ZONAL DISASTER MANAGEMENT PLAN 2024 (PART-I)

EAST CENTRAL RAILWAY

KEEPING IN LINE

सत्यमेव जयते

MESSAGE

In the wake of both natural and manmade disasters, the toll on lives and property is often severe. Effective management of such crises demands cohesive action, orchestrated in collaboration with various agencies. While the Indian Railways boasts a robust system for addressing both minor mishaps and major accidents, the necessity for a meticulously crafted plan becomes apparent in times of disaster. Since 2006, the East Central Railway has adhered to its Zonal DMP (Disaster Management Plan), ensuring a coordinated approach to rescue and relief efforts during calamities. It's heartening to note that the Railway has recently updated its Zonal Disaster Management Plan for 2024, aligning it with the latest directives from the Railway Board and the National Disaster Management Authority.

This revised plan aims to comprehensively address the degrees of disaster management. It's imperative for all officers and staff to acquaint themselves with its guidelines. As members of the Railway community, we're expected to exhibit proactive initiative and unwavering commitment in alleviating suffering during crises.

The Zonal Disaster Management Plan for 2024 serves as a crucial tool in our preparedness efforts, facilitating effective collaboration with relevant Central and State agencies in times of need. I extend my commendations to the Safety Organisation of this Railway for their meticulous work in crafting the updated Zonal DMP-2024, which I trust will serve as a valuable resource for us all.

Warm regards,

(Tarun Prakash)
General Manager
East Central Railway

सत्यमेव जयते

FOREWORD

Disasters encompass a wide array of events, from natural calamities like earthquakes, floods, hailstorms, and breaches, to manmade tragedies such as terrorist acts like bomb blasts, as well as chemical, nuclear, and biological disasters, in addition to serious train accidents. The primary goal of disaster management is to alleviate suffering, which includes providing aid to the injured, saving lives, preserving the dignity of the deceased, and restoring normalcy to the lives of those affected as swiftly as possible. Achieving these objectives hinges on the timely, effective, and efficient coordination of all involved agencies.

The revised Zonal Disaster Management Plan for 2024, presented in two parts, I and II, has been meticulously crafted in accordance with the latest guidelines from the Railway Board and the National Disaster Management Authority (NDMA). It comprehensively covers all aspects of relief, rescue, and restoration efforts.

This booklet includes protocols for managing fire, flood, earthquake, chemical, and biological disasters, delineates the responsibilities of various officers and supervisors in handling disaster situations, and features a comprehensive data bank. This data bank includes the contact information of Railway officers and supervisors, as well as that of state administrations, local panchayats, government and private hospitals, NGOs, fire brigades, rescue divers, contractors with machinery, transporters, providers of tents and floodlights, airports and helipads, military and paramilitary organizations, as well as electronic and press media, for immediate use and easy reference in times of emergency.

I extend my heartfelt gratitude to General Manager Shri Tarun Prakash for his unwavering guidance in the effective compilation of this updated version of the Zonal Disaster Management Plan. I also express my thanks to the team of officers and senior supervisors from headquarters and divisions for their invaluable contributions. It is my hope that the publication of this edition of the Disaster Management Plan will serve as a valuable resource for every Railway worker, enabling them to handle disasters on the Railway system with timeliness, efficiency, and effectiveness.

Warm regards,

प्रभात

(Prabhat Kumar)
Principal Chief Safety Officer
East Central Railway

QUALITY POLICY

Where Quality is the Hallmark

Of

Every Operation, the Unit would Strive

And

Continuously work towards Monitoring

Of

Prompt & Quick Rescue and Restoration

Through

Inter-Department

Quality Coordination and Management.

PCSO/ECR **Dy. CSO/Mech.**

ISO certified-ISO: 9001:2015

Certificate issued on 26.08.2021 ***Certificate valid up to -25.08.2024***

QUALITY OBJECTIVES

The important quality objectives of the Organization are:

- **To implement and ensure continual compliance of ISO 9001:2015 based quality Management System for effective services.**
- **To reduce initial lead time for inter department functions as per laid down norms and means.**
- **To monitor quick and efficient Medical assistance to distressed passengers / victims by keeping the equipment in ready to use conditions in divisional ARMEs.**
- **To exercise the power as delegated in the Schedule of Powers for quick and prompt restoration & relief.**
- **To monitor the availability of quality training at different centers as per laid down norms for front-line staff for quick restoration and rescue acquainted with first-aid.**
- **To manage proper protection, identification & delivery of belongings of injured and deceased passengers to their representative.**
- **To manage quick and timely transportation of stranded and affected passengers to valid destination.**
- **To monitor restoration of traffic at the earliest & build up confidence of public.**

PCSO/ECR **Dy. CSO/Mech.**

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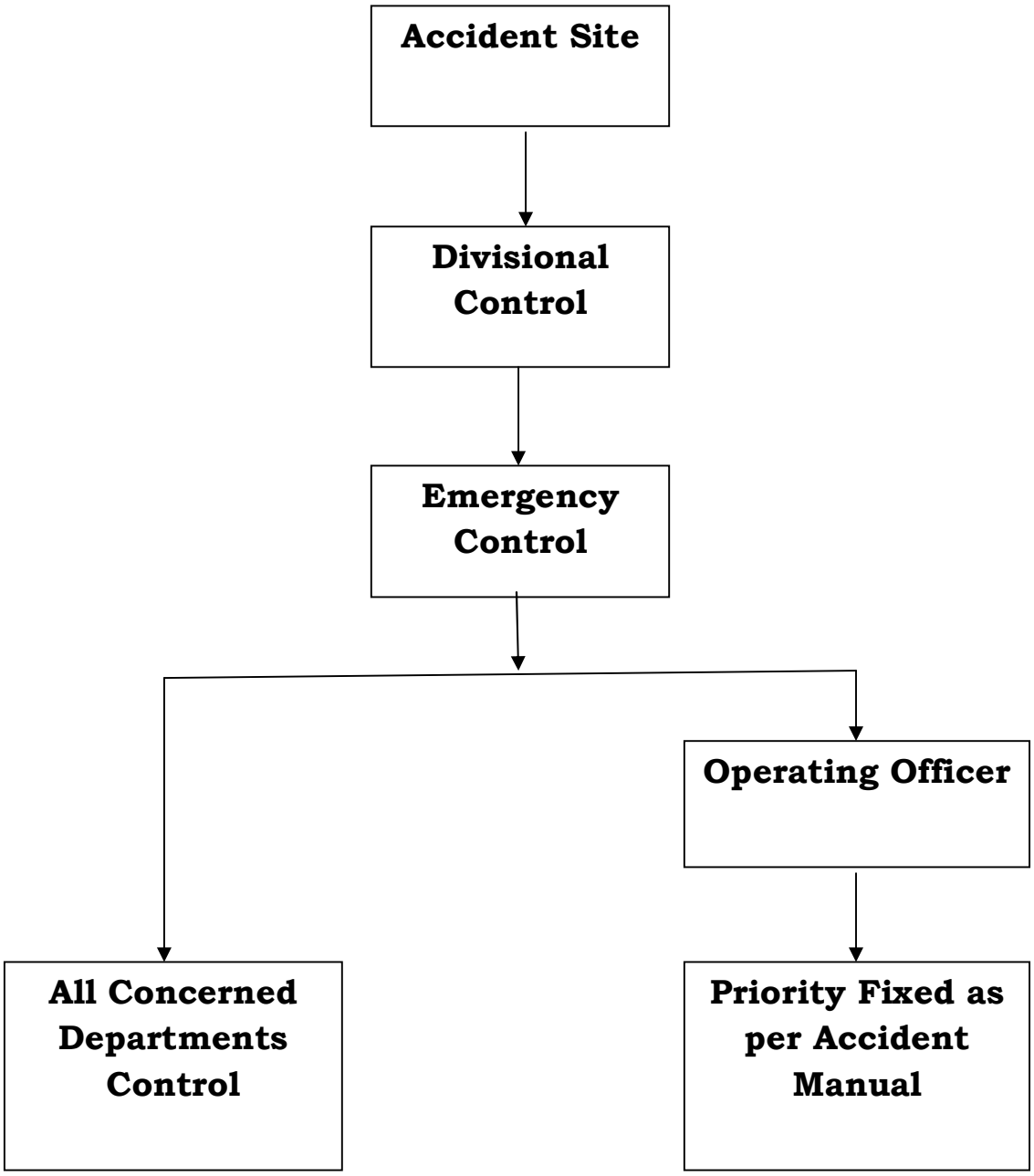
NOTE

1 Disaster in the Railway context is defined as a major train accident leading to serious casualties and long duration of interruption to traffic.

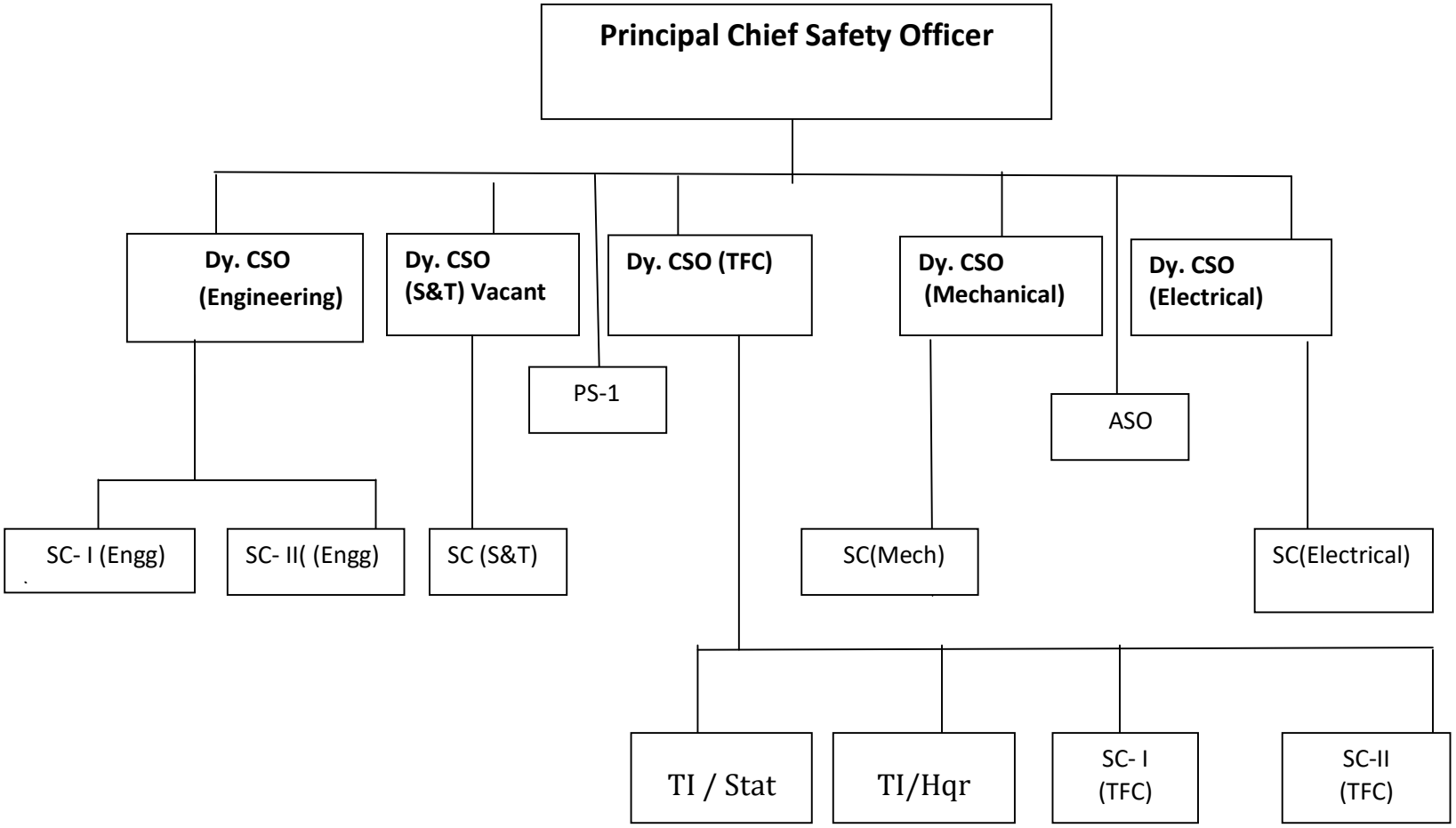
2 As a thumb rule, any accident involving more than 100 injuries (Grievous + Simple) should be termed as Disaster.

3 This compendium of instructions has been prepared for dealing with such disasters, and not normal train accidents.

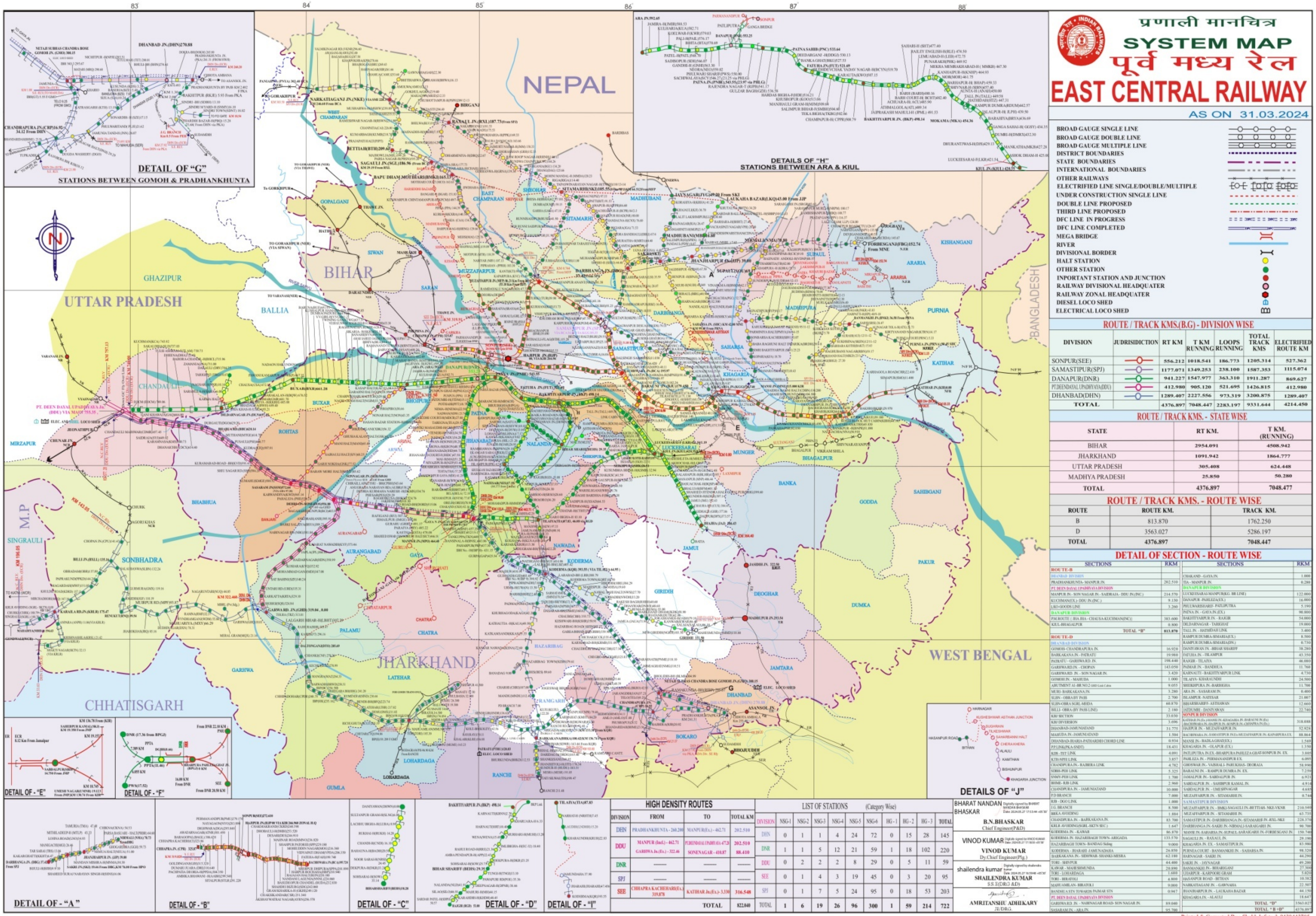
FLOW DIAGRAM – ACCIDENT



ORGANIZATIONAL CHART OF SAFETY DEPARTMENT, ECR/ HQ HAJIPUR



In addition to above, there are two Chief OS & four OS, two Jr. Clerk, two PS-II, three CA and six GAs working in office of Safety dept HQ.



