraisal

Coordinating ESFs:

Road and Debris Clearance, Incident Command Post, Relief and Shelter, Medical response etc



11. Transport

Situation Assumptions: There may be a need of diverting transport immediately or there

may be a need to transport affected population to the safer

places

Primary Agency : Department of Transport

Supporting Agencies: Delhi Transport Corporation, MCD(WZ, KBZ, NGZ)

Immediate Tasks :

1. Direct the local transport coordinator to direct the fleet(drivers)and coordinate the following transport activities during emergency

2. Closely liaison with the communication and evacuation coordinators

3. On the basis of instructions delivers by IC, he will effect the warning/ Instructions/ notification/operation

 Arrange for the fleet of vehicles at a pre-designated location so that they can transport the affected population of safer areas(relief centre)

5. Transporting people from vulnerable areas to safer areas

6. Also transporting required equipments, materials and personnel etc.

Coordinating ESFs:

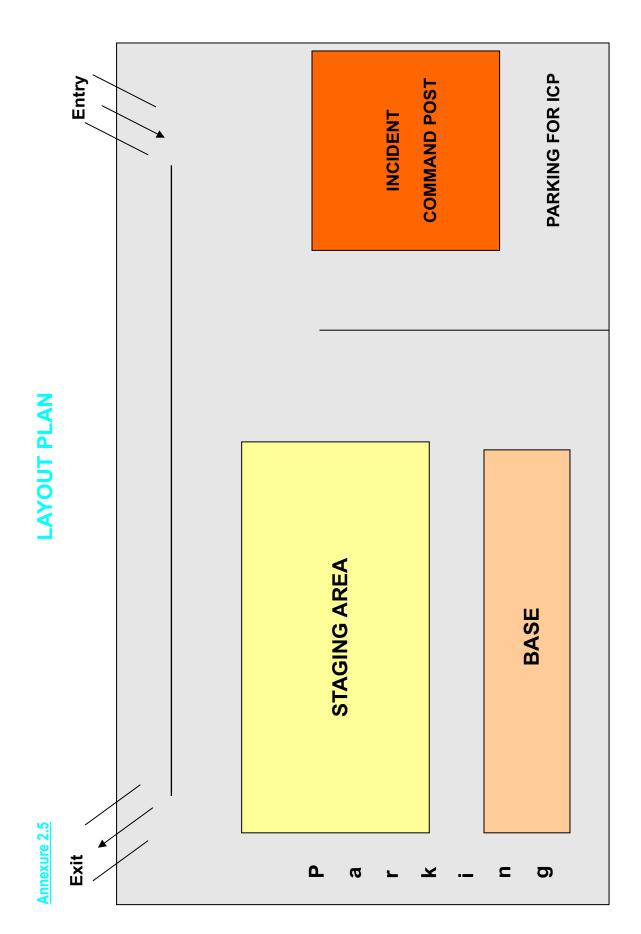
Medical Response, Law and Order, Debris and Clearance, Evacuation, Search and Rescue



Annexure 2.4

Meetings held on Conducting the Mock Drill on 9th June 2005, at Shakur Basti Site, New Delhi