ROUTE / TRACK KMS.(B.G) - DIVISION WISE

DIVISION	JUDRISIDICTION	RT KM	T KM RUNNING	LOOPS RUNNING	TOTAL TRACK KMS	ELECTRIFIED ROUTE KM
SONPUR(SEE)		556.212	1018.541	186.773	1205.314	527.362
SAMASTIPUR(SPJ)		1177.071	1349.253	238.100	1587.353	1115.074
DANAPUR(DNR)		941.227	1547.977	363.310	1911.287	869.627
PT.DEENDAYAL UPADHYAYA(DDU)		412.980	905.120	521.695	1426.815	412.980
DHANBAD(DHN)		1289.407	2227.556	973.319	3200.875	1289.407
TOTAL		4376.897	7048.447	2283.197	9331.644	4214.450

ROUTE / TRACK KMS. - STATE WISE

STATE	RT KM.	T KM. (RUNNING)
BIHAR	2954.091	4508.942
JHARKHAND	1091.942	1864.777
UTTAR PRADESH	305.408	624.448
MADHYA PRADESH	25.850	50.280
TOTAL	4376.897	7048.477

ROUTE / TRACK KMS. - ROUTE WISE

ROUTE	ROUTE KM.	TRACK KM.
B	813.870	1762.250
D	3563.027	5286.197
TOTAL	4376.897	7048.447

DETAIL OF SECTION - ROUTE WISE

HIGH DENSITY ROUTES

DIVISION	FROM	TO	TOTAL KM
DHN	PRADHANKHUNTA - 260.200	MANPUR(Ex.) - 462.71	202.510
DDU	MANPUR (Incl.) - 462.71	PT.DEENDAYAL UPADHYAYA-67.20	202.510
	GARHWA Jn.(Ex.) - 322.46	SONENAGAR - 410.87	88.410
DNR	———	———	———
SPJ	———	———	———
SEE	CHHAPRA KACHEHARI(Ex.) 319.878	KATIHAR Jn.(Ex.)- 3.330	316.548
		TOTAL	822.040

LIST OF STATIONS (Category Wise)

DIVISION	NSG-1	NSG-2	NSG-3	NSG-4	NSG-5	NSG-6	HG - 1	HG - 2	HG - 3	TOTAL
DHN	0	1	1	4	24	72	0	15	28	145
DNR	1	1	5	12	21	59	1	18	102	220
DDU	0	2	2	2	8	29	0	5	11	59
SEE	0	1	4	3	19	45	0	3	20	95
SPJ	0	1	7	5	24	95	0	18	53	203
TOTAL	1	6	19	26	96	300	1	59	214	722

TERMS OF REFERENCE

Railway Board's Safety Directorate vide their letter No. 2003/Safety-I/6/2 dated 29th September 2003 laid down the requirement of Zonal Railway's Disaster Management Plan as follows:

1. **Disaster Management Plan-**

All Divisions and Zonal Railway Head Quarters (Including Metro Kolkata & Delhi Metro Railway Corporation) must devise their disaster management plan, if not already done taking into consideration the resources available with them, their neighboring divisions/Zonal Railways, civil authorities, industrial units and Armed Force bases located in their territory. This would enable the Divisions/Zonal Railways to muster the entire local resources in case of a major disaster/natural calamity. Zonal Railways Disaster Management plan should integrate all divisions and also to take into consideration adjacent railway's framework.

Preparation of Disaster Management Plan:

The Disaster Management Plan must inter-alia includes 'who is responsible for what activities in detail'.

(i) Preparation and implementation of disaster management plan is the responsibility of concerned General Manager/Divisional Railway Manager.
(ii) Authority to order ART/ARMV/Break Down crane-PCME/CME (D&DM))/Sr.DME/DME, etc.
(iii) Senior most Railway officer at the site of the accident shall be the designated as Site Manager.
(iv) Management of rescue operations- Primarily it is responsibility of Mechanical and Medical Departments. Assistance to be provided by all Railway men (irrespective of their department) as needed.
(v) Relief operations including care for the dead- Commercial, Medical & RPF Departments.
(vi) Communication network-Telecom Department.
(vii) Crowd control and law & order at site – RPF.
(viii) State police clearance for restoration – RPF.
(ix) Restoration operations-Rolling stock- Mechanical Department.
Fixed infrastructure like Track, Over Head Equipment, Signaling system, etc. - departments concerned.
(x) Maintenance of SPART/ART & ARMV Rolling Stock/Break Down Cranes including Rail-cum-Road and Road Mobile Emergency Vehicle etc. – Mechanical Department.
(xi) Maintenance of equipment kept in SPART/ART/ARMV for rescue and restoration operations – departments concerned.
(xii) Media Management at site-

(a) Site Manager shall be the chief spokesman at site and can be assisted by the Branch Officers concerned, if needed.

(b) PR/Commercial Department to look after the media needs at site.

(xiii) Checklist for the officers & supervisors must be issued in the form of a pocket booklet indicating Do's and Don'ts for the benefit of:-

(a) First official reaching the site of accident.
(b) Senior most officer at the site.
(c) Divisional/HQ control organization.
(d) Station Manager/Station Master.

The Disaster Management Plans must be reviewed and updated in the month of January every year.

ABBREVIATIONS USED

1 AC	-	1ST Air Conditioned Coach
2 AC	-	2 Tier Air Conditioned Sleeper Coach
3 AC	-	3 Tier Air Conditioned Sleeper Coach
ADG	-	Additional Director General
ADMO	-	Assistant Divisional Medical Officer
ADRM	-	Additional Divisional Railway Manager
AEN	-	Assistant Engineer
AGM	-	Additional General Manager
AME	-	Assistant Mechanical Engineer
ARME	-	Accident Relief Medical Equipment
ARMV	-	Accident Relief Medical Van
ART	-	Accident Relief Train
ASTE	-	Assistant Signal & Telecommunication Engineer
BCX	-	8-wheel covered vacuum brake wagon
BD Spl.	-	Break Down Special
BFR	-	8-wheel open flat vacuum brake wagon
BPC	-	Bharat Petroleum Corporation
BRWD	-	Station Code for Barwadih
C&W	-	Carriage and Wagon
CAC	-	Combined Assistance Center
CBE	-	Chief Bridge Engineer
PCCM	-	Principal Chief Commercial Manager
CCM (PS)	-	Chief Commercial Manager (Passenger Service)
CCM (Catg)	-	Chief Commercial Manager (Catering)
CCRS	-	Chief Commissioner of Railway Safety
PCEE	-	Principal Chief Electrical Engineer
CELE	-	Chief Electrical Loco Engineer
CFTM	-	Chief Freight Transportation Manager
CHC	-	Chief Controller
Chg.	-	Coaching
CHOD	-	Coordinating Head of Department
PCMD	-	Principal Chief Medical Director
PCME	-	Principal Chief Mechanical Engineer
CME (D&DM)	-	Chief Mechanical Engineer (Diesel & Disaster Management)
CMI	-	Commercial Inspector
PCMM	-	Principal Chief Materials Manager
CMS	-	Chief Medical Superintendent
PCOM	-	Principal Chief Operations Manager
Con.	-	Construction
PCPO	-	Principal Chief Personnel Officer
CPRO	-	Chief Public Relations Officer
CPTM	-	Chief Passenger Transportation Manager
CPU	-	Station Code for Chopan
CRS	-	Commissioner of Railway Safety
CRSE	-	Chief Rolling Stock Engineer
PCSC	-	Principal Chief Security Commissioner
CSE	-	Chief Signal Engineer
PCSO	-	Principal Chief Safety officer

PCSTE	-	Principal Chief Signal & Telecommunication Engineer
CTE	-	Chief Track Engineer
CWE	-	Chief Workshop Engineer
CWS	-	Carriage & Wagon Superintendent
DCM	-	Divisional Commercial Manager
DEE	-	Divisional Electrical Engineer
DEN	-	Divisional Engineer
DG	-	Director General
DHN	-	Station Code for Dhanbad
DM	-	Disaster Management
DME	-	Divisional Mechanical Engineer
DMO	-	Divisional Medical Officer
DMU	-	Diesel Multiple Unit
DNR	-	Station Code for Danapur
DOM	-	Divisional Operations Manager
DPO	-	Divisional Personnel Officer
DR	-	Disaster Response
DRM	-	Divisional Railway Manager
DSC	-	Divisional Security Commissioner
DSO	-	Divisional Safety Officer
DSTE	-	Divisional Signal & Telecommunication Engineer
Dy.	-	Deputy
Dy. CCM	-	Deputy Chief Commercial Manager
Dy. COM	-	Deputy Chief Operations Manager
Dy. CSO	-	Deputy Chief Safety Officer
EC	-	Emergency Control
ED	-	Executive Director
EMU	-	Electric Multiple Unit
Engg.	-	Engineering
ETL	-	Emergency Train Lighting
FA	-	First Aid
PFA	-	Principal Financial Advisor
FA&CAO	-	Financial Advisor and Chief Accounts Officer
FR	-	First Responders
G&SR	-	General & Subsidiary Rule
GM	-	General Manager
GRP	-	Govt. Railway Police
HOD	-	Head of Department
HPC	-	Hindustan Petroleum Corporation
HQ	-	Head Quarter.
HRE	-	Hydraulic Re-railing Equipment
HRD	-	Hydraulic Rescue Device
ICS	-	Incident Command System.
IAF	-	Indian Air Force
IAT	-	Instant Action Team
IG	-	Inspector General of Police
IRCM	-	Indian Railway Commercial Manual
IRCTC	-	Indian Railway Catering & Tourism Corporation
IRMM	-	Indian Railway Medical Manual
IOC	-	Indian Oil Corporation

ISD	-	International Subscriber Dialing
IT	-	Information Technology
JA	-	Junior Administrative
JCB	-	Jack-cum-Bulldozer
JE	-	Junior Engineer
Jn.	-	Junction
LC	-	Level Crossing
LCC	-	Local Command Center
LI	-	Loco Inspector
LPG	-	Liquefied Petroleum Gas
LR	-	Leave Reserve
DDU	-	Station Code for Pt. Deen Dayal Upadhyay
MOR	-	Ministry of Railways
MOSR	-	Minister of State for Railways
MP	-	Madhya Pradesh
MR	-	Minister for Railways
MRV	-	Medical Relief Van
NGO	-	Non-Govt. Organization
NR	-	Northern Railway
NCR	-	North Central Railway
OC	-	Officer-in-Charge
OHE	-	Over Head Equipment
PA	-	Public Address
PC	-	Personal Computer
PCE	-	Principal Chief Engineer
PCO	-	Public Call Office
PHOD	-	Principal Head of Department
POL	-	Petroleum & Oil
PR	-	Public Relations
PRC	-	Power Controller
PRO	-	Public Relations Officer
PSU	-	Public Sector Undertaking
P Way	-	Permanent Way
PWI	-	Permanent Way Inspector
RCT	-	Railway Claims Tribunal
RE	-	Railway Electrification
RG	-	Rest Giver
RMS	-	Railway Mail Service
RPF	-	Railway Protection Force
RSO	-	Rolling Stock Organization
S&T	-	Signal & Telecommunication
SDGM	-	Senior Deputy General Manager
SE	-	Section Engineer
Secy.	-	Secretary
SHO	-	Station House Officer
SI	-	Signal Inspector
SJAB	-	St. John Ambulance Brigade
SLR	-	Second Class-cum-Luggage-cum-Brake Van coach
SM	-	Station Manager
SPARMV	-	Self Propelled Accident Relief Medical Van

SPART	-	Self Propelled Accident Relief Train
SO	-	Staff Officer
SOS	-	International Call for Distress
Sr.	-	Senior
Sr. DFM	-	Senior Divisional Financial Manager
Sr. DCM	-	Senior Divisional Commercial Manager
Sr. DEE	-	Senior Divisional Electrical Engineer
Sr. DEN	-	Senior Divisional Engineer
Sr. DME	-	Senior Divisional Mechanical Engineer
Sr. DMO	-	Senior Divisional Medical Officer
Sr. DOM	-	Senior Divisional Operating Manager
Sr. DPO	-	Senior Divisional Personnel Officer
Sr. DSC	-	Senior Divisional Security Commissioner
Sr. DSO	-	Senior Divisional Safety Officer
Sr. DSTE	-	Senior Divisional Signal & Telecommunication Engineer
SSO	-	Senior Safety Officer
SSE	-	Senior Section Engineer
STD	-	Subscriber Trunk Dialing
STM	-	Senior Transportation Manager
SS	-	Station Superintendent
TCM	-	Telecommunication Maintainer
TCI	-	Telecommunication Inspector
TI	-	Traffic Inspector
TRD	-	Traction Distribution
TS	-	Train Superintendent
TTE	-	Traveling Ticket Examiner
TXR	-	Train Examiner
UCC	-	Unified Command Center
VHF	-	Very High Frequency
VPU	-	Vestibule Parcel Van
WLI	-	Welfare Inspector

CHAPTER-1

DISASTERS

1. DEFINITION:

Disaster is an unusual occurrence characterized by:-

(i) Sudden calamitous event, having great material damage, loss and distress.

(ii) A complete definition of disaster may be 'an event, concentrated in time and space, which threatens a society or a relatively self-sufficient sub division of a society with major unwanted consequence as a result of the collapse of precaution which had hitherto been culturally accepted as adequate.' (Turner, 1976).

Many serious train accidents are also disasters and hence, every Railway staff should be in position to identify the characteristics of different disaster situations.

2. TYPES OF DISASTER CAUSING INTERRUPTION TO TRAIN SERVICES:

Human/Equipment failure:

The following disasters/ accidents may be caused by human/equipment failure, which may affect normal movement of train services with loss of life or property or both.

* Collisions.
* Derailments.
* Level crossing accidents at Manned/Unmanned Level Crossings.
* Fire on Train.

Natural Calamities:

Natural calamities may also cause serious disruption of traffic with loss of life/property.

* Landslide.
* Earth quakes.
* Floods.
* Storm/Cyclones/Tornadoes.

Sabotage:

Sabotage causing deliberate loss of life and / or damage to property.

* Setting fire to train/railway installations and railway property.
* Bomb blasts.
* Placing of obstructions on track to cause disruption to traffic.
* Tampering with railway fittings to cause accidents.

3. **LEVEL OF DISATER CAUSING INTERRUPTION TO TRAIN SERVICES:**

Railway accidents can be categorized into different levels:

- Accidents of a magnitude which can be managed by the concerned divisional authorities;

- Accidents of a magnitude which may require assistance from neighboring divisions but can be managed by the Zonal Railway: and Disasters of a magnitude in terms of their severity or scale of casualties that require active involvement of multiple agencies of the Central Govt. (Ministry of Railways & other Ministries).

4. **CLASSIFICATION OF A RAILWAY ACCIDENT AS A DISASTER**:

Disaster in the railway context is defined as a major train accident leading to serious causalities and long duration of interruption to traffic. This compendium of instructions has been prepared for dealing with such disasters, and not normal train accidents. In case of a serious accident the Administration would take a conscious decision whether the situation is to be classified as a Disaster or not.

5. **AUTHORISED OFFICERS TO DECLARE AN ACCIDENT AS A DISASTER:**

PCSO is the authorized officer to declare an accident as a Disaster. Such declaration will be issued to all concerned with the approval of General Manager. If the accident is declared as a Disaster, all instructions as contained here in this Disaster Management Plan would automatically come into force, and officers and staff of all departments would take action as laid down in this book.

6**. Categorization of Alerts:**

According to severity of disaster concerned ministry will issue an alert. A Standard Operating Procedure has been prepared for alerts of events of different types and identifies the situations when alerts are to be sent by the IOC.

Specific hazards have different categories of alerts. Accordingly, a uniform system has been devised by categorizing each type of alert in stages-Yellow, Orange and Red.

Action Plan for Communication of Alert Messages:

Whenever a crisis is about to be faced, Government of India has laid down system for warning its respective department through an 'Alert'. It should be understood that mere issue of an 'Alert' (Yellow or Orange) is not an indication of the occurrence of a Disaster. This only signifies the existence of a crisis for which provisions of the Crisis Management Plan would come into operation.

The Action plan for Alert Messages lays down as under:

(i) All concerned Ministries/Departments/Organizations/Agencies will report events to IOC, MHA.

(ii) While generating and transmitting alerts to IOC, MHA, the concerned agency, will indicate the category of the event as well as its corresponding stage (Red/Orange/Yellow).

(iii) For Railways categorization of Alerts is under.

Category	Description	Stage
Minor	50 or more casualties (inclusive of death and injuries)	Yellow
Medium	51-99 deaths.	Orange
Major	100 or more deaths, or where additional assistance is sought	Red

7. Standard Operating Procedure (SOP) on Railways:

(i) National Disasters: -

The Civil Engineering Department at the field level and on the Divisions gets information through advance warning sent by the respective Government Departments on the possibility of Floods, Cyclones, Earthquakes and Landslides etc. Depending on the gravity of the Disaster/Crisis/Calamity expected the information would be passed on to the Divisional officers through the Emergency Control. Where train operations have to be suspended or regulated the operating departments would be suitably advised. After making the train regulation plan the divisional control would advise the Commercial and Security Departments for management of the welfare of passengers. Alerts to the passengers would be issued through the PR Department of the Railway in the Print and Electronic Media.

The DRMs on the divisions shall ensure coordination amongst the departments for ensuring running of train services (including Relief Special Trains) as also relief arrangements for the passengers and for the Welfare of Railways own staff. Assistance of other Divisions and from the Zonal Railways would be taken through the Headquarter of the Zonal Railways (i.e. by involving the General Manager). Coordination with the IOC of MHA and

NDMA/NDRF would be through the Emergency Control of each zonal Headquarter.

(ii) Man-made Disasters: -

Different forms of terrorism fall under the ambit of these disasters. A major role has to be played by the Security Department of the Railways who will coordinate with the State Governments and when required the Para-military and other forces. The Security Control of the division will act as the ICS. The Headquarter Security Control will coordinate with the IOC of MHA.

A similar system would be followed as above in organizing regulation of train services by the operating department at the divisional, zonal level and also in the Railway Board.

(iii) Handling CBRN Disaster

Training of a skeleton number of Medical Doctors in all Divisional Railways Hospitals is to be planned for handling and to provide medical relief for all CBRN(Chemical, Biological, Radiological, Nuclear) disaster and mitigation of BN(Biological, Warfare), BT(Bio-Terrorism).

(iv) Chemical Disaster: -

Railways' expertise in dealing with Mis-happenings likes spillage, catching fire etc. of inflammables, Acids & other corrosives are very limited. It is therefore imperative that the respective divisions will develop and nurture co-ordination with those agencies and organizations on their system that have expertise in dealing will the hazardous materials being handled and transported.

CHAPTER-2

DISASTER MANAGEMENT ACT – 2005

National Policy on Disaster Management (NPDM):

The Disaster Management Act, 2005 (hereinafter referred to as the Act), enacted by the Parliament was notified in the Gazette of India on 26th December, 2005. The Act provides for the legal and institutional framework for the effective management of disasters. The Act mandates creation of new institutions and assignment of specific roles for Central, State and Local Governments. Under the provisions of the Act, the National Disaster Management Authority (NDMA) has been established under the chairmanship of the Prime Minister and a National Executive Committee (NEC) of Secretaries has been created to assist the NDMA in the performance of its functions. At the State level, a State Disaster Management Authority has been created under the chairmanship of Chief Minister, which has been assisted by a State Executive Committee. At the District level, District Disaster Management Authorities have been created.

The responsibility of laying down the policies on Disaster Management, approving the National Policy on Disaster Management (NPDM) and laying down the guidelines on Disaster Management has been given to NDMA under the Act. The NDMA accordingly prepared a draft of the National Policy on Disaster Management in consultation with the Home Ministry and submitted the same for approval of the Government.

The Home Ministry has circulated the draft NPDM to the concerned Central Ministries and all the State Governments/Union Territories. The comments received by the Central Ministries/State Governments/Union Territories were duly examined and the accepted views/comments of Central Ministries/State Governments/Union Territories have been duly incorporated in the NPDM.

Approval of the Cabinet to the NPDM was given in the Cabinet Meeting held on 22.10.2009.

The NPDM envisages a holistic approach to disaster management, encompassing the entire disaster management cycle including prevention, mitigation, preparedness, relief, rescue, rehabilitation and reconstruction. It addresses all aspects of Disaster Management covering institutional, legal and financial arrangements, Capacity Building, Knowledge Management, Research and Development. It focuses on the areas where action is needed and the institutional mechanism through which such action can be channelized.

Salient Features of the Disaster Management Act, 2005:

It is the central legislation on Disaster Management around which all the Disaster Management related activities revolve since its enactment. It legislates a holistic approach to Disaster Management; from mere responding to disasters to

greater attention to Prevention and Mitigation, Capacity Building and Preparedness. The Disaster Management Plan of the Railways has been prepared by taking relevant provision of this Act into consideration.

Disaster has been defined in this Act as under:

"Disaster means a catastrophe, mishap, calamity or grave occurrence in any area, arising from natural or man- made causes, or by accident or negligence which results in substantial loss of life or human suffering or damage to, and destruction of, property, or damage to, or degradation of, environment, and is of such a nature or magnitude as to be beyond the coping capacity of the community of the affected area"

Disaster Management has been explained in this Act as under:

Disaster Management means a continuous and integrated process of planning, organizing, coordinating and implementing measures which are necessary or expedient for: -

- Prevention of danger or threat of any disaster
- Mitigation or reduction of risk of any disaster or its severity or consequences
- Capacity Building
- Preparedness to deal with any disaster
- Prompt response to any threatening disaster situation or disaster
- Assessing the severity or magnitude of effects of any disaster
- Evacuation, Rescue and Relief
- Rehabilitation and Reconstruction

Important Provisions in the DM Act, 2005 Concerning Railways:

Sections 35, 36 & 37 of the DM Act, 2005 detail the responsibilities of Ministries and Departments of Central Govt. as per which a number of measures/actions are to be taken either on their own or in consultation with NDMA. Drawing up mitigation, preparedness and response plans, Capacity Building, data collection and identification & training of personnel in relation to Disaster Management is one of the key responsibilities. These provisions are summarized as under: -

Section 35

The Central Government shall take all such measures as it deems necessary or expedient for the purpose of Disaster Management and it shall include: -

a) Coordination of actions of the Ministries or Departments of the Government of India, State Governments, National Authority, State

Authorities, governmental and non-governmental organizations in relation to disaster management

b) Ensure the integration of measures for prevention of disasters and mitigation by Ministries or Departments of the Government of India into their development plans and projects

c) Ensure appropriate allocation of funds for prevention of Disaster, Mitigation, Capacity Building and preparedness by the Ministries or Departments of the Government of India

d) Ensure that the Ministries or Departments of the government of India take necessary measures for preparedness to promptly and effectively respond to any threatening disaster situation or disaster

e) Cooperation and assistance to the State Governments, as requested by them

f) Deployment of naval, military, air forces and other armed forces of the Union or any other civilian personnel as may be required for the purpose of this Act.

Section 36

It shall be the responsibility of every Ministry or Department of the Government of India to: -

a) Take measures necessary for prevention of Disasters, Mitigation, Preparedness and Capacity Building in accordance with the guidelines laid down by the National Authority
b) Integrate into its development plans and projects, measures for prevention or mitigation of disasters in accordance with the guidelines laid down by the National Authority
c) Respond effectively and promptly to any threatening disaster situation or disaster in accordance with the guidelines of the National Authority or the directions of the National Executive Committee in this behalf
d) Review the enactments administered by it, its polices, rules and regulations and incorporate provisions for prevention of disasters, mitigation or preparedness
e) Allocate funds for measures for prevention of Disaster, Mitigation, Capacity Building and preparedness Provide assistance to the National Authority and State Government for: -

    i) Drawing up Mitigation, Preparedness and Response plans, Capacity Building, data collection, identification and training of personnel in relation to Disaster Management
    ii) Carrying out rescue and relief operation in the affected area
    iii) Assessing the damage from any disaster
    iv) Carrying out rehabilitation and reconstruction

f) Make available its resources to the National Executive Committee or a State Executive Committee for the purposes of responding promptly and effectively to any threatening disaster situation or disaster, including measures for: -

(i) Providing emergency communication in a vulnerable or affected area
(ii) Transporting personnel and relief goods to and from the affected area
(iii) Providing evacuation, rescue, temporary shelter or other immediate relief
(iv) Setting up temporary bridges, jetties and landing places
(v) Providing, drinking water, essential provisions, healthcare, and services in an affected area
(vi) Take such other actions as it may consider necessary for Disaster Management

Section 37

(1) Every Ministry or Department of the Government of India shall: -

a) Prepare a Disaster Management plan specifying the following particulars, namely;

(i) The measures to be taken by it for prevention and mitigation of disasters in accordance with the National Plan;

(ii) The specifications regarding integration of mitigation measures in its development plans in accordance with the guidelines of the National Authority and the National Executive Committee;

(iii) Its roles and responsibilities in relation to Preparedness and Capacity Building to deal with any threatening disaster situation or disaster;

(iv) Its roles and responsibilities in regard to promptly and effectively responding to any threatening disaster situation or disaster;

(v) The present status of its preparedness to perform the roles and responsibilities specified in sub-clauses (iii) and (iv);

(vi) The measures required to be taken in order to enable it to perform its responsibilities specified in sub-clauses (iii) & (iv)

b) Review and update annually the plan referred to in clause (a);

c) Forward a copy of the plan referred to in clause (a) or clause (b), as the case may be, to the Central Government which Government shall forward a copy thereof to the National Authority for its approval.

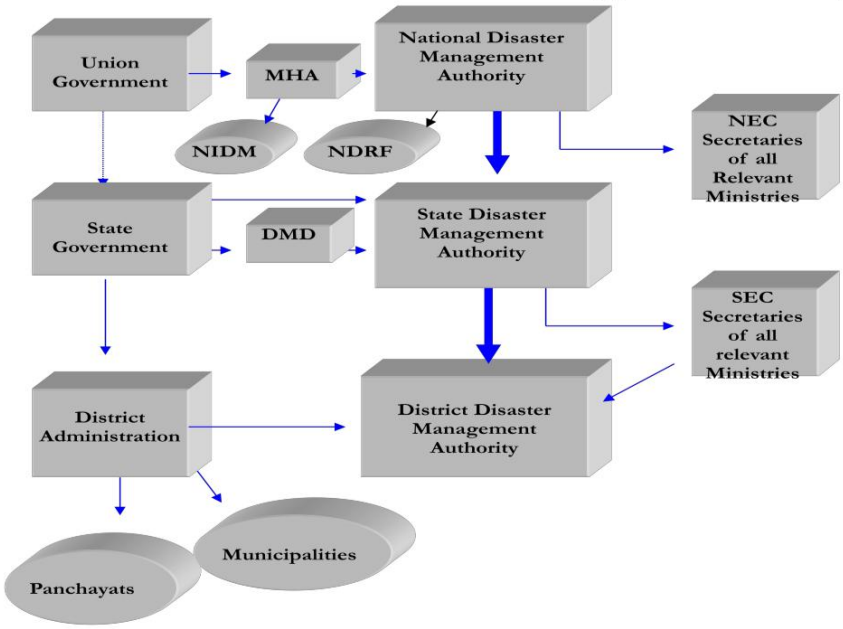
(2) Every Ministry or Department of the Government of India shall: -

a) Make, while preparing disaster management plan under clause (a) of sub section (1), provisions for financing the activities specified therein;

b) Furnish a status report regarding the implementation of the plan referred to in clause (a) of sub-section (1) to the National Authority, as and when required by it.

Institutional Framework

Under the Disaster Management Act, 2005



No Railway official is nominated either in National Executive Committee (NEC) or State Executive Committee (SEC), though they can be co-opted as per need.

Summary of NDMA Guidelines on Earthquakes and Floods

Railway Infrastructure	Earthquake Proneness Review	Flood Proneness Review
Railway Track formation (Incl. station yard, bridges/culverts, ROBs/RUBs etc. Buildings housing signaling gears like RRI SSI etc. Buildings in open line maintenance work centers like loco sheds,	New Construction: Must be earthquake resistant. Existing Infrastructure Identify existing	**New Construction:** Railway Station building should be located in such a fashion that they are above the levels corresponding to a 100-year frequency or the maximum observed flood levels. Similarly, they should also be above the levels corresponding to a 50-year rainfall and the likely

Coaching depots etc. Station buildings. Control room, other important office building etc. High-rise residential buildings, other important residential buildings. Railway Hospitals.	railway infrastructure falling under various seismic zones. Review for earthquake resistance adequacy based on age, foundation and other details. Retrofit/rebuilding to make it earthquake resistant. Training of Engineers (at various levels) Associated with design and construction of railway infrastructure	subversion due to draining congestion. Government offices building should be above a level corresponding to a 25 year. flood or a 10-year rainfall with stipulation that all buildings in vulnerable zones should be constructed on columns or stilts. Railway track at levels well above the likely flood levels. **Existing Infrastructure**: - Co-ordination with flood /rain forecasting agencies to get early warning so as to introduce patrolling, Speed restriction etc. as per the provisions in Railway's SR. Inspection of Railways Affecting Works – to be streamlined and timely ensured. Review of waterways for adequacy and alignment and measures to modify, if needed. Status Note on the lessons learnt from the previous flood situations in the past 5 years. Bye-laws for building in flood plains. Making existing and new building and infrastructure capable of withstanding fury of floods.

CHAPTER-3
INSTITUTIONAL FRAMEWORK FOR DISASTER MANAGEMENT

National Level

The overall coordination of disaster management vests with the Ministry of Home Affairs (MHA). The Cabinet Committee on Security (CCS) and the National Crisis Management Committee (NCMC) are the key committees involved in the top-level decision-making with regard to disaster management. The NDMA is the lead agency responsible for the preparation DM plans and the execution of DM functions at the national level. Figure2-1 provides a schematic view of the basic institutional structure for DM at national level. The figure represents merely the institutional pathways for coordination, decision-making and communication for disaster management and does not imply any chain of command.

In most cases, state governments will be carrying out disaster management with the central government playing a supporting role. The central agencies will participate only on the request from the state government. Within each state, there is a separate institutional framework for disaster management at the state-level. The DM Act of 2005 provides for the setting up of NDMA at national level, and the SDMA at the state level. The role, composition and the role of the key decision-making bodies for disaster management at national-level are briefly described in the Table2-1.

Figure 2-1: National-level disaster management - basic institutional framework.

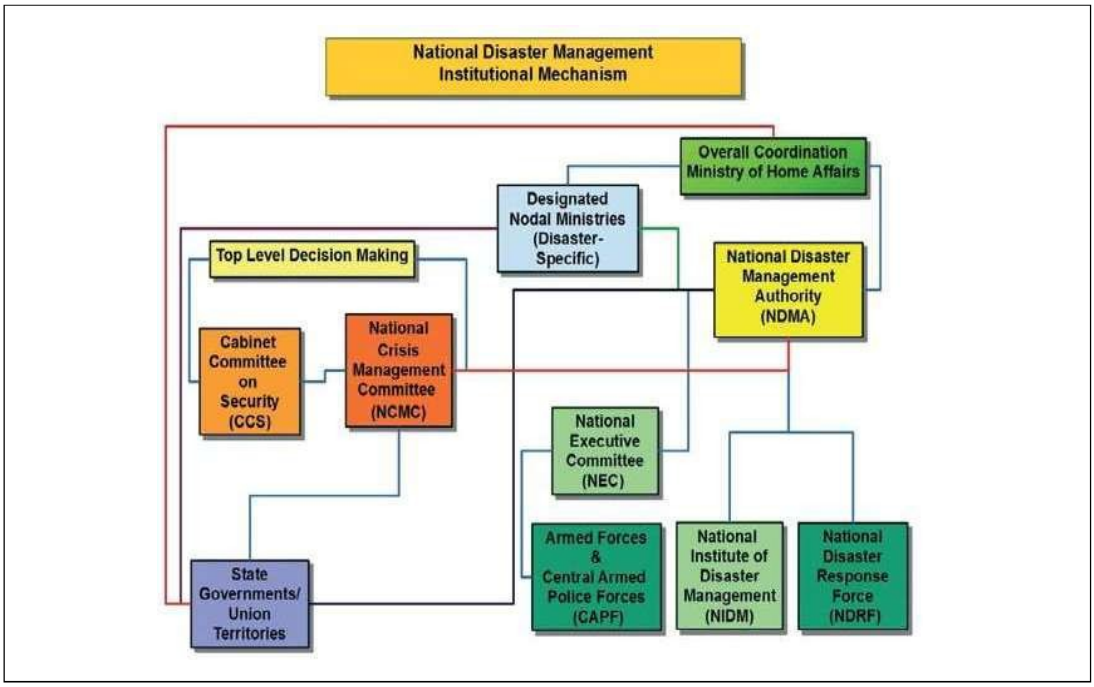


Table 2-1: Key national-level decision-making bodies for disaster management

	Name	Composition	Vital Role
1	**Cabinet Committee on Security (CCS)**	Prime Minister, Minister of Defence, Minister of Finance, Ministerof Home Affairs, and Minister of External Affairs	• Evaluation from a national security perspective, if an incident has potentially security implications • Oversee all aspects of preparedness, mitigation and management of Chemical, Biological, Radiological and Nuclear (CBRN) emergencies and of disasters with security implications • Review risks of CBRN emergencies from time to time, giving directions for measures considered necessary for disaster prevention, mitigation, preparedness & effective response.
2	**National Crisis Management Committee (NCMC)**	Cabinet Secretary (Chairperson) Secretaries of Ministries/ Departments and agencies with specific DM responsibilities	• Oversee the Command, Cont • Give direction to the Crisis Management Group as deemed necessary • Give direction for specific actions to face crisis situations
3	**National Disaster Management Authority (NDMA)**	Prime Minister (Chairperson) Members (not exceeding nine, nominated by the Chairperson)	• Lay down policies, plans and guidelines for disaster management • Coordinate their enforcement and implementation throughout the country • Approve the NDMP and the DM plans of the respective Ministries and Departments of Government of India • Lay down guidelines for disaster management to be followed by the different Central Ministries,

			Departments and the State Governments
4	**National Executive Committee (NEC)**	Union Home Secretary (Chairperson) Secretaries to the GOI in the Ministries/ Departments of Agriculture, Atomic Energy, Defence, Drinking Water and sanitation, Environment, Forests and	• To assist the NDMA in the discharge of its functions • Preparation of the National Plan • Coordinate and monitor the implementation of the National Policy • Monitor the implementation of the National Plan and the plans prepared by the Ministries or Departments of the Government of India • Direct any department or agency of the Govt. to make available to the NDMA or SDMAs such men, material or resources as are available
		Climate Change Finance (Expenditure), Health and Family Welfare,Power, Rural Development, Science and Technology, Space, Telecommunications, Urban Development, Water Resources, River Development and Ganga Rejuvenation, The Chief of the Integrated Defence Staff of	with it for the purpose of emergency response, rescue and relief • Ensure compliance of the directions issued by the Central Government • Coordinate response in the event of any threatening disaster situation or disaster • Direct the relevant ministries/ Departments of the GOI, the State Governments and the SDMAs regarding measures to be taken in response to any specific threatening disaster situation or disaster. • Coordinate with relevant Central Ministries/Departments/Agencies which are expected to provide assistance to the affected State as per Operating Procedures (SOPs) Coordinate with the Armed Forces, Central Armed Police Forces6 (CAPF), the National Disaster

		the Chiefs of Staff Committee, ex Officio as members. Secretaries in the Ministry of External Affairs, Earth Sciences, Human Resource Development, Mines, Shipping, Road Transport and Highways and Secretary, NDMA are special invitees to the meetings of the NEC.	Response Force (NDRF) and other uniformed services which comprise the GoI's response to aid the State authorities • Coordinate with India Meteorological Department (IMD) and a number of other specialized scientific institutions which constitute key early warning and monitoring agencies • Coordinate with Civil Defence volunteers, home guards and fire services, through the relevant administrative departments of the State Governments
5	**National Disaster Response Force (NDRF)**	Specially trained force headed by a Director General, Structured and like paramilitary forces for rapid deployment	Provide assistance to the relevant State Government/District Administration in the event of an imminent hazard event or in its aftermath

6	**National Institute of Disaster Management (NIDM)**	Union Home Minister; Vice Chairman, NDMA; Members including Secretaries of various nodal Ministries and Departments of Government of India and State Governments and heads of national levels scientific, research and technical organizations, besides eminent scholars, scientists and practitioners.	• Human resource development and capacity building for disaster management within the broad policies and guidelines laid down by the NDMA • Design, develop and implement training programmes • Undertake research • Formulate and implement a comprehensive human resource development plan • Provide assistance in national policy formulation, assist other research and training institutes, state governments and other organizations for successfully discharging their responsibilities • Develop educational materials for dissemination • Promote awareness generation

From time to time, the central government notifies hazard-specific nodal ministries to function as the lead agency in managing particular types of disasters (see Table 2-2 for current list of disasters specific nodal ministries notified by Government of India).