- Meeting with the active officials including SDMs, Tehsildars, PAs, Superintendent, AAO, UDC and LDC staff of the DC office to discuss their role in the mock drill and incident command system at 3.00 p.m., on 18th May 2005 (also a visit to incident site after meeting), At the Deputy Commissioner Office, Rampura
- 2. Meeting with NGOs, NYKS, CD, Fire deptt, etc for deriving awareness generation campaign at the incident site and near by communities at 2.00 p.m., on 19th May 2005, At the Deputy Commissioner Office, Rampura
- 3. Meeting with hazardous installations, near by communities, railway diesel manager, CDMO, fire and police department at 3.00 pm on 19th May 2005, at At the Deputy Commissioner Office, Rampura
- 4. Meeting with ICS members and important ESF members for re-orientation training at 3.00, in 20th May 2005 in the office of Divisional Commissioner Office Conference Hall,5-Shamnath Marg, Delhi-5
- 5. Meeting with Councilors, Community Representatives, NGOs, NYKS, CD, Fire deptt, HPCL, IOL, Railway, Ordinance, etc for deriving awareness generation campaign at the incident site and near by communities at 11.00 a.m., on 25th May 2005, At the Bharat Petroleum Chemical Limited, Conference Hall, Shakur Basti.
- 6. Meeting with NGOs, NYKS, CD, etc for deriving awareness generation campaign at the incident site and near by communities held on 02nd June 2005, at 11.00 a.m. in the Deputy Commissioner Office, Rampura
- 7. Meeting of ICS-Operation Section Chief with ICS Position holder line departments of Communication, Relief (Food & Shelter), Medical & Trauma, Equipment Support / Sanitation, Water Supply, Electricity Supply, Transport, Help Line etc for action taken & coordination during the Mock Drill at 12.00 noon, on 6th June 2005, At the Office of the Additional District Magistrate, Rampura.
- 8. Meeting of ICS-Planning Section Chief with ICS Position's Resources Unit Leader, Situation Unit Leader, Demobilization Leader, Documentation Leader, Technical Specialists, Deputy Chief Fire Officer-West, etc for action taken & coordination during the Mock Drill at 3.00 p.m., on 6th June 2005, At the Office of the Additional District Magistrate, Rampura
- 9. Meeting of Logistic Section Chief with ICS Position holder line departments of Communication Unit Leader Food Unit Leader, Supply Unit Leader, Facilities Unit Leader, Ground Support Unit Leader for action taken & coordination during the Mock Drill at 3.00 pm, on 6th June 2005, At the Office of the Deputy Commissioner, MCD, West Zone, Rajouri Garden, N.D.



Annexure

Layout Plan of Incident Command Post

Information	Officer			Liasion	Officer	,	Security Officer		Facilities Unit Leader		Space	Supply Unit Leader
Incident		Centre		Incident	Commande		Logistics	Section Chief	Medical Faci Unit Leader [Init]			Ground Support Suppl Unit Leader Lea
Documentation Technical Specialists DMOB	Leader	Situation Resource Planning	Unit Section	Leader Chief				Planning	Meeting	Hall		
Finance Section Chief		Police, Law & Order, Evacuation FSE-2	Room		ESF-3 DJB, Water	ESF-4 Revenue, Shelter, Help Line	ESF-5 Food, Food & Civil Supply	ESF-6 Communication, MTNL	ESF-7 Medical & Trauma Counseling	ESF-8 Transport	Equipment Support	ESF-10 Electricity BSES



Annexure 2.6

Logistic Arrangements in the Mock Drill:

- Stationary: Pens, Batches, Name Plates of Observers, A4 Sheet, Bulletin Board -2 Nos., Sketch Board, L-Shaped Files (Folders), Note Pads, Banners, Flags, Caps Marked -DDMA etc.
- Food: Snacks, Tea/ Cold drinks, light Refreshment, Water etc.
- Tents- Sitting Arrangements-Chairs & Tables, Mike System, LCD Projector, Telephone Line, Gas Mask for Volunteers & establishment of Emergency Operation Center at mock Drill Site.
- Arrangement of Distribution of food / Refreshment / Water for officers.
- Important Documents like: Plan of Action, Response Plan, Formats for Attendance, Observers, Team Leaders, Field Members etc. & Scenario details, Emergency Telephone Directories etc.
- Communication: Telephone Coreless by MTNL, Satellite Phone, Global Position System. Mega Phones, Search Lights, Walkie-Talky sets, Computer, Printer etc.
- **Electric Supply:** Arrangement of Diesel Generator for Emergency
- Water Supply: Tankers Arranged by Delhi Jal Board
- Transport: Two Buses form Delhi Transport Cooperation
- Ambulances & Strictures: Arranged by St. John Ambulance Bridged, Civil Defence, CATs, Red Cross, and Medical Department of West District.
- Documentation: Videography & Still Cameras for clips of drill events
- Fire Brigade: 7Nos. Fire Bridged Bus with all Equipments of fire Fighting.
- MCD and PWD: JCB-Machine, Dumper, Loading Trucks, Labourers, Road Rollers etc.