Table 2-2: Nodal Ministry for Management / Mitigation of Different Disasters.

SN	Disaster	Nodal Ministry/ Department
1.	Biological	Min. of Health and Family Welfare (MoHFW)
2.	Chemical and Industrial	Min. of Environment, Forest sand Climate Change (MoEFCC)
3.	Civil Aviation Accidents	Min. of Civil Aviation (MoCA)
4.	Cyclone/Tornado	Min. of Earth Sciences (MoES)
5.	Tsunami	Min. of Earth Sciences (MoES)
6.	Drought/Hailstorm/Cold Wave and Frost/Pest Attack	Min. of Agriculture and Farmers Welfare (MoAFW)
7.	Earthquake	Min. of Earth Sciences (MoES)
8.	Flood	Min. of Water Resources (MoWR)
9.	Forest Fire	Min. of Environment, Forests, and Climate Change (MoEFCC)

10.	Landslides	Min. of Mines (MoM)
11.	Avalanche	Min. of Defence (MoD)
12.	Nuclear and Radiological Emergencies	Dept. of Atomic Energy (DAE)
13.	Rail Accidents	Min. of Railways (MoR)
14.	Road Accidents	Min. of Road Transport and Highways (MoRTH)
15.	Urban Floods	Min. of Urban Development (MoUD)

National Disaster Management Authority (NDMA):

The Government of India established the NDMA in 2005, headed by the Prime Minister. Under the DM Act, 2005, the NDMA, as the apex body for disaster management, shall have the responsibility for laying down the policies, plans, and guidelines for disaster management for ensuring timely and effective response to disaster. The guidelines of NDMA will assist the Central Ministries, Departments, and States to formulate their respective DM plans. It will approve the National Disaster Management Plans and DM plans of the Central Ministries / Departments. It will take such other measures, as it may consider necessary, for the prevention of disasters, or mitigation, or preparedness and capacity building, for dealing with a threatening disaster situation or disaster. Central Ministries / Departments and State Governments will extend necessary cooperation and assistance to NDMA for carrying out its mandate. It will oversee the provision and application of funds for mitigation and preparedness measures.

NDMA has the power to authorize the Departments or authorities concerned, to make emergency procurement of provisions or materials for rescue and relief in a threatening disaster situation or disaster. The general superintendence, direction, and control of the National Disaster Response Force **(NDRF**) are vested in and will be exercised by the NDMA. The National Institute of Disaster Management **(NIDM)** works within the framework of broad policies and guidelines laid down by the NDMA. The NDMA has the mandate to deal with all types of disasters–natural or human-induced. However, other emergencies such as terrorism (counter-insurgency), law and order situations, hijacking, air accidents, CBRN weapon systems, which require the close involvement of the security forces and/or intelligence agencies, and other incidents such as mine disasters, port and harbour emergencies, forest fires, oilfield fires and oil spills will be handled by the National Crisis Management Committee (NCMC). Nevertheless, NDMA may formulate guidelines and facilitate training and preparedness activities in respect of CBRN emergencies.

National Institute of Disaster Management (NIDM):

As per the provisions of the Chapter-VII of the DM Act, Government of India constituted the National Institute of Disaster Management (NIDM) under an Act of Parliament with the goal of being the premier institute for capacity development for disaster management in India and the region. The vision of NIDM is to create a Disaster Resilient India by building the capacity at all levels for disaster prevention and preparedness. NIDM has been assigned nodal responsibilities for human resource development, capacity building, training, research, documentation, and policy advocacy in the field of disaster management. The NIDM has built strategic partnerships with various ministries and departments of the central, state, and local governments, academic, research and technical organizations in India and abroad and other bi-lateral and multi-lateral international agencies. It provides technical support to the state governments through the Disaster Management Centres (DMCs) in the Administrative Training Institutes (ATIs) of the States and Union Territories. Presently it is supporting as many as 30 such Centres. Six of them are being developed as Centres of Excellence in the specialized areas of risk management – flood, earthquake, cyclone, drought, landslides, and industrial disasters.

National Disaster Response Force (NDRF):

The NDRF has been constituted as per the Chapter-II of the DM Act 2005 as a specialist response force that can be deployed in a threatening disaster situation or disaster. As per the DM Act, the general superintendence, direction and control of the NDRF shall be vested and exercised by the **NDMA**. The command and supervision of the NDRF shall vest with the Director General appointed by the Government of India. The NDRF will position its battalions at different locations as required for effective response. NDRF units will maintain close liaison with the designated State Governments and will be available to them in the event of any serious threatening disaster situation. The **NDRF** is equipped and trained to respond to situations arising out of natural disasters and CBRN emergencies. The NDRF units will also impart basic training to all the stakeholders identified by the State Governments in their respective locations. Further, a National Academy will be set up to provide training for trainers in disaster management and to meet related National and International commitments. Experience in major disasters has clearly shown the need for pre-positioning of some response forces to augment the resources at the State level at crucial locations including some in high altitude regions.

General – First and Key Responders:

The role and importance of community, under the leadership of the local authorities, Panchayati Raj Institutions (PRIs) and Urban Local Bodies (ULBs), being the bedrock of the process of disaster response, is well recognized. For their immediate support, there are other important first responders like the police, State Disaster Response Force (SDRFs), Fire and Medical Services. The NDRF will provide specialist response training whenever required. In serious situations, the resources of all NDRF battalions, on an as required basis, will be concentrated in the shortest possible time in the disaster affected areas. Other important responders will be the Civil Defence, Home Guards and youth organizations such as NCC, NSS and NYKS. The deployment of the armed forces will also be organized on as required basis.

Location, Constitution and Functions:

NDRF Battalions have been formed under the Disaster Management Act at 12 selected locations in the country for dealing with relief and rescue operations related to all types of disasters. The NDRF consists of battalions of Central paramilitary forces drawn from the Border Security Force (BSF), Indo- Tibetan Border Police (ITBP), Central Industrial Security Force (CISF) and Central Reserve Police Force (CRPF) for the purpose of specialist response in disaster situations. Each Battalion has 6 Companies comprising of 3 teams each. Team comprises of 45 men out of which 24 are for Search & Rescue and balance 21 for support functions. Short-listed & trained staff is on deputation in NDRF.

As per the Disaster Management Act, various ministries and departments under Government of India should join hands for mutual assistance in case of a disaster. Assistance from local government and non-government agencies is invariably required by the railway administration for prompt relief and rescue operation in case of disasters affecting railways and, therefore, assistance of NDRF could be of great help to the railways. The rail infrastructure is not in an island away from the civil areas (of the Districts/States). In most cases of a disaster, other than a train accident, the State Governments as well as the Zonal Railways would, therefore, requisition the NDRF simultaneously (for the same disaster). Coordination amongst the affected agencies (many departments of the Central Government and the States) is very important before the help of NDRF is requisitioned.

Coordination with NDRF:

Zonal Railways should get in touch with NDRF offices at the nearby locations to have the first-hand knowledge of the resources available with them

and also to familiarize them with railway related disaster situations and expose them to the issues relevant to the rescue and relief of passengers during railway accident. It has also been advised to associate NDRF in full scale exercise that is held once every year. There are no charges for availing the services of NDRF except the rail transportation which railways may provide at railways cost for attending to rail disasters. Railways may also have to provide rail transportation logistics for transporting NDRF team even in case of non-railway exigencies.

The Railway Board has empowered DRMs/CSOs to directly requisition the relevant NDRF battalion for relief and rescue operations depending on the gravity of situation so that their services could be made available expeditiously without any loss of time. NDRF Headquarter office, New Delhi will draw an annual calendar for zone/division-wise meeting between NDRF Battalion Commandants and Railway Safety officials for better coordination and management during disasters/major train accidents. NDRF battalion should carry out at least one or two mock exercises/coordination meeting with each zonal Railway in a year, for which an annual calendar will be issued by Board in consultation with NDRF HQs office.

State Level:

As per the DM Act of 2005, each state in India shall have its own institutional framework for disaster management. Among other things, the DM Act, mandates that each State Government shall take necessary steps for the preparation of state DM plans, integration of measures for prevention of disasters or mitigation into state development plans, allocation of funds, and establish EWS. Depending on specific situations and needs, the State Government shall also assist the Central Government and central agencies in various aspects of DM.

The DM Act mandates the setting of a State Disaster Management Authority with the Chief Minister as the ex officio Chairperson. Similar system will function in each Union Territory with Lieutenant Governor as the Chairperson. At the district level, District Disaster Management Authority (DDMA), the District Collector or District Magistrate or the Deputy Commissioner, as applicable, will be responsible for overall coordination of the disaster management efforts and planning. Figure- 2-2 provides schematic view of the typical state-level institutional framework does not imply any chain of command.

State Disaster Management Authority (SDMA):

As per provisions in Chapter-II of the DM Act, each State Government shall establish a State Disaster Management Authority (SDMA) or its equivalent under a different name with the Chief Minister as the Chairperson. In case of other UTs, the Lieutenant Governor or the Administrator shall be the Chairperson of that Authority. For the UT of Delhi, the Lieutenant Governor and the Chief Minister shall be the Chairperson and Vice-Chairperson respectively of the State Authority. In the case of a UT having Legislative Assembly, except the UT of Delhi, the Chief Minister shall be the Chairperson of the Authority established under this section. The SDMA will lay down policies and plans for DM in the State. It will, inter alia approve the State Plan in accordance with the guidelines laid down by the NDMA, coordinate the implementation of the State Plan, recommend provision of funds for mitigation and preparedness measures and review the developmental plans of the different Departments of the State to ensure the integration of prevention, preparedness and mitigation measures. The State Government shall constitute a State Executive Committee (SEC) to assist the SDMA in the performance of its functions. The SEC will be headed by the Chief Secretary to the State Government. The SEC will coordinate and monitor the implement action of the National Policy, the National Plan, and the State Plan. The SEC will also provide information to NDMA relating to different aspect of DM.

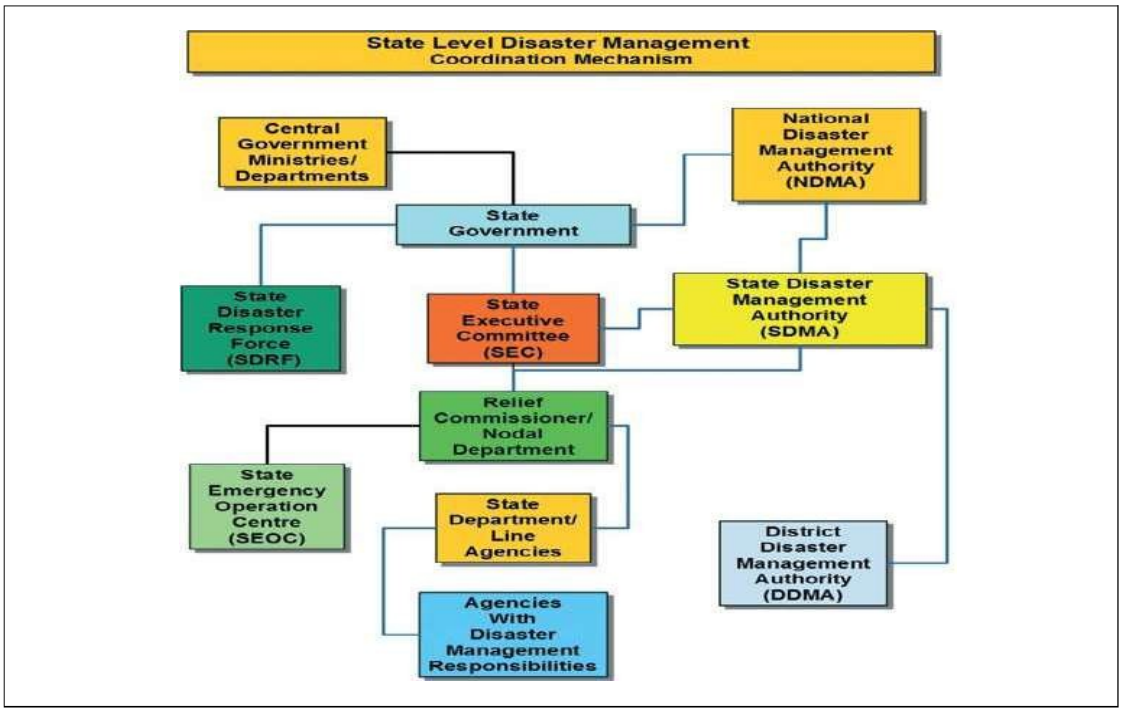


Fig.2.2 State level Disaster Management –Basic Institutional framework

District Disaster Management Authority (DDMA):

As per provisions in Chapter-IV of the DM Act, each State Government shall establish a District Disaster Management Authority for every district in the State with such name as may be specified in that notification. The DDMA will be headed by the District Collector, Deputy Commissioner, or District Magistrate as the case may be, with the elected representative of the local authority as the Co-Chairperson. The State Government shall appoint an officer not below the rank of Additional Collector or Additional District Magistrate or Additional Deputy Commissioner, as the case may be, of the district to be the Chief Executive Officer of the District Authority. The DDMA will act as the planning, coordinating and implementing body for DM at the District level and take all necessary measures for the purposes of DM in accordance with the guidelines laid down by the NDMA and SDMA. It will, inter alia, prepare the DM plan for the District and monitor the implementation of the all relevant national, state, and district policies and plans. The DDMA will also ensure that the guidelines for prevention, mitigation, preparedness, and response measures laid down by the NDMA and the SDMA are followed by all the district-level offices of the various departments of the State Government.

Plan Implementations

The DM Act 2005 enjoins central and state governments to make provisions for the implementation of the disaster management plans. In this respect, the sections of the DM Act 2005 applicable for national, state, and district DM plans. DM Act spells out the responsibilities of the central, state, and local governments with respect to disaster management. The DM Act states that every Ministry or Department of the Government of India shall make provisions, in its annual budget, for funds for the purposes of carrying out the activities and programmes set out in its disaster management plan. The Act mandates that every Ministry and Department of the Government of India and every state must prepare a DMP in accordance with the NDMP. Annually, respective DM authorities must review and update their DM plans. Central ministries and state governments will integrate DRR into their development policy, planning and programming at all levels. They must adopt a holistic approach and build multi-stakeholder partnerships at all levels, as appropriate, for the implementation of the DM plans. Depending on its nature, different components of the NDMP will be implemented within as pan of five, ten, or fifteen years. The plan is highly ambitious and the complete implementation of all elements across the country may take a very long time. Nevertheless, both central and state governments have already made considerable progress and they expected to make since reef forts for the implementation of the DM plans. The NDMA has prepared and publish hazard-specific guidelines and reports covering various of disaster aspects management and including a separate one for response, details are listed below:

Table 2.3: NDMA's Guidelines on Disaster Management: -	
1. Management of Chemical Disaster (Industrial)	2007
2. Management of Earthquakes	2007
3. Formulation of State Disaster Management Plans	
4. Management of Floods	2008
5. Medical Preparedness & Mass Casualty Management	2008
6. Management of Cyclones	2008
7. Management of Biological Disasters	2008
8. Management of Nuclear & Radiological Emergencies	2009
9. Management of Chemical (Terrorism)Disasters	2009
10. Management of Landslides and Snow Avalanches	2009
11. National Policy on Disaster Management	2009
12. Psycho- Social Support & Mental Health Services in Disasters	2009
13. Incident Response System Guidelines	2010
14. Management of Tsunamis	2010

15.	Management of Urban Flooding	2010
16.	Drought Management	2010
17.	National Disaster Management Information & Communication System	2012
18.	Scaling, type of Equipment and Training of Fire services	2012
19.	Guidelines for Seismic Retrofitting of Deficient Buildings and structures	2014
20.	Guidelines on Management of Hospital Safety	2016
21.	Guidelines on Management of School Safety	2016
22.	Guidelines for Preparation of Action Plan-Prevention and Management of Heat- wave.	2016

Table2.4: NDMA Reports (As Broad Guidelines) on Disaster Management: -

1. Revamping of Civil Defence
2. NIDM's Functioning
3. Pandemic Preparedness Beyond Health
4. Disaster Response Training at the Centre &States
5. NDRF and SDRF
6. Strengthening Safety/Security in Transportation of POL Tankers
7. Threats to Municipal Water Supply and Water Reservoirs
8. Mechanism to Detect, Prevent and Respond to Radiological Emergencies
9. Management of Dead in the Aftermath of Disaster
10. Minimum Standards of Relief
11. Role of NGOs in Disaster Management
12. Pilot Project on Capacity Building for advanced Trauma Life Support in India
13. Capacity Building in Disaster Management for Government Officers and Representative of Panchayat Raj Institution and Urban District Level
14. Training Regime for Disaster Response
15. Hand Book for Training and Capacity Building of Civil Defence & sister Organisations (part-I)
16. Hand Book for Training and Capacity Building of Civil Defence & sister Organisations(part-II)
17. Managing Crowd at Events and Venues of Mass Gathering
18. Cyclone "Hudhud"-Strategies and lessons for preparing better & strengthen risk resilience in coastal regions of India.

CHAPTER-4

REDUCING RISK AND ENHANCING RESILIENCE

Background:

The Disaster Management Act, 2005 and the National Policy, 2009 marks the institutionalization of paradigm shift in disaster management in India, from a relief-centric approach to one of proactive prevention, mitigation and preparedness. The Policy notes that while it is not possible to avoid natural hazards, adequate mitigation and disaster risk reduction measures can prevent the hazards be coming major disasters. Disaster risk arises when hazards interact with physical, social, economic and environmental vulnerabilities. The National Policy suggests a multi-pronged approach for disaster risk reduction and mitigation consisting of the following:

- Integrating risk reduction measures into all development projects.
- Initiating mitigation projects in identified high priority areas through joint efforts of the Central and State Governments.
- Encouraging and assisting State level mitigation projects.
- Paying attention to indigenous knowledge on disaster and coping mechanisms.
- Giving due weightage to the protection of heritage structures.

In the terminology adopted by the "United Nations International Strategy for Disaster Reduction" (UNISDR), the concept and practice of reducing disaster risks involve systematic efforts to analyze and manage the factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events. While both the terms "Disaster Reduction" and "Disaster Risk Reduction" (DRR) are widely used, the latter provides a better recognition of the ongoing nature of disaster risks and the ongoing potential to reduce these risks. Mitigation consists of various measures required for lessening or limiting the adverse impacts of hazards and related disasters.

The disaster risk reduction and mitigation plan integrate the global targets in to the national efforts and seeks to strengthen significantly India's reliance to both natural and human-induced disasters. The DM Act 2005 defines "Mitigation" as measures aimed at reducing the risk, impact, or effects of a disaster or threatening disaster situation." Goal of mitigation is to minimize risks from multiple hazards and the threats from individual hazards need not always occur in isolation. At times, a hazardous event can trigger secondary events. For example, an earthquake can produce a tsunami or may create flooding or landslides. Similarly, cyclones often lead to flooding and various other cascading events spread over an area wider than the primary event. In addition, demographics, nature of human settlements, and effects of global climate change can magnify the vulnerability of the communities at risk. The DM Plan, therefore, focuses on enhancing the mitigation capabilities for multiple hazards and their likely cascading effects.

Guiding principle of Sendai Framework states that disaster risk reduction requires responsibilities to be shared by different divisions of governments and various agencies. The effectiveness in disaster risk reduction will depend on coordination mechanisms within and across sectors and with relevant stakeholders at all levels. For each hazard, the approach used in national plan incorporates the four priorities enunciated in the Sendai Framework in to the planning framework for Disaster Risk Reduction under the five thematic are as for action.

1. Understanding Risk
2. Inter-Agency Coordination
3. Investing in DRR – Structural Measures
4. Investing in DRR – Non-Structural Measures
5. Capacity Development

For each of these thematic areas for action, a set of major themes have been identified for inclusion in the planning framework.

Understanding Risk:

This thematic area for action focuses on understanding disaster risk, the Priority-1 in the Sendai Framework integrates into it numerous actions needed for strengthening disaster resilience. The major themes for action are: a) Observation Networks, Information Systems, Research, Forecasting, b) Zoning/Mapping, c) Monitoring and Warning Systems, d) Hazard Risk and Vulnerability Assessment (HRVA), and e) Dissemination of Warnings, Data, and

Information. Having adequate systems to provide warnings, disseminate information, and carryout meaningful monitoring of hazards are crucial to disaster risk reduction, and improving resilience. They are also an integral part of improving the understanding of risk.

Inter-Agency Coordination:

Inter-agency coordination is a key component of strengthening the disaster risk governance Priority-2 of the Sendai Framework. The major themes for action required for improving the top-level interagency coordination are a) Overall disaster governance b) Response c) Providing warnings, information, and data and d) Non-structural measures. The central ministries and agencies mentioned are those vested with hazard-specific responsibilities by the Govt. of India or those expected to play major roles in the thematic areas given in the matrix.

Investing in DRR –Structural Measures:

Undertaking necessary structural measures is one of the major thematic areas for action for disaster risk reduction and enhancing resilience. These consist of various physical infrastructure and facilities required to help communities cope with disasters. The implementation of these measures is essential to enhance disaster preparedness, a component of Priority-4 of the Sendai Framework. It is also an important component of investing in disaster risk reduction for resilience, which is Priority-3 of Sendai Framework.

Investing in DRR – Non-Structural Measures:

Sets of appropriate laws, mechanisms, and techno-legal regimes are crucial components in strengthening the disaster risk governance to manage disaster risk, which is Priority-2 of the Sendai Framework. These non-structural measures comprising of laws, norms, rules, guidelines, and techno- legal regime (e.g., building codes) framework and empowers the authorities to mainstream disaster risk reduction and disaster resilience into development activities. The central and state governments will have to setup necessary institutional support for enforcement, monitoring, and compliance hazards relevant to Indian Railways listed below:

1) Train Accidents
2) Cyclone and Wind
3) Floods
4) Seismic
5) Tsunami
6) Landslides and Snow Avalanches

Train Accidents:

1. Collisions
2. Derailments
3. Fire
4. Manned & Unmanned Level Crossing

The "**Responsibility of Zone in Disaster Risk Reduction – Action Framework**" in these type of Disasters mainly pertains to Implementation of "Board's Policies & Guidelines" laid down by the executive departments and Preparedness for facing these situations by conducting mock trial.

Natural Disasters:

1. Cyclone and Wind
2. Seismic
3. Tsunami
4. Landslides and Snow Avalanches

The "**Responsibility of Zone in Disaster Risk Reduction–Action Framework**" in Natural Disasters mainly pertains to:

- Preparation of Implementation of "Board's Policies & Guidelines" laid down by the executive departments
- Adapting of Norms/Codes
- Support & Coordination – for collection of warning Data
- Preparation of detailed maps identifying vulnerable locations
- Coordination with state authorities and disseminate early warning signals to Divisional Authorities
- Implementation of Disaster Management Plan
- Training and orientation of all concerned staff
- Preparedness for facing these situations by conducting mock trials

CHAPTER-5

PREPAREDNESS AND RESPONSE

Background:

Response measures are those taken immediately after receiving early warning from the relevant authority or in anticipation of an impending disaster, or immediately after the occurrence of an event without any warning. The primary goal of response to a disaster is saving lives, protecting property, environment, and meeting basic needs of human and other living beings after the disaster. Its focus is on rescuing those affected and those likely to be affected by the disaster. The UNISDR (United Nations International Strategy for Disaster Reduction Now UNDRR United Nations Office for Disaster Risk Reduction) defines response as "the provision of emergency services and public assistance during or immediately after a disaster in order to save lives reduces health impacts, ensure public safety and meet the basic subsistence needs of the people affected."

Preparedness, as defined by UNISDR, consist of "the knowledge and capacities developed by governments, professional response and recovery organizations, communities and individuals to effectively anticipate, respond to, and recover from, the impacts of likely, imminent or current hazard events or conditions. "Based on the preparedness, the response process begins as soon as it becomes apparent that a disastrous event is imminent and lasts until the disaster is declared to be over. It is conducted during periods of high stress in highly time-constrained situations with limited information and resources. It is considered as the most visible phase amongst various phases of disaster management. Response includes not only those activities that directly address the immediate needs, such as search and rescue, first aid and temporary shelters, but also rapid mobilization of various systems necessary to coordinate and support the efforts. For effective response, all the stakeholders need to have a clear vision about hazards, its consequences, clarity on plans of action and must be well versed with their roles and responsibilities.

Any emergency requires a quick response to save lives, contain the damage and prevent any secondary disasters. In most cases, first responders such as members of Incident Response Teams (IRT) of district, block, or other agencies (medical fire, police, civil supplies, municipalities) manage emergencies immediately at the local level. If an emergency escalates beyond their capabilities, the local administration must seek assistance from the district administration or the State Government. If State Government considers it necessary, it can seek central assistance.

The Cabinet Committee on Security (CCS) deals with issues related to defence of the country, law and order, and internal security, policy matters concerning foreign affairs that have internal or external security implications, and economic and political issues impinging on national security. CCS will be involved in the decision making if the disaster has serious security implications. The National Executive committee (NEC) will coordinate response in the event of any threatening disaster situation or disaster where central assistance is needed. The NEC may give directions to the relevant Ministries/Departments of the Government of India, the State Governments, and the State Authorities regarding measures to be taken by them in response to any specific threatening disaster situation or disaster as per needs of the State.

The National Disaster Management Authority (NDMA) is mandated to deal with all types of disasters; natural or human-induced. The general superintendence, direction and control of the National Disaster Response Force (NDRF) is vested in and will be exercised by the NDMA. The National Crisis Management Committee (NCMC) will deal with major crises that have serious or national ramifications. These include incidents such as those requiring close involvement of the security forces and/or intelligence agencies such as terrorism (counter-insurgency), law and order situations, serial bomb blasts, hijacking, air accidents, CBRN (Chemical, Biological, Radiological, and Nuclear), weapon systems, mine disasters, port and harbour emergencies, forest fires, oilfield fires, and oil spills.

The immediate response in the event of a disaster lies with the local authorities with the support of the State Government. The Union Government supplements their efforts through providing logistic and financial support, deploying NDRF, Armed Forces, Central Armed Police Force (CAPF), and other specialized agencies like in case of CBRN disaster. It will depute experts to assist the State Government in planning and its implementation, during severe natural or human-induced disasters as requested by the State Government.

Institutional Frame work

Chapter-III provided an overview of the institutional arrangements covering all aspects of disaster management. There are specific tasks, role sand responsibilities in the domain of response, which as mentioned before, is the most critical and time-sensitive aspect of disaster management. This section summarizes the function and responsibilities of Ministries and agencies that

have a key role to play in disaster response as per current guide lines. The plan will be updated periodically to reflect any changes in the key roles envisaged to particular ministries or agencies. No single agency or department can handle a disaster situation of any scale alone. Different departments have to work together to manage the disaster with an objective to reduce its impact. Section 37(a) of the DM Act, 2005 mandates that Departments / Ministries of Central Government prepare disaster management plans keeping mitigation, preparedness and response elements into consideration. Sections 22(2), 24,30 and 34 of the DM Act, 2005 have clearly laid down various duties relating to DM to be performed by various agencies.

The institutional arrangements for the response system consist of the following elements:

- Nodal Central Ministries with disaster-specific responsibilities for national-level coordination of the response and mobilization of all the necessary resources.
- Central agencies with disaster- specific responsibilities for Early Warning System sand alerts.
- National Disaster Response Force (NDRF).
- State Disaster Response Force (SDRF).

There will be National Emergency Operations Centre (NEOC) known as NEOC-1 under the MHA and NEOC -2 under the National Disaster Management Authority (NDMA). It will be connected to the following control rooms:

a) All agencies designated to provide early warning information about hazard events
b) State Emergency Operations Centre (SEOC)
c) District Emergency Operations Centre (DEOC)
d) NDRF
e) Integrated Defence Staff (IDS)
f) MEA
g) CAPFs

National Early Warning System:

Central Agencies Designated for Natural Hazard-Specific Early Warnings.

The GOI has designated specific agencies to monitor the onset of different Natural Disasters, set up adequate Early Warning Systems (EWS), and disseminate necessary warnings/alerts regarding any impending hazard, for all those hazards where early warning and monitoring is possible with the currently available technologies and methods. These agencies provide inputs to the MHA, which will issue alerts and warnings through various communication channels. The agencies responsible for EWS will maintain equipment in proper functioning order and conduct simulation drills to test their efficacy.

The details of Central Agencies Designated for Natural Hazard-Specific Early Warnings are detailed below:

SN	Hazard	Agencies
1.	Avalanches	Snow and Avalanche Study Establishment (SASE)
2.	Cyclone	India Meteorological Department (IMD)
3.	Drought	Ministry of Agriculture and Farmers Welfare (MoAFW)
4.	Earthquake	India Meteorological Department (IMD)
5.	Epidemics	Ministry of Health and Family Welfare (MoHFW)
6.	Floods	Central Water Commission (CWC)
7.	Landslides	Geological Survey of India (GSI)
8.	Tsunami	India National Centre for Oceanic Information Services (INCOIS)

On their part, the relevant State Government and district administration shall disseminate such alerts and warnings on the ground through all possible methods of communications and public announcements.

Role of Central Agencies/Departments

The National Emergency Operations Centre (NEOC) will act as the communication and coordination hub during this phase and it will maintain constant touch with early warning agencies for updated inputs. It will inform State Emergency Operations Centre (SEOC) and District Emergency Operations Centre (DEOC) through all the available communication channels and mechanisms. The DM Division of the MHA will communicate and coordinate with

designated early warning agencies, various nodal Ministries, and State Governments. It will mobilize reinforcements from the NDRF, Armed Forces and the CAPFs and put together transportation plans for moving resources. The NDMA will support the overall coordination of response as per needs of MHA. The NDMA will be providing general guidance, and take decisions for the deployment of the NDRF. The NDRF will be deployed as required depending on the request from State Government. They will keep the force in operational readiness at all times.

Coordination of Response at National Level

At the national level, the Central Government has assigned nodal responsibilities to specific Ministries for coordinating disaster-specific responses. As described in Chapter-1, the NEC will coordinate response in the event of any threatening disaster situation or disaster. The State Government will activate the IRTs at State, District, or block level and ensure coordination with the SEOC. The SDMA will provide the technical support needed to strengthen the response system.

It is essential that the first responders and relief reach the affected areas in the shortest possible time. Often, there are inordinate delays due to real constraints imposed by the location, nature of disaster and, most regrettably, due to inadequate preparedness. In many situations, even a delay of six to twelve hours will prove to be too late or unacceptable. To make matters worse, relief tends to arrive in a highly fragmented or uncoordinated form with multiple organizations acting independently of each other without a cohesive plan, without mechanisms to avoid overlaps and without proper prioritization of different aspects of relief such as shelter, clothing, food, or medicine. From an operational perspective, the challenges are similar across most hazards. The NDMA has formulated IRS Guidelines for the effective, efficient, and comprehensive management of disasters. The implementation of NDMA's IRS Guidelines by the States will help in standardization of operations; bring clarity to the roles of various departments and other agencies, which are common to most disaster response situations.