Annexure 2.7 ACTION PLAN FOR THE CHEMICAL OFF-SITE MOCK-DRILL

REQUIREMENTS	- DCP powder - Manpower to show dummy fire - Communication Coordinator - Well framed message without encryption i - Telephone/Mobile Phone		- Communication Coordinator - Telephone - Mobile Phone s	- Siren - Onsite action plan - Various helping teams like search and rescue, fire fighting, first aid, emergency operations centre etc.	s - Operation Centres - Telephone numbers
ACTIONS	 BPCL will use DCP to show dummy fire on one of its motor spirit tank and will declare that there is a fire in MS tank. Communication Coordinator(Immediate responder) of BPCL will intimation to the Delhi 	Police, Delhi Fire Services, Deputy Commissioner-West, Near by Installations named Hindustan Petroleum, Indian Oil, Ordinance Depot and Railway line depot	- Communication coordinator will reconfirm the incidence with the details of type of chemical leakage, wind directions, number of victims and possible vulnerable areas to the Delhi Police, DFS, DC-West Office and near by installations	 Immediate evacuation of their own areas first as per their on-site action plan Helping BPCL and Diesel Shed to evacuate as they will not be able to evacuate themselves 	- PCR and FCR will also activate control rooms of DC-Office, Major Hospitals i.e. Dean Dayal Hospital and Guru Govind Singh Hospital , Ambulance services like CATS and St. John
ACTION TO BE UNDERTAKEN BY	Bharat Petroleum Corporation Limited, Shakur Basti –Delhi		Indian Oil Corporation Limited	IOCL, BPCL, HPCL, Diesel Shed, Ordinance Depot	Police control rooms and Fire Control Rooms
MELINE	3. 00 p.m.		3.05 p.m.	3.05 p.m.	3.05 p.m.

- 150 constables and policemen to carry out evacuation, traffic diversion and maintaining law and order	- EOC Incharge - Staff members - Emergency directory - Roles and responsibilities of the ICS - Details of emergency support functions	- Emergency Directory - Telephone, mobile, fax - Dedicated Computer with Printer - Staff support - Reporting formats - Attendance sheets
 He will reach to the incident site with his field team and will take complete details of the location After preparing an incident report, he will provide in hand information to the DC-West and DCP-West Also start evacuation and maintaining law and order 	 Declare Emergency in the district Reach to the incident Site where BPCL will handover the charge to the Incident Commander Direct EOC- In-charge to activate EOC and Incident Command System He will appoint officers for the incident command team He will prepare Incident Action Plan under the guidance of incident command chiefs, technical experts and emergency support functions team leaders 	 Emergency Operations Centre will activate In-charge will call up all the nodal officers to reach at the DC-office immediately He convey message to the officers with address details He will also contact technical experts for their assistance He will also fax the message He will keep track of all the updates He will keep on informing to the Incident Commander and other important officers about the updates He will prepare report under the guidance of Incident Commander Provide information to the divisional commissioner office
.m. SHO-Punjabi Bagh	DC-West (Incident Commander)	EOC-Incharge (District Project Officer-West)
3.05 p.m.	3.05	3.05