The details of Central Ministries for Coordination of Response at National level are tabulated below:

SN	Disaster	Nodal Ministry/ Dept./ Agency
1	Biological Disasters	Min. of Health and Family Welfare (MoHFW)
2	Chemical Disasters and Industrial Accidents	Min. of Environment, Forests and Climate Change (MoEFCC)
3	Civil Aviation Accidents	Min. of Civil Aviation (MoCA)
4	Cyclone, Tornado, and Tsunami	Min. of Home Affairs (MHA)
5	Disasters in Mines	Min. of Coal; Min. of Mines (MoC, MoM)
6	Drought, Hailstorm, Cold Wave and Frost, Pest Attack	Min. of Agriculture and Farmers Welfare (MoAFW)
7	Earthquake	Min. of Home Affairs (MHA)
8	Flood	Min. of Home Affairs (MHA)
9	Forest Fire	Min. of Environment, Forests and Climate Change (MoEFCC)
10	Landslides and Avalanche	Min. of Home Affairs (MHA)
11	Nuclear and Radiological Emergencies	Dept. of Atomic Energy, Min. of Home Affairs (DAE, MHA)
12	Oil Spills	Min. of Defence/Indian Coast Guard (MoD/ICG)
13	Rail Accidents	Min. of Railways (MoR)
14	Road Accidents	Min. of Road Transport and Highways (MoRTH)
15	Urban Floods	Min. of Urban Development (MoUD)

The state and district administration shall identify sites for establishment of various facilities as mentioned in the IRS guidelines such as Incident Command Post, relief camp, base, staging area, camp, and helipad, for providing various services during the response. The state and local administration must widely disseminate and publicize information about these arrangements as mandated in the SDMP and DDMP. Since disaster response operations are multifaceted, time sensitive, extremely fast-moving, and mostly unpredictable, it requires rapid assessment, close coordination among several departments, quick decision-making, fast deployment of human resources and machinery as well as close monitoring. In order to prevent delays and to eliminate ambiguities with regard to chain of command, the SDMP and DDMP must clearly spell out the response organization as per IRS. These plans must clearly identify the personnel to be deputed for various responsibilities in the IRT at various levels of administration along with proper responsibility and accountability framework. Provision for

implementation of unified command in case of involvement of multiple agencies such as Army, NDRF, CAPF, and International Urban Teams Search and Rescue must be spelt out in the SDMP. From time to time, the DM plan must be tested and rehearsed by carrying out mock exercises.

Fire and Emergency Services (FES):

The primary role of Fire and Emergency Service (FES) is of responding to fire incidents. However, besides fire-fighting, FES attends to other emergencies such as building collapse, road traffic accidents, human and animal rescue, and several other emergency calls. FES also takes part in medical emergencies. The role of FES has become multi-dimensional. The role of FES extends to the domain of prevention, especially in urban areas. FES is an integral part of the group of agencies responding to disaster situations. FES is one of the first responders during the Golden Hour after a disaster and plays a vital role in saving lives and property. Therefore, it is imperative to adequately equip and develop the capacities of FES. Further, continuous training should also be provided to the fire staff in using and maintaining the equipment.

Fire and Emergency Service is a key element in the emergency response system. It comes under the 12^{th} Schedule of the Constitution dealing with municipal functions. At present, States and UTs, and ULBs are managing the FES. The MHA and NDMA will render technical advice to the States, UTs, and Central Ministries on fire protection, prevention, and related legislation. While in several States, FES is under the jurisdiction of Municipal Corporations, in others it is under the respective Home Department. Only a few States have enacted their own Fire Act. As on today, there is no standardization with regard to the scaling of equipment, the type of equipment, or the training of their staff.

In each State it has grown according to the initiatives taken by the States and the funds provided for the FES. Government of India has taken many initiatives to strengthen the techno-legal regime for fire safety. A part from initiating major legal changes, Government is also reviewing many laws that have to be amended. Government of India has also taken steps for institutional reforms and organizational restructuring of FES. However, it is the responsibility of the State Governments to implement the major changes for the modernization of the FES to make them more effective.

Responding to Requests for Central Assistance from States:

Catastrophic disasters like earthquakes, floods, cyclones and tsunami result in a large number of casualties and inflict tremendous damage on property and infrastructure. The Government of India has established a flexible response mechanism for a prompt and effective delivery of essential services as well as resources to assist a State Government or Union Territory severely hit by a disaster. Disaster management is considered as the responsibility of the State Governments, and hence the primary responsibility for undertaking rescue, relief and rehabilitation measures during a disaster lies with the State Governments. The Central Government supplements their efforts through logistic and financial support during severe disasters as requested by the State Governments. Responding to such emergencies stretches the resources of district and State administration to the utmost and they may require and seek the assistance of Central Ministries/Departments and agencies like the NDRF, Armed Forces, CAPF, and Specialized Ministries/Agencies.

Management of Disasters impacting more than one State:

At times, the impact of disasters occurring in one State may spread over to the areas of other States. Similarly, preventive measures in respect of certain disasters, such as floods, etc. may be required to be taken in one State, as the impact of their occurrence may affect another. The administrative hierarchy of the Country is organized into National, State and District level Administrations. This presents challenges in respect of disasters impacting more than one State. Management of such situations calls for a coordinated approach, which can respond to a range of issues quite different from those that normally present themselves – before, during and after the event. The NCMC (National Crisis Management Committee) will play a major role in handing such multi-state disasters. The NDMA will encourage identification of such situations and promote the establishment of mechanisms for coordinated strategies for dealing with them by the States and Central Ministries, departments and other relevant agencies.

Major Tasks and the Responsibilities - Centre and State:

While there are disaster-specific aspects to the post-disaster response, the emergency functions are broadly common to all disaster sand there are specific ministries, departments, or agencies that can provide that emergency response. Besides, very often, there are multiple hazards and secondary disasters that follow a major disaster. Hence, all agencies responsible for response should

follow the NDMA's guidelines, which will help in ensuring proper accountability and division of responsibilities. Different ministries and departments have to provide specialized emergency support to the response effort. Certain agencies of Central Government will play a lead role, while others will be in a supporting role. The SDMA is the nodal agency at the state level for coordination of response. The DDMA is the nodal agency for coordination of response at District level. Various central ministries, departments, agencies, and state governments have to prepare their own hazard specific response plans as per guidelines of the NDMA and in line with the NDMP. They need to ensure preparedness for response at all times and must carry out regular mock drills and conduct tests of readiness periodically, and the ministries/departments must report the status to the NDMA. The major tasks of responses are:

1. Early Warning, Maps, Satellite inputs, Information Dissemination
2. Evacuation of People and Animals
3. Search and Rescue of People and Animals
4. Medical care
5. Drinking Water / Dewatering Pumps / Sanitation Facilities / Public Health
6. Food & Essential Supplies
7. Communication
8. Housing and Temporary Shelters
9. Power
10. Fuel
11. Transportation
12. Relief Logistics and Supply Chain Management
13. Disposal of animal carcasses
14. Fodder for livestock in scarcity-hit areas
15. Rehabilitation and Ensuring Safety of Livestock and other Animals, Veterinary Care
16. Data Collection and Management
17. Relief Employment
18. Media Relations

DISASTER PREPAREDNESS- RESOURCES

The primary responsibility of disaster management rests with the divisions and they should be in full preparedness for effective management of disasters.

Railways are generally self-reliant in carrying out rescue and relief operations as a result of having a well-organized set up including ARMEs and ARTs & SPARTs/SPARMEs. However, major accidents involving heavy casualties in remote areas or in difficult terrain or under adverse weather conditions are possible to be managed efficiently only by mobilizing non-railway resources. Disaster Management mechanism in Railways can be maintained at a high level of preparedness and efficiency by keeping all resources readily available and in good fettle.

Resources:

Resource simply both railway and non-railway men and material including medical, personnel, transport, volunteers, police and fire services. Details of these resources, their location, contact numbers and other details have been identified, compiled and placed in a 'Data Bank'. This Data Bank is available in the Divisional DM Plan Part –II.

Resources available in case of a major accident may be grouped into 4 different units, depending on the time frame within which these can be made available after an accident. These are as follows:

(1)	Resource Unit-I	Railway and non-railway resources available on the Train, and at nearby surroundings.
(2)	Resource Unit-II	Railway resources available at ARMR/ART/SPART/ SPARMEs depots and elsewhere within the Division.
(3)	Resource Unit-III	Railway resources available at ARMR/ART/SPART/ SPARMEs depots and elsewhere on adjoining Zones & Divisions.
(4)	Resource Unit-IV	Non-railway resources available within or Outside the division.

Resource Unit –I:

(a) *On trains carrying Passengers following resources are available:*

(i) First Aid Box available with the Guard.

(ii) First Aid Box available with Train Superintendent and in the Pantry Car as per the laid down norms.

(iii) Portable Telephones.

(iv) PCT as Personal equipment in Electric loco and as Loco equipment in diesel loco.

(v) Fire Extinguishers in Brake Van, AC/ Sleeper coaches, & Pantry cars.

(vi) Walkie-talkie/ CUG mobile phones with Guard and Loco Pilot.

(vii) Cell Phones/Mobile communications with Passengers.

(viii) Information collected by Train Superintendent/Travelling Ticket Examiner about Medical Practitioners travelling on the train.

(ix) Information collected by TS/TTE about Railway Officers travelling on the train.

(x) Railway Staff travelling on the train-either on duty (TTEs, Guard, Loco Pilot, Assistant Loco Pilot, RPF, C&W, Electrical etc. and others) or on leave as passengers.

(xi) Passengers travelling on the train who volunteer their help for rescue and relief work.

(xii) Stretcher in Brake Van

(b) Non-railway resources available nearby:

(i) Volunteers from nearby villages and towns.

(ii) Transport facilities available at site or passing through nearby LC Gates.

(iii) Tractors with trolleys from nearby villages both for transport purposes and for lighting up the accident site.

(iv) Station staff and local railway administration should requisition help from non-railway sources before railways own rescue team arrives.

(v) NGOs working in that area.

(vi) Private doctors, hospitals, clinics, PMCs in the vicinity.
(vii) Police and other agencies of state Governments
(viii) Army or paramilitary establishments nearby
(ix) Coolies and vendors of nearby stations
(x) Such local networks are most effective in rushing assistance immediately, especially with regard to:

- Medical succor,
- Additional manpower,
- Rescue equipment,
- Lighting arrangements,
- Transport services,
- Firefighting tools etc.

(c) Railway resources available nearby:

(i) Engineering gangs.
(ii) OHE staff and signal staff available.
(iii) Other resources such as medical facilities, communication facilities.

(d) At adjoining Stations:

(i) Staff available at adjoining or nearby stations.
(ii) Railway resources as given in respective Divisional DM Plans.
(iii) Non-railway resources as given in respective Divisional DM Plans.
(iv) Resources should be mobilized to send medical team at short notice as given in the respective Divisional DM Plans.

Resource Unit –II:

(i) SPARTs/SPARMEs, ARMEs, ARTs with 140T crane are stabled at nominated stations.
(ii) Railway medical and departmental resources.

Resource Unit–III:

(i) SPARTs/ SPARMEs, ARMEs, ARTs with 140T crane based on adjoining Zones/Divisions.

(ii) Resources of men and material available on adjoining Zones/Divisions.

Resource Unit–IV:

(i) Non-railway resources available within the division-as given in the data book and included in the Divisional DM Plan.

(ii) Non-railway resources available outside the division - as given in the data bank and included in the Divisional DM Plans of adjoining Zones/Divisions.

CHAPTER-6

STRENGTHENING DISASTER RISK GOVERNANCE

Background:

Strengthening disaster risk governance is considered a corner stone of the efforts to understand, reduce and manage risks in global practices (UNDP 2015). UNDP defines disaster risk governance as follows (UNDP2013):

"The way in which public authorities, civil servants, media, private sector, and civil society at community, national and regional levels cooperate in order to manage and reduce disaster and climate related risks. This means ensuring that sufficient levels of capacity and resources are made available to prevent, prepare for, manage and recover from disasters. It also entails mechanisms, institutions and processes for citizens to articulate their interests, exercise their legal rights and obligations, and mediate their differences."

The concept has evolved over the last decade and the current thinking acknowledges that one cannot separate governance of disaster risk from the governance of other types of risks, including those associated with global climate change, environmental degradation, financial crises, and conflict situations (UNDP 2015). From the mid-2000s onwards, governance was commonly accepted as the crux of DRR, with comprehensive efforts underway to increase the DRR capacity of national and local institutions; to strengthen policy, legal and planning frameworks; to develop human and financial capacities; and to promote multi-stakeholder and multi-disciplinary approaches. There is now greater emphasis on accountability, transparency, responsiveness to the needs of those most at risk, and ensuring the rule of law/compliance with legal provisions. These are of crucial importance in disaster risk governance.

Sendai Framework and Strengthening Disaster Risk Governance:

The Sendai Framework states that disaster risk governance at different levels is of great importance for an effective and efficient management of disaster risk. It also requires clear vision, plans, competence, guidance, and coordination within and across sectors, as well as participation of relevant stakeholders. Strengthening disaster risk governance is necessary to foster collaboration and partnerships for the implementation of disaster risk reduction and sustainable

development. The Sendai Framework lays emphasis on the following to strengthen disaster risk governance:

a) Mainstream and integrate disaster risk reduction within and across all sectors and promote the coherence and development of relevant laws, regulations, and public policies. It must guide both the public and private sectors through the legal framework that clearly spells out the roles and responsibilities. It must address disaster risk in publicly owned, managed, or regulated services and infrastructures. It must encourage actions by persons, households, communities, and businesses. It has to enhance relevant mechanisms and initiatives for disaster risk transparency. It must put in place coordination and organizational structures.

b) Adopt and implement disaster risk reduction strategies and plans, across different levels (local to national) and timescales, aimed at preventing the creation of risk, the reduction of existing risk and the strengthening resilience – economic, social, health and environmental.

c) Carry out assessment of the technical, financial and administrative disaster risk management capacity to deal with the identified risks at different levels.

d) Promote necessary mechanisms and incentives to ensure high levels of compliance with the safety-enhancing provisions of laws and regulations, including those addressing land use, urban planning, building codes, environment, resource management, health and safety standards, and update them, where needed, for better disaster risk management

e) Develop and strengthen mechanisms to periodically review and assess the progress on various DM plans as well as encourage institutional debates, including by parliamentarians and relevant officials, on DRR plans.

f) Assign clear roles and tasks to community representatives within disaster risk management institutions and processes and decision-making through relevant legal frameworks, and undertake comprehensive public and community consultations during the development of such laws and regulations to support their implementation.

g) Establish and strengthen government coordination forums composed of relevant stake holders at the national and local levels, such as national and local platforms for disaster risk reduction.

h) Empower local authorities, as appropriate, through regulatory and financial mechanism to work and coordinate with civil society, communities and indigenous people and migrants in disaster risk management at the local level

i) Work with parliamentarians for disaster risk reduction by developing or amending relevant legislation and setting budget allocations

j) Promote the development of quality standards, such as certifications and awards for disaster risk management, with the participation of the private sector, civil society, professional associations, scientific organizations and the United Nations

k) Formulate relevant public policies and laws aimed at addressing issues of prevention or relocation, where possible, of human settlements in disaster risk-prone zones.

Initiatives taken by Ministry of Railways for strengthening Disaster Risk Governance*:*

Ministry of Railways has taken a number of initiatives for strengthening Disaster Risk Governance as per Sendai Framework for Disaster Risk Reduction. Some of the important initiatives taken to reduce the accidents and improve safety are asunder:

Measures to Improve Safety:

- **Safety Focus**- To reduce accidents caused by human errors, a multi-pronged approach with focus on introduction of newer technologies, mechanization of maintenance, early detection of flaws, etc. to reduce

human dependence in the first place, along with upgrading the skills of the human resources were the prime drivers for accident prevention.

- **Periodical Safety Audits-** Periodical Safety Audits of different Divisions by multidisciplinary teams of Zonal Railways as well as Inter-Railway Safety Inspections were conducted on regular basis.

Training facilities - Special emphasis is being laid on training of Railway Officials specially those looking after areas connected with safety.

Infrastructural Inputs:

'Rashtriya Rail Sanraksha Kosh (RRSK)' has been introduced in 2017-18 for replacement / renewal / up gradation of critical safety assets, with a corpus of Rs.1 lakh Cr. over a period of five years, having annual outlay of Rs.20, 000 Cr. The Funds under RRSK are utilized for safety works relating to Traffic Facilities, Rolling Stock, Level Crossings, Road Over/Under Bridges, Track Renewal, Bridge Works, Signal and Telecommunication Works, other Electrical Works, TRD Works, Machinery and Plant, Workshops, Training/HRD, Passenger Amenities and Other Specified Works.

Ministry of Finance has issued 'Guidelines for Operation of Rashtriya Rail Sanraksha Kosh (RRSK)', which inter alia, includes Monitoring Framework for RRSK. It stipulates setting up of Monitoring Committee headed by CEO/ NITI Aayog to examine performance. It is also laid down that the progress will be reviewed annually by Cabinet Committee on Economic Affairs headed by Hon'ble Prime Minister.

Measures to avoid Collisions:

To increase efficiency and to enhance safety in train operations, **Advanced Signaling System** with Panel Interlocking/ Route Relay interlocking/ Electronic Interlocking (PI/RRI/EI) along with Multi Aspect Colour Light Signals have been progressively provided at 94% of the interlocked Broad-Gauge stations on Indian Railways, replacing the obsolete Multi Cabin Mechanical Signaling System, that involved a large amount of human intervention. **Route Relay Interlocking (RRI)** has been provided on every major yard of Indian Railways for efficient and safe movement of trains.

To avoid collisions technological aids are briefly enumerated below: -

- **Complete Track Circuiting at stations: -**

  Track Circuit is one of the most important safety aids provided at the stations, which has reduced collisions in station area. A major thrust has been given to track circuiting at stations.

- **Block Proving Axle Counter (BPAC): -**

  To enhance safety, for automatic verification of complete arrival of train at a station, Block Proving by Axle Counter (BPAC) is being provided at stations having centralized operation of points and signals.

- **Automatic Block Signaling: -**

  For augmenting Line Capacity and reducing headway on existing High-Density Routes on Indian Railways, Automatic Block Signaling is being provided. This results in track circuiting of large portion of the track which leads to enhanced safety.

- **Automatic Train Protection (ATP) System:**

  In order to enhance safety in Train operations, Indian Railways has decided to provide Automatic Train Protection (ATP) System using a mix of proven European Train Control System (ETCS) level 2 and an indigenously developed Train Collision Avoidance System (TCAS). The system will be an aid to Loco Pilot, which will help to eliminate accidents due to Signal Passing at Danger (SPAD) and over speeding, ensure visibility of signals in foggy weather in addition to increasing line capacity.

- **Centralized Traffic Control (CTC) in Indian Railways: -**

  Centralized Traffic Control is a computer-based system which facilitates the control and management of multiple Signaling installations at various stations from a single location. It also provides a real time simulation of railway traffic in a section at a single location. The CTC operator can directly see the train's locations on an electronic display panel and efficiently control the train's movements by operating signals and points centrally.

Train Management System (TMS): -

It is another area of technology up gradation for Centralized Monitoring and Management of Train traffic already functional on Mumbai Suburban section of Western Railway and Central Railway, provides live train movements in the Control Centre.

Measures to Reduce Derailments:

- To improve safety, Indian Railways (IR) has been using Pre-stressed Concrete sleepers (PSC) which are economical and functionally best suited for high speed and heavy density traffic. PSC sleepers are being used for all renewals, new lines, doubling, gauge conversion, etc.

- A new design of wider sleeper has been developed and adopted. The new design is considered to be functionally better than the present design. The wider and heavier sleepers offers higher frame resistance, less stress on ballast and rail pad, improving reliability and maintain ability of track.

- Up gradation of Track Structure consisting of pre-stressed Concrete (PSC) sleepers, 60 Kg high strength 90 UTS (90 N/mm^2 Ultimate Tensile Strength) rails on concrete sleepers, fan shaped layout on PSC sleepers, Steel Channel Sleepers on girder bridges has been adopted on most of the routes.

- Standardization of track structure with 60 Kg Rails and PSC Sleepers: Track structure is being standardized with 60 kg rails and PSC sleepers on all the Broad-Gauge routes, especially on high density routes to reduce fatigue of rails under higher axle-load traffic. New track construction and replacement of over-aged tracks is being done by PSC sleepers only.

Rail Fracture –

Rail / weld failures are potential safety hazards. Advanced Railway systems are using the systems, which alerts all concerned incase of failures and train operations are controlled to prevent consequential train accidents.

In-motion Weighbridges –

The in-motion weighbridge helps detect overloading in wagons. This reduces fatigue of rail/welds and, therefore, reduces chances of fracture. Installation of in-motion weighbridges is done as and when required as per changes in traffic pattern and emergent requirements and is a continuous process.

Long welded rails:

For improving maintenance and better asset reliability, Railways are consistently eliminating fish plated joints on tracks by welding the joints to convert all single rails into long welded rails to the extent possible. During relaying/construction of new lines/gauge conversion also, long welded rails are laid on concrete sleepers to the extent possible. Mobile Flash Butt welding is being done on priority in construction projects.

Flash Butt Welding:

- Flash Butt Welding of rails on IR is carried out by using Stationary plants and Mobile machines.
- FBW is done using electrical current and enough heat is generated by using the resistance of rails. No external material is used and Welding takes place by fusion of parent rail metal.
- Approval of Quality Assurance Plan and Welding Parameters are Standardized by RDSO for both Stationary and mobile plants before execution of Work.
- FB Welding is carried out as per Indian Railways Manual for Flash Butt Welding of Rails, 2012 (FBWM).

Direct supply of 260 m long rail panels from steel plants:

Railway has started production of 260 m long rail panels (having only one flash Butt weld at middle) at steel plants, which are being transported directly to relaying sites. Now onwards 80% of total requirement of rails will be supplied in 260 m long panels and remaining 20% in form of free rails (10% of 13 m length and 10% of 26 m length). With the help of these panels numbers of welded joints will reduce substantially. This will reduce potential of Rail/Weld failures.

Measures Taken to Prevent Fire in Trains:

Instructions have been issued for provision of the following items in coaches during manufacturing at Production Units to improve the safety features of these coaches:

- Fire detection and suppression system in all newly manufactured Power Cars and Pantry Cars.
- Fire and Smoke detection system in all newly manufactured AC coaches.
- Double Acting AC compartment doors in all newly manufactured AC coaches.
- Fire extinguishers in all newly manufactured non-AC coaches.
- Automatic plug type doors in all newly manufactured Humsafar and Uday train coaches.

Apart from this, the existing AC coaches are being retro fitted with Fire and Smoke detection system and existing Power Cars & Pantry Cars are being provided with Fire detection and suppression system.

Curbing Fire hazards in Pantry Car:

- With a view to curb fire hazards in pantry car, Board has issued guidelines for upkeep of pantry car equipment to ensure that all equipment and gadgets are in working order and in safe condition.
- Electrical gadgets in Pantry Cars should be operated only by the authorized electrical staff, nobody else.
- Zonal Railways have been advised to remove the card board cartons after loading the food articles and they are to be kept in containers made up of fire-retardant materials such as insulated metallic boxes.
- Ticket checking staff should permit only those persons in Pantry Car &Power Car (Railway Staff and Pantry Car Staff) whose names are appearing in reservation chart of pantry car and Power Car and having valid travel authority.

Fire detection and suppression system at important installations:

Fire at vital installations paralyses the train movements. Fire detection system is being provided at vital installations. Firefighting equipment is being provided at such installations. Staff has been trained to use these equipment's.

Measures to Curb Accidents at Level Crossings:

Various measures taken by Indian Railways to prevent accidents at level crossings are as under:

(a) **Elimination of Level Crossing:**

Level crossings are meant to facilitate the smooth running of traffic in regulated manner governed by specific rules & conditions. Indian Railway has decided to progressively eliminate the level crossings for the safety of Road users and train passengers.

(b) **Provision of Road Over/Under Bridges:**

To improve safety of train operations and reduce inconvenience to road users, level crossings are being replaced by Road Over/Under Bridges/Subways (ROBs/RUBs) in a phased manner based on the quantum of traffic.

(c) **Interlocking of Level Crossing Gates:**

Interlocking with Signals to enhance the safety at Level Crossings.

Better and Safer Coaches:

Design of lightweight, stainless steel passenger coaches has been procured through a Transfer of Technology (TOT) contract from M/s Linke Hofmann Busch (LHB) of Germany. The coach provides better ride index at higher speeds. The design provides a higher safety level as a result of modern technology in use in the design of high-speed bogies.

LHB coaches have better riding, aesthetics, higher passenger capacity and safety features as compared to conventional Integral Coaches Factory (ICF) coaches. The Production of LHB coaches in production Units has continuously increased over the years. Only LHB coaches are being manufactured from April 2018 onwards.

Prevention of Accident Due to Fog:

Zonal Railways should ensure that the staff are advised and counseled regarding provisions in the General & Subsidiary Rules (G & SRs). Every Crew to be imparted necessary training for up to two days about the system of working of trains during fog. With the use of fog devices in locomotives, the maximum permissible speed during foggy/ inclement weather condition is enhanced from 60 KMPH to 75 KMPH.

Provision of Fog Safe Device: Reliable Fog Safe Devices may be provided to the Loco Pilots in all locomotives running in fog affected areas during foggy weather. Placement of detonators under conditions as contained in Railway Board's letter No.98/Safety (A&R)/19/16 dated 23.10.2018 shall be dispensed with necessary works like adequate supply of detonators, fitting of LED flasher tail light, painting of Signal sighting Boards, fog signal posts, whistle boards etc. should be completed before onset of winter/foggy season.

- Reduced movements in the coaching yards, approach to terminals and at/near terminals etc. has to be done to reduce pressure on congested areas.
- Fog affected Railways should review the crew changing location.
- Placement of Visibility Test Object (VTO).

Precautions to be taken by Loco Pilot during Fog:

When Loco Pilot feels that visibility is restricted due to fog, the speed shall in any case not be more than 75 KMPH. Incase Fog device is not available in locomotives or the device fails en-route the maximum speed of 75 kmph as indicated above shall be reduced to 60 kmph or less subject to judgment of Loco Pilot (Railway Board's letter No. 98/Safety(A&R)/19/16 dte.25.10.2019)

- LP to whistle frequently to warn gateman and road users at level crossings.
- In Automatic Block territory the speed will be subject to the judgment of the LP i.e., after passing Automatic Stop Signaling Green, Double yellow and at Yellow the speed not to exceed 75 Kmph, 30 Kmph and at a further restricted speed so as to be prepared to stop at next stop signal respectively.

Other Measures:

- **Constant Review of Safety Performance at Board's apex level** –

  Safety performance is invariably reviewed as a first item on Agenda of Board Meeting at the apex level. All accidents are analysed in detail so that remedial measures can be initiated.

- **Safety Review meeting with Zonal Railways–**

  Chairman and Board members have conducted Safety Review Meetings with General Managers and PHODs of zonal railways during their visits as well as through videoconference.

- **Intensive Footplate Night Inspections –**

  Intensive Footplate Inspections including night inspections have been conducted at the level of SAG, branch officers and supervisors in the field.

- **Regular Safety Drives & awareness campaigns –**

  Safety drives and awareness campaigns have been launched from time to time, covering the lessons learnt from recent train accidents so as to prevent similar accidents in future.

- **Bridge Inspection and Management System:**

  Modern Bridge Inspection techniques have been adopted, which includes testing by non-destructive testing equipment, under water inspections, monitoring the water level with the help of water level system etc.

- **Patrolling of Railway Tracks:**

  During adverse weather conditions patrolling of railway tracks including night patrolling is carried out at vulnerable locations regularly.

- **Vigilance Control Device-**

  All electric and Diesel locomotives are equipped with vigilance control devices (VCD) to ensure alertness of Loco Pilot.

CHAPTER-7

CAPACITY BUILDING TO HANDLE DISASTER

Capacity Development –An Over view:

Capacity development covers strengthening of institutions, mechanisms, and capacities at all levels of all stakeholders. The United Nations International Strategy for Disaster Reduction (UNISDR) defines 'Capacity Development' for DRR as follows:

"The process by which people, organisations and society systematically stimulate and develop their capability over time to achieve social and economic goals, including through improvement of knowledge, skills, systems, and institutions – within a wider social and cultural enabling environment." (UNISDR, 2009)

It is an important component of investing in disaster risk reduction. In the domain of disaster risk management, the Sendai Framework emphasizes the need for enhancing the technical, financial, and administrative capabilities of institutions, governments, and communities to deal with the identified risks at different levels. The framework calls for reinforcing the capacity to implement, and enforce risk reduction measures. Capacity development commonly refers to a process that is driven from the inside and starts from existing capacity assets. The framework underlines the need for capacity development of women in disaster management and building their ability to participate effectively in managing disaster risk.

Investing in capacity development for DRR will be a continuing process to enhance the capability of individuals, agencies, and communities to improve the performance of their DM functions. The process of capacity building will include elements of human resource development, i.e., individual training, organizational development such as improving the functioning of groups, and the strengthening of organizations, regulations, and institutions. Involving stakeholders through participatory approaches is essential to establish ownership and commitment. The sustainability of capacity development initiatives increases in direct relation to the level of participation and ownership

of the internal partners. In order to capacity development for disaster risk reduction to be effective, it must be clear in its purpose.

As capacity development entails activities at various levels, i.e. legal and institutional frameworks, systems of organizations, human and material resources, it is necessary to address challenges on all of them by implementing a mix of activities, on short and long term. The reason for this is that changes at one level often require changes at other levels too, as the levels are interdependent. Therefore, the focus of many capacity development efforts for DRR must go beyond human resource development and pay enough attention to organizational and institutional issues. Public and private investment in disaster risk prevention and reduction through structural and non- structural measures are essential to enhance the resilience to disasters. Investing in capacity development is the cost-effective way to save lives, prevent or reduce losses and ensure effective recovery and rehabilitation.

The NPDM 2009 underlines the need for a strategic approach to capacity development and notes that the active and enthusiastic participation of various stakeholders is necessary for it to be effective. The national policy notes that capacity development must address the challenge of "putting in place appropriate institutional framework, management systems and allocation of resources for efficient prevention and handling of disasters."

Capacity Development Themes:

The capacity development covers all aspects of disaster management. The key aspects and broad thematic areas for capacity development applicable to these dimensions of DM are summarized in Table below. The effort will be to follow the emerging best practices.

Table 7-1: Summary of Broad Capacity Development Themes:

Capacity Development Themes	
Key Aspect	**Thematic Areas**
Prevention or mitigation for disaster risk reduction	**Hazards, Risk, and Vulnerability Assessment** • Human resource development • Institutional strengthening • Launching demonstration projects • Safety education in educational institutions • Improve the awareness and preparedness of stakeholders at all levels Documenting lessons from previous disasters and ensuring their wide dissemination • Preparing DM plans, regular updating, and mock drills • Institutional arrangements, policies, legal support, and regulatory framework • Developing appropriate risk transfer instruments by collaborating with insurance companies and financial Institutions • Strengthening early warning systems • Main streaming of disaster risk assessment, mapping and management into development plans and programs • Revision of building codes and standards for rehabilitation reconstruction practices both for urban and rural areas • Retro fitting techniques • Rapid visual surveys for safety evaluation of buildings • Training and skill development for masons and other artisans. • Reinforce systems to implement, monitor, and enforce regulations for DRR to promote disaster-resistant built environment • Promoting community-based DM taking into account specific needs, regional diversities and multi-hazard vulnerabilities • Design and implement social safety-net mechanisms, including community- based systems • Disaster resilience of health care systems by integrating disaster risk management into primary, secondary and tertiary healthcare

	• Business resilience, and protection of livelihoods and productive assets throughout the supply chains, ensure continuity of services and • Integrate disaster risk management into business models and practices Preparedness and response plans at all levels. • Community-based DRR and DM
Effective preparedness and response	**Emergency response capabilities** – EOCs, infrastructure, equipment upgrades and adoption of best available technologies • Strengthening of the Fire and Emergency Service through revamping, institutional reforms, and modernization • Adoption and adaptation of emerging global good practices • Rigorous training and HRD of first responders • Early warnings, maps/ satellite data/ effective dissemination of information • Table-top exercises, simulations, and mock drills to improve operational readiness of the plans • Rescue equipment at all levels • Systems to provide basic services in emergencies • Housing and Temporary shelters • Medical care for casualties, health care and sanitation • Power and fuel supply management • Transportation systems and network • Logistics and supply chain management • Media relations • Managing the dead, disposal of animal carcasses, and debris • Collection and management of data • Legal services/support
Recovery and Build Back Better	• Post-Disaster Needs Assessment systems and expertise • Credible damage assessment mechanisms and expertise • Planning capabilities to ensuring coherence of BBB with overall development efforts and goals • Studies and research for incorporating resilience into BBB models. • Studies on past disasters and recovery to draw useful lessons

The NPDM 2009 envisages a pivotal role for the National Institute of Disaster Management (NIDM) in the area of capacity building. Similarly, the State Disaster Management Institutes and ATIs should play a lead role in the States/ UTs. The NPDM envisages capacity development in the domain of DM at all levels of government and across various autonomous institutions. It also stresses the importance of capacity development efforts to promote community-based DM efforts. The policy notes that to sustain DRR, it is necessary to undertake capacity development across the education sector covering schools to professional institutions. It recognizes that skill development in all sectors to incorporate multi- hazard resistant features along with strengthening of relevant licensing, certification, and standards.

National Institute of Disaster Management (NIDM) and other Institutions:

The NIDM, in partnership with other research institutions has capacity development as one of its major responsibilities, along with training, research, documentation and development of a National level information base. It will network with other knowledge-based institutions and function within the broad policies and guidelines laid down by the NDMA. It will organise training for trainers, DM officials and other stakeholders. The NIDM will strive to emerge as a 'Centre of Excellence' in the field of Disaster Management. The NIDM will play an important role in developing and facilitating the implementation of a National training schedule for DM. It will also be the nodal institution for Regional and International cooperation for training. There are a number of renowned institutes in various States, which are imparting training in DM. These will be strengthened with financial assistance and such efforts will be replicated by other States/UTs. Also, the DM cells in all Administrative Training Institutes, Police Academies, State Institutes of Rural Development, Training Centres of five CAPFs from where NDRF is drawn up (BSF, CRPF, CISF, ITBP, and SSB) and the NDRF Academy, Nagpur will contribute most significantly in developing DM related skills. The capacity of existing institutes needs to be upgraded in accordance with regional and local requirements.