- Emergency Directory - Emergency Support Functions - Formats of reporting - Telephone/mobile facility	- Responsibilities given under incident command team	- Protective Equipments - Fire fighting equipments - Search and rescue teams - Fire fighting teams - Supporting team leaders list - Emergency support functions
 All Team Leaders will be activate their teams and direct them to reach at incident site Team leaders will immediately reach to the DC-Emergency Operation centre Team leaders will also activate supporting agencies also Team leader will also report to the operation section chief i.e. ADM West at staging area Team leaders will keep a track of the manpower, supporting agencies and resources available within their teams 	- Provide their assistance in preparation of incident action plan	 Reach immediately to the conduct rescue and fire fighting mission Supporting Team will report to the DFS-Team Leader for further coordination Team leader of fire department will prepare a list of resources, manpower and equipments He will guide teams to take actions He will inform regularly to the team at head quarter level He will also ask for materials and manpower if required They will rescue near by <i>jhuggies</i>, diesel shed and Bharat Petroleum. They will also take victims and casualties to the hospitals, temporary health centre and first aid team etc Ensure coordination among field and headquarter team leader
ESF Team Leaders	Technical Experts	Delhi Fire Services (Primary role)
3.05	3.15	3.05 p.m.

Site map - Action Plan - Emergency Support Functions	will - List of manpower (trained in various functions), resources, equipments	- Nominate team leaders of first-aid team, fire-fighting team and search and rescue team List of trained personeel - List of equipments like stature, bandages, medicines, vehicles etc - List of other resources and - List of other resources siks able	 List of all nearby hospital List of important medicines and bandages required for severe/light burning, fractures and cramps etc
Police will start evacuating near by communities like residential quarters and jhuggies to the temporary shelters Cordoning of the vulnerable area Maintaining law and order Attention to the VIPs and other visitors Important warning disseminations	 Team Leaders of vulnerable installations will coordinate with the team leaders of Fire Services and Medical team. They will provide the details of manpower, resources and equipments They will work as per the directions of Team Leaders of Fire fighting and health 	- CD-representatives will contact to the team leaders of fire department, police department and medical department to conduct various operations - They will provide details of manpower (according to their training on search and rescue, fire-fighting and medical assistance), resources and equipments to each team leaders - CD will help Police in cordoning the area and evacuation - About 100 of CD volunteers will act as casualties. Casualties can be of severe burnings, light burnings, and unconsciousness. Some cases of fractures and mental shocks can also occur due to stampede and unstable environment	 Immediately contact to the nodal doctors, nearby hospitals, specialist doctors and ambulance services Direct them to take actions
3.05 p.m. Delhi Police Services (Primary role) Civil Defence (Secondary Role)	IOCL, PBCL, HPCL, Ordinance Depot, Railway Shed (Supporting agencies)	3.05 p.m. Civil Defence (Supporting Role)	CDMO with nodal officers of DDU and Guru Govind Singh Hospital
3.05 p.m	3.10 p.m.	3.05 p.m	3.20 p.m.

- List of equipments - Telephone numbers of the secondary agencies etc.	 List of manpower Number of ambulances List of equipments and resources List of specialist doctors SOPs and ESF details 	- Extra telephone lines - Technical Manpower to install and restore connections - SOPs and ESF details of Communications
 Arrange a temporary health centre at the incident site Maintain a coordination with supporting agencies CDMO will keep track of availability of important medicines, doctors, statures and other equipments and hospitals. He will ensure the availability of important material and equipments 	 Supporting Officers of these departments will report to the CDMO Give a detail of their manpower, resources and equipments Coordinate with the CDMO (Team Leader) in conducting mass casualty action plan 	 Providing uninterrupted communication system immediately Arrange immediate connection to the emergency team leaders at Staging Area and Incident Command Post. Restore the telephone lines Prepare a list of manpower, equipments and resources Coordinate with supporting agencies like private mobile services, HAM equipments,
	CATS, St. John Ambulance, Civil Defence, MCD-Health Departments (West Zone, Najaf Garh, Karol Bagh), Major Hospitals, NYKS, NGOs	M.T.N.L
	3.20 p.m.	3.30 p.m.

 2 tents for operations 5 tents for temporary shelters and temporary hospitals Arrangement of 50 tables and 400 chairs Arrange generators and emergency light Emergency list List of Supporting Agencies Emergency support functions of Relief -Shelters 	- About 4 water tanks - Manpower to distribute water - List of equipments and resources available - Emergency Support Functions of water arrangements	- 500 packets of eatables - List of Manpower - List of resources available - List of supporting agencies - Emergency support functions of Food and shelter	- 5 moving toilets and bathrooms - List of manpower, resources and equipments available - List of support agencies - List of Emergency support functions of Equipment support, debris clearance and sanitation	- List of equipments - List of resources available - List of manpower - Emergency Support Functions
Arrange tent for staging area and incident command post Arrange tent for schools etc for temporary shelters Coordinate with supporting agencies like NYKS, Indian Red Cross Society, NGOs for arrangements	Meet drinking and fire-fighting water requirements Report on the incident site with water tanks Arrange manpower to distribute drinking water to the field officers and volunteers Keeping track of water requirements Coordinate with supporting agencies and headquarter	Arrange 500 packets of the food items Distribute them to the victims, field officers, and volunteers Coordinate with supporting agencies Project further requirements	Sanitation and equipment support for repairing work Arrangement of moving toilets and bathrooms Manpower for repairing work Manpower for road clearance (if required) Listing of equipment support and resources Coordinate with supporting agencies	Re-establish electricity connections Arrange temporary electricity in staging area, Incident Command Post and temporary shelters Arrange manpower, equipments and resources
1 1	1 1 1 1 1	1 1 1 1	1 1 1 1 1	1 1 1
Revenue department- /Tehsildar	Delhi Jal Board	AC Food and Civil Supply	MCD-West Zone	B.S.E.S
3.15 p.m.	3.30 p.m.	3.30 p.m.	3.30 p.m.	3.30 p.m.

- List of equipments and resources - List of manpower - Emergency Support Functions	- Arrange 100 volunteer - Emergency directory - Emergency support functions	- Arrange 10 vehicles - List of supporting agencies - List of emergency functions - List of emergency numbers - Emergency Directory - Emergency support functions	
 Equipment support and water arrangements Maintain coordination with their primary agencies 	 Coordinate with revenue department, DJB, Food and civil supplies and DHS for distribution of relief materials and other support Give details of your manpower and equipments to the team leaders Help to distribute relief materials and trauma counseling Report to the team leaders of relief and 	shelters, water and health - Coordinate to arrange transportation for carrying various activities at the incident site - Coordinate with DTC to arrange vehicles - Report about manpower and vehicle details - Help lines and Information dissemination - Contact supporting agencies and field team	leaders for updating current information
DDA, PWD, Irrigation & flood control	NYKS, NGOs and voluntary organizations	DC-Transport Revenue department- District information	officer
0 p.m.	0	0 0	

ANNEXURE 3.1 MATRIX SHOWING THE PERFORMANCE OF VARIOUS AGENCIES IN MOCK DRILL

ESFs Information	Communication (MTNL)	Law & Order (POLICE)	Search & rescue (DFS)	Evacuation (police)	Food(Relief) (F& CS)	Medical and Trauma (DHS)	Equipment, road and debris, (MCD)	Shelter (Revenue)	Water Supply (DJB)	Power BSES	Transport	Help lines, Information Dissemination
Team Leader (Name)	Katar Singh	R.C.Sapra	A.K.Sharma		G.R.Prasad	S.K.Dass	Amar Pal Singh		A. K. Jain	U.N.Gupta	S.S.Gill	KEVENUE Sandeep Jain
Designation	Dy. General Manager	ACP-PG Cell	Dy CFO	ACP-PG Cell	AC, F&CS	СДМО	SE-MCD	ADM-W	SE, DJB	Manager	DC-Transport	DIO-West
What Message Received	Fire has broken out in BPCL, Shakur Basti and Report to site of mock drill with man and material immediately	Fire has broken out in BPCL, Shakur Basti	Some leakages at BPCL backyard		Fire accident at Shakurpur Basti	Chemical fire at Shakur Basti	Major fire behind BPCL, Shakur Basti,		Emergency declared	Chemical Fire at BPCL, Shakur Basti depot	There is a chemical disaster/ explosion at BPCL, Shakurbasti depot,	Fire broken out at Shakur Basti Rly. Station, chemical may also spread over
Source Of Information	DC(West) office	Control Room, West	Sh. Bhatacharya 25220259		Telephonic message	DC(West) office	DC(West) Office		DC-West Office	DC-West Office	Wireless message	Telephonic
Information Received	15.10	15.07	15.04		16.15	15.10	15.10		15.10	15.17	15.15	15.02
Starting From Base Station	15.15	15.10	15.05		16.15	15.10	15.11		15.10	15.22	Immediate	15.03
Arriving At EOC/Site	15.40	15.20	15.15		16.30	15.20	15.18		15.30	15.32	15.35	15.25
Distance Between Base Station And EOC	6 kms (Approx)	5-6 kms	4 – 8 kms.		4 kms	3 kms (Approx)	6 kms		4 kms	3 kms	7-8 kms	3-4 kms
Resources Available Manpower	Manpower-12	Inspector-3, SI/ASI-9, HC/CT-30	Approx-100		Manpower-29	205	6-AEs, 8-JEs and 60 Builders			Engineer-2, Linemen-2, Majdoor-9, Driver-	Manpower-30	Manpower-2
Equipments Brought	10-Garuda Lines 5-FWT lines	8-Search Lights 6-Ropes 10-stretchers and 1-firstaid box	Rescue and Fire fighting equipments		Measuring Containers-4	List Attached	2-JCBs		Jetting-cum-suction machine	Tool kits and bamboo ladder		1-Computer 1-Printer 1-Fax 1-Modem and 1-UPS
Materials Brought			MP-3, Foam Tender-1, WB-3, DCP-1, HT-1, RR- 1, Hazmat-1, Amb-		Wheat-1 Qtl Sugar-1Qtl Rice-1Qtl and Kerosene-20 ltrs	List Attached	Tokri/Bans/Bamboo s/Pickaxes/ rope/Ballies etc			LT cable of different sizes, 11 kv cable, conductor and sundries		
Vehicles Present	Vehicle-3	1- Bus 1-Ambulance			Qualis-1, Maruti Van-1, Maruti Versa-1, Tata Sumo-1	22	7-trucks		Mounted tanker(water)	1-Eicher truck 2-Tata Sumo	2-DTC buses & 1- motorcycle	
Difficulties Faced	Nothing faced	No difficulties	The road is congested by truck The road was narrow, the approach and access to the railway track was not available.		8	The team reported at different places. CATs and ESI team did not report to team leader and took patients directly for hospitals.	No difficulties		Lack of over all coordination among various nodal officers	No difficulties	Traffic difficulties faced	No difficulties
Support Agencies Present						CATS, St. John Ambulance						

ESFs Information	Communication (MTNL)	Law & Order (POLICE)	Search & rescue (DFS)	Evacuation (REVENUE)	Food(Relief) (F & CS)	Medical and Trauma (DHS)	Equipment, road and debris, (MCD)	Shelter (Revenue)	Water Supply (DJB)	Power BSES/NDPL	Transport	Help lines, Information Dissemination REVENUE
Any other Preparedne ss		4-ACPs with staff of 10 officials	Central was informed for standby		Stock of Wheat, rice, sugar, kerosene ready					Mobile transformer available at base station 1- Tata sumo available at base station Other required material for Electricity site and base station	Wireless set	
What was your contribution in the mock drill	To provide effective and smooth communication at site	Maintaining Law & Order, evacuation, assisting in search and rescue.	DFS joined as first responder for fire fighting, rescue and evacuation as well as containment of the leakage.		Provided wheat, rice, sugar and kerosene oil to the victims.	Activated all the coordinating agencies including QRTs	Man and machinery made available within 10 mmts.		Arrangement of water for drinking and for support to fire service if required. Arrangement of succious control of succious councient of succious machine for any eventuality at site.	On receiving the mossage the break down team was immediately stationed at the electricity at the electricity at the site. Another team with expert month of the static and line staff reached the static in to time for any requirement at site related to electricity with all T e	Carried passengers/ officials from the site	Disseminated information to public, information to public, media etc and helped to make the communication system operational
Learning from the drill	In case of any calamity, coordinating with other service providers and smooth functioning of communications.	Got first hand knowledge and expertise to tackle the situation.	Co-operation and readiness for the cause.		Important experience to get prepared for any accident-fire or other	Good team work is essential for combating any disaster	Learnt about coordination and met with different departments and agencies.		Assessment of actual situation if it occurs	It was an important exercise for which a group from every department/ NGO needs training for their services at time of need.	Such type of mock drill is must to come back such type of situation. It enhances awareness and prompiness for future.	Preparedness is must to overcome the disaster
Suggestions for improveme nt	Such mock drills should be organized in future		Drills may be organized in future on different subjects		Some officials should be imparted training to get them prepared for such incidents	Improvement of communicatio n and guidance at disaster relief sites	There is still scope of effective coordination between the different agencies		Incident Commander should be available with mic system to direct nodal officers	Regular announcement are required at stage site for the coordinators/ nodal officers to assess the site conditions	Communication means are required such as wireless sets	
Any other			°N			Detailed report will be submitted	20-builders and 4-trucks standby			More such mock drills are required without pre information to see the actual response and readiness of the department		



Annexure 3.2:

List of Medicines & Equipments

SI. No	Equipment	Quantity
1.	Oxygen Cylinder	2
2.	IV Sets	20
3.	Ambu's Bag	2
4.	Bandage	5
5.	Scissors	2
6.	Cotton	1
7.	Spirit Swabs	200
8.	Sterilized pad	30
9.	Scalpel	10
10.	Stethoscope	2
11.	Gloves	50
12.	Face Mask	50
13.	Syringes with needles	50
14.	OPD Slip	500
15.	Bed sheet	5
16.	Blanket	2
17.	Betadine Lotion	2
18.	ORS packets	
19.	Paracetamol tablets	100
20.	Brufen tablets	100
21.	Inj. Adrenaline	2
22.	Inj. Avil	2
23.	Inj. Decadin	1
24.	Inj. Voveran	1
25.	Color rubbers	4
26.	Torch	
27.	OPD Register	

Annexure : 4	.11	Mock Drill Response at State EOC
3:10 pm	:	Received telephone message from Office of DC West
	٠	"An explosion has occurred in a storage tank at Bharat Petroleum Corporation Limited storage complex in Shakurbasti, near Punjabi Bagh. The nearby shed area is affected. Several people are injured. All departments have been asked to report."
3:14 pm	:	Received fax message from DC West
		"A chemical disaster has occurred in a Motor Spirit Storage tank of Bharat Petroleum Corporation Ltd. at Shakur Basti at 3:00 p.m. The fire explosion has also affected Railway Diesel Shed and near by Jhuggies. India Oil depot and Ordinance depots are also likely to be affected. According to the initial information some casualty are expected in BPCL campus.
		Emergency has been declared in the district and District Emergency Operations Centre has been activated."
3:14 pm	:	Divisional Commissioner ordered message to be disseminated and the State EOC to be activated
3:16 pm 3:20 pm	:	Informed to the Office of the Hon'ble Lt. Governor Informed the Office of the Chief Secretary
3:21 pm 3:22 pm	:	Informed the Office of the Hon'ble Chief Minister Informed the Police Head Quarters
3:25 pm 3:153:45 pm	:	Informed the control room at MHA Informed Nodal departments of each ESF
4:20 pm :		Called up the Incident Commander for status update
		• 45 casualties
		30 persons injured - shifted to major hospitals
		Jhuggi cluster evacuated to nearby school
4:27 pm ∶		Update provided to MHA control room
	ш	

5:15 PM	:	Called up Information Officer for status update
		45 casualties 25 from BPCL and 20 from JJ cluster
		• 12 serious injuries 5 taken to RML hospital and 7 to
		Safdarjang hospital
		83 minor injuries 31 to Agarsen Hospital; 22 to Deen Dayal
		Upadhyay hospital; and 32 discharged after first aid on site
		2 BPCL tanks affected in the fire
		Nearby JJ cluster affected in the fire
5:17 pm	:	Update provided to MHA control room
		MHA control requested additional information on the response
		provided by Delhi Fire Service
5:35 pm	:	Called up Sh. Rajesh Panwar, Addl. Divisional Officer, DFS
		The following equipment and staff was mobilized for response:
		3 motor pumps
		1 foam tender
		3 water bousers
		1 hose tender
		1 Rescue Responder
		1 Hazmat Van
		1 ambulance
		4 supporting units
		100 personnel
5:40 PM	:	Update provided to MHA control room
5.43 PM	:	Received call from the Incident Commander that demobilization started at 5.15 pm, after which the state EOC was deactivated.
5.45-6:00 PM		The demobilization message was further passed on to all the above stake Holders for the necessary action at their end

Annexure

4.2: Updates Provided By Esf Team Leaders: Based on information received from their on-site officers

Report of ESF Team Leader (TL) for Food Relief

Received report from Mr. J. R. Prasad, LSC in the field

- Reached spot equipped with staff and materials
 - 4 Food Supply Officers and 20 support staff
 - 1 vehicle with 1 quintal each of wheat, rice, sugar; and 40 litres kerosene
- Established liaison with support agencies NCC, Indian Red Cross, NYKS, and ARADHYA (an NGO)

Report of ESF TL for Water Supply

Received report from the Supdt. Engineer in the field

- Reached spot along with 1 Executive Engineer and 1 vehicle and following equipment
 - 3 water tankers
 - 3 mounted tankers
 - 1 suction-cum-jetting machine
 - 2 tractor trolleys
- Established liaison with support agency Irrigation & Flood Control Department
 - 1 Ex. Engineer, I Asst. Engineer, 4 Junior Engineers and 41 workers
 - One 32 HP trolley mounted pump
 - 2 trucks
 - 2 Gypsy jeeps
 - 2 vans

Report of ESF TL for Equipment Support, Debris Clearance & Sanitation

Received report from Sh. S. C. Kohli, Deputy. Commissioner (West Zone) in the field

- 70 trucks with 60 labourers, 15 Engineers, 2 JCBs, 17 doctors and paramedics
- 6 ambulances, 4 CATS ambulances
- Standby: 4 trucks, 20 labourers, 14 paramedics



Report of ESF TL for Medical Response & Trauma Counselling

Received report from Dr. Dass, Addl. CDMO (West District) in the field

- 205 personnel from DHS, CATS, Civil Defence, and St. John Ambulance Brigade
- 22 vehicles
- On-site hospital set up but no cases reported for treatment
 - 35 patients taken to Balaji Hospital (referred by Civil Defence)
 - 4 to ESI Hospital, Basai Darapur
 - 2 to Guru Gobind Singh Hospital, Raghubir Nagar
 - 6 to Sanjay Gandhi Memorial Hospital, Mangolpuri
 - 8 to Maharaja Agarsen Hospital, Punjabi Bagh
 - 2 to Deen Dayal Hospital, Hari Nagar