Capacity Development of Local Bodies – Rural and Urban:

The capacities of Panchayats and ULBs have to be developed in the sphere of disaster management. Without adequate capacity development, the local bodies cannot contribute effectively to disaster management or in ensuring the proper implementation of DM plans. Capacity development is also necessary for true empowerment of the bodies of local self-governance. The elected leaders and

officials of Panchayats and ULBs should be trained to competently handle different types of crises, contribute to disaster preparedness, make proper use of available warnings, organize operations such as search, rescue, relief, medical assistance, and carry out damage assessment. They should also have sound understanding of the needs of proper post-disaster rehabilitation. The local leadership can play a big role in disaster management in all stages and in DM planning. Capacity development must aim at increasing the competence of local bodies in all aspects of disaster management, mainstreaming DRR, and in promoting a culture of disaster prevention and DRR. The capabilities of the local bodies have to be developed in financial, technical, and managerial spheres. The state level training institutes (ATI, SIDM, and others) will develop need-based training programs for the capacity development to rural and urban local bodies.

Training Communities:

Enhancing the capacity of communities, as they are the first responders to disasters, is a significant part of the capacity development process. The Sendai Framework notes the need to build the knowledge of civil society, communities, and volunteers on disaster risk reduction. Capacity building has to include awareness, sensitization, orientation, and developing skills of communities and community leaders. Assistance from NDRF, Civil Defense, civil society organizations, local community- based organizations, and Self-Help Groups will be encouraged. The overall responsibility to give impetus to leadership and motivation will rest with local authorities, PRIs and ULBs under the overall guidance of State and District authorities.

National and State Disaster Resource Networks:

Indian Disaster Resource Network (IDRN) is a portal providing nation-wide inventory of DM-related resources covering almost all the basic needs. It is a web-based platform, form an aging the inventory of equipment, skilled human resources and critical supplies for emergency response. Primary focus of IDRN portal is to enable the decision makers to find answers on availability of equipment and human resources required to combat any emergency situation. At the State-level, Government of India has encouraged each state to establish its own State Disaster Resource Net ***Capacity Development – Ministries and States:***

The Central Ministries, departments and agencies as well as the State Governments will take actions for capacity development of different stakeholders as shown in Table 7-2 given below on the basis of proper capacity development needs assessment.

Table 7.2 Summary of Capacity Development

	Task	**Central**	**Activities**	**Responsibility in Railways**
1.	Deploying good resources, advanced technology and equipment	GoI, NDMA, MHA, All Nodal Min./ Dept.	Identifying existing ones Identification of gap between existing ones and those required on the basis of hazard risk and vulnerability and lessons learnt from recent past disasters. Procurements of additional equipment with advanced Technologies	Respective Directorates to identify gaps and initiate action.
2.	Strengthening training institutes for disaster management.	NIDM, MoHRD, MHA, NDMA	Research and extension support grants Create/strengthen state level DM institutes.	Establishment directorate.

National Disaster Response and Mitigation Funds:

Disaster Management to be inbuilt in Developmental Plans:

The National Policy on Disaster Management provides for development of the Disaster Management handling capability by each Ministry/Department of the Central Government as also by the State Government. As per the policy, NDMA will ensure mainstreaming of disaster risk reduction in developmental agenda in all existing and new developmental programmes and projects shall incorporate disaster resilient specifications in the design and construction. The Niti Aayog will give due weight age to these factors while allocating resources.

Responsibilities of the Central Ministries and Departments:

The National Policy on Disaster Management lays down that all Central Ministries and Departments will prepare their DM Plans and where funds are being asked for to improve Disaster Management capability including the financial projections to support these plans. The necessary budgetary allocations will be made as part of the Five Year and Annual Plans.

National Disaster Response and Mitigation Funds:

As per the National Policy on Disaster Management, a National Disaster Response Fund may be constituted as mandated in the Act. The National Response Fund will be applied by the National Executive Committee (NEC) towards meeting the expenses for emergency response, relief and rehabilitation, in accordance with the guidelines laid down by the Central Government in consultation work (SDRN) portal on the pattern of IDRN with the NDMA.

The proposal of merger of National Calamity Contingency Fund (NCCF) with the National Disaster Response Fund shall be as recommended by the Finance Commission from time to time. Similarly, as mandated by the Act, the National Disaster Mitigation Fund (NDMF) may be created for projects exclusively for the purpose of mitigation.

Modernization of Relief/Rescue during Disasters:

The National Policy on Disaster Management provides that all Central Ministries and Departments of the Central Government and of the States will build capacity to handle different types of Disasters based on guidelines issued by the NDMA. Helicopter based relief rescue missions on par with similar arrangements existing in Western world can also be used extensively for Mass Casualty Evacuation and for providing relief where required. For Railways own Disaster situation like a major train accident where the site is not approachable by rail or by other road vehicles this would be the only means of relief. All Zonal Railways may obtain details of Government and Private Helicopter services and the contact numbers of their operators to be contacted in advance. The Disaster Management Plan of the Zonal Railway and the Divisions should make a mention of the helicopter service providers. If these services are not available on one Zonal Railway, they may contact the nearest Zonal Railway where they are available to be called upon in a Disaster situation. We have to have a total paradigm shift in the manner in which serious train accident relief is to be managed in the second decade of the 21stcentury. A much more radical approach would be gradually need to be introduced that what is existing on date.

Sensitive installations of Railways need to be identified. All Zonal Railways need to define sensitive installations and infrastructure. These should be ones which would cripple the Railways primary objective of transportation. For instance, Control Rooms; Microwave Towers; Telephone Exchanges; PI/EI/RRI of Junction Stations, Major Bridges, Tunnels of long lengths, Hospitals etc. are very sensitive/vulnerable locations.

Terrorist attacks on a freight train carrying inflammables:

Railways have an excellent liaison with the Oil Companies due to the transport to their commodities viz. Motor Spirit, HSD, Naphtha etc. Traditionally we have always made use of their firefighting equipment along with the expertise in fire control available with them. Gradually, Railways have to develop both the expertise through training in the Railways Rescue, Relief Training Institute being set up at Bangalore and also procure latest technology firefighting equipment

CHAPTER-8

DISASTER PREPAREDNESS –ARMVs/ARTs

1. ACCIDENT RELIEF MEDICAL VAN (ARMV)

ARME Scale-I –

Equipment stored in Special Medical Relief Vans stabled in separate sidings.

- Location of ARME Scale-I are given below: -
- One key of the Van is available with the Loco foreman or Station Master in a glass fronted case.
- Other key is with the doctor in charge of the ARMV.
- Medicines and equipments are provided as per Rly. Board norms.
- Keys of all locks inside the ARMV are also in duplicate. One set of keys is kept with the medical officer in charge of ARMV and the other set of keys are kept in a glass fronted case inside the ARMV.
- The target time for turning out of SPARMV/ARMV is 15 minutes in Single exit and 25 minutes in the double exit from the time of sounding of Hooter.

1.1 LOCATION OF SPARMV/ARME

DIVN	DEPOT	SPARMV/ARME			
		Brake	Load	Cold cutting equipment	Speed Kmph
DNR	DNR	AB	3=6	Yes	110
	JAJ	AB	2=4	Yes	100
DDU	DDU	AB	3=6	Yes	110
	GAYA	AB	2=4	Yes	100
DHN	DHN	AB	3=6	Yes	110
	BRWD	AB	2=4	Yes	100
	CPU	AB	3=6	Yes	110
SEE	SEE	AB	3=6	Yes	110
	BJU	AB	2=4	Yes	100

SPJ	SPJ	AB	3=6	Yes	110
	NKE	AB	2=4	Yes	100
	SHC	AB	2=4	Yes	80

1.2. **ACCIDENT RELIEF MEDICAL EQUIPMENT –II**

(i) Locations of ARME Scale II are given below: -
(ii) The medical equipment is kept sealed without any lock.
(iii) The Scale II room has duplicate keys.
(iv) One is with the Medical officer and the other is in Station Master's Office.
(v) These are to be taken out and rushed to the site of an accident by any train or available road vehicle.

Section wise chart for requisition of ARMV from the affected division & adjoining Zone/ Division

S.N.	DIV	Section	First End	Other end	2 Extra ARMV	Remarks
1	DHN	(I)DHN -PKA	DHN	ASN **	GAYA, JAJ	**(ER)
		(II) DHN -MPO	DHN	GAYA	DDU, ASN#	
		(III) DHN -PEH	DHN	ASN **	JAJ, GYA	
		(IV)DHN -CRP/GMO	DHN	BKSC ***	ASN **, BRWD	*** SER
		(V) GMO /CRP-BRWD	DHN	BRWD	BKSC ***, DDU	
		(VI)BRWD-CPU	BRWD	CPU	DDU, ALD****	**** NCR
		(VII) CPU SGRL /KRSL /MHD	CPU	NKJ	ALD, JBP*****ALD / BRWD, JBP	***** WCR
2	DDU	(I) DDU-GAYA (MA)	DDU	GAYA	BRWD, DHN	
		(II)DOS -GHD	DDU	BRWD	GAYA, CPU	
		(III)KQR -HZD	GYA	DHN	BRWD, JAJ	
		(IV)KQR -KAWAR	GYA	DHN	BRWD, JAJ	
3	DNR	(I) JAJ -DNR	JAJ	DNR	ASN, DDU	
		(II) KEV, GAYA	JAJ	GAYA	DNR, DDU	
		(III) DNR- DDU (including DLN -TRG)	DNR	DDU	JAJ, ALD	
		(IV) FTU - IPR* BKP-RGD*	DNR		JAJ	*Single entry point

		(V) PNBE- GAYA	DNR	GAYA	DDU, DHN	
		(VI) DHWN- BEHS	DNR	JAJ	DHN, BRWD	
4	SEE	(I)KIR-BJU	KIR	BJU	NJP******, SEE	****** NFR
		(II) SEE-SPP Via HJP	SEE	BJU	KIR ******, CI *******	******* NER
		(III)SEE-MFP-DOL	SEE	BJU	DNR,	
		(IV)SEE-MFP-NKE	SEE	BJU	DNR, GKP	
		(V)SGL-RXL	SEE	BJU	DNR, GKP	
		(VI) SEE- CI	SEE	CI	BJU, GKP *******	
		(VII) SPJ-DOL	BJU	SEE	KIR, CI	
		(VIII)BJU—MNE-KIR	BJU	KIR	NJP, DNR	
		(IX)BJU-MNE-SHC	BJU	SEE	KIR, DNR	
		(X)BJU -SPJ-DBG	BJU	SEE	SEE ,DNR	

5	SPJ	(I) SPJ - DBG*	BJU	SEE		*Single entry point
		(II) MNE -SHC *	BJU	KIR		-
		(III)MFP -VKNR	SEE	GKP	BJU, GD	
		(IV) SGL - RXL*	SEE	GKP	BJU, GD	*Single entry point
		(V) KVC-PNYA	SEE	GKP	BJU, DNR	
		(VI) SMI - RUSD -MFP	SPJ	GKP	BJU, DNR	

1.3 SECTION WISE CHART FOR REQUISITIONING OF ART, ARMVS CRANE FROM DIVS & ADJOINING ZONES/DIVISIONS FROM BOTH END

S. No.	DIV	Section	First End	Other end	2 Extra 140T BD Crane	Remarks
1	DHN	(I)DHN -PKA	DHN	ASN **	HWH, DDU	**(ER)
		(II) DHN -MPO	DHN	DDU	ASN, DNR	
		(III) DHN -PEH	DHN	ASN **	BRWD, DDU	
		(IV)DHN -CRP/GMO	DHN	BKSC***	ASN ** ,BRWD	*** SER
		(V) GMO /CRP-BRWD	DHN	BRWD	BKSC *** ,DDU	
		(VI)BRWD -CPU	BRWD	DHN	DDU, DNR	**** NCR
		(VII) CPU SGRL /KRSL /MHD	CPU	NKJ	CNB, DDU, JBP	***** WCR
2	DDU	(I)DDU -GYA (MA)	DDU	GYA	BRWD, DHN	
		(II)DOS -GHD	DDU	BRWD	GYA,CPU	
		(III)KQR -HZD	GYA	DHN	BRWD, JAJ	
		(IV)KQR -KAWAR	GYA	DHN	BRWD, JAJ	
3	DNR	(I) JAJ -DNR	JAJ	DNR	ASN, DDU	
		(II) KEV ,GYA	JAJ	GYA	DNR,DDU	
		(III) DNR -DDU (including DLN -TRG)	DNR	DDU	DHN, ALD	
		(IV) DNR- FTU - IPR*, BKP -RGD*	DNR		DDU	*Single entry point
		(V) DNR-PNBE-DDGJ	DNR	-	JAJ	*Single entry point
		(VI) PNBE -GYA	DNR	GYA	DHN, DDU	
		(VII) DHWN - BEHS	DNR	JAJ	DHN, BRWD	
4	SEE	(I)KIR -BJU	KIR	SEE	NJP, DNR	****** NFR
		(II)BJU -SEE Via SPP	KIR	SEE	DNR, GKP	******* NER
		(III) SEE -CPR-SV	SEE	GKP	GD, DNR	
		(IV) SEE-CPR-PEP-ARJ	SEE	GKP	GD	
		(V) SEE-CPR-PEP-IAA	SEE	GKP	GD	
		(VI) BJU -HJP Via MFP -SPJ	SEE	GKP	GD,DNR	
		(VII)SEE-BCA-BJU -KIR	SEE	ASN	DHN, DNR	

5	SPJ BG	(I) SPJ - MFP-NKE (Excl)	SPJ	SEE	DNR	
		(II) SPJ-MFP(Excl)-SGL-RXL	SPJ	SEE	DNR,GKP	-
		(III)SPJ-DBG-JYG	SPJ	SEE	DHN, DNR	
		(IV)SPJ-DBG-SKI-BIROUL	SPJ	SEE	DHN, DNR	
		(V)SPJ-DBG-SMI-NKE	SPJ	SEE	DNR,GKP	
		(VI)SPJ-HPO-MNE-SHC-DMH-BNKI	SPJ	DNR	KIR,NJP	
		SPJ-MFP-BMKI (Excl.)	SPJ	SEE	GKP	
		SPJ-DBG-SMI-BGU (Incl.	SPJ	SEE	GKP	
		SPJ-DBG-SKI-BIRL	SPJ	SEE	GKP	
		(VII) SMI - RUSD -MFP	SPJ	GKP	BJU, DNR	
		SPJ-HPO-MNE-SHC-BMH-BMKI	SPJ	SEE	DNR	
		SHC-PRNC	SPJ	SEE	DNR	

1.2 LOCATION OF SPARMV/ARME

DIVN	DEPOT	SPARMV/ARME			
		Brake	Load	Cold cutting equipment	Speed Kmph
DANAPUR	DANAPUR	AB	3=6	Yes	110
	JHAJHA	AB	2=4	Yes	100
Pt.DEEN DAYAL UPADHYAYA	DDU	AB	3=6	Yes	110
	GAYA	AB	2=4	Yes	100
DHANBAD	DHANBAD	AB	3=6	Yes	110
	BARWADIH	AB	2=4	Yes	100
	CHOPAN	AB	3=6	Yes	110
SONPUR	SONPUR	AB	3=6	Yes	110
	BARAUNI	AB	2=4	Yes	100
SAMASTIPUR	SAMASTIPUR	AB	3=6	Yes	110
	NARKATIYA	AB	2=4	Yes	100
	SAHARSA	AB	2=4	Yes	80

Section wise chart for requesting of ART without 140T BD crane from the affected division adjoining Zone/Division						
S.N.	**DIV**	**Section**	**First End**	**Other end**	**2 Extra ART without 140T BD Crane**	**Remarks**
1	DHN	(I)DHN -PKA	DHN	ASN **	GYA ,JAJ	**(ER)
		(II) DHN -MPO	DHN	GYA	DDU ,ASN	
		(III) DHN -PEH	DHN	ASN **	JAJ ,GYA	
		(IV)DHN -CRP/GMO	DHN	BKSC***	ASN ** ,BRWD	*** SER
		(V) GMO /CRP-BRWD	DHN	BRWD	BKSC *** , DDU	
		(VI)BRWD -CPU	BRWD	CPU	DDU ,ALD****	**** CR
		(VII) CPU SGRL /KRSL /MHD	CPU	NKJ	ALD ,JBP***** ALD /BRWD,JBP	*** WCR
2	DDU	(I) DDU -GYA (MA)	DDU	GYA	BRWD,DHN	
		(II)DOS -GHD	DDU	BRWD	GYA ,CPU	
3	DNR	(I) JAJ -DNR	JAJ	DNR	ASN , DDU	
		(II) KEV ,GYA	JAJ	GYA	DNR , DDU	
		(III) DNR -DDU (including DLN -TRG)	DNR	DDU	JAJ,ALD	
		(IV) FTU IPR* BKP -RGD*	DNR		JAJ	*Single entry
		(V) PNBE -GYA	DNR	GYA	DDU ,DHN	
4	SEE	(I)KIR -BJU	KIR	BJU	NJP****** ,SEE	****** NFR
		(II)BJU -SEE Via SPP	BJU	SEE	KIR ****** ,CI *******	****** NER
		(III) SEE -CI	SEE	CI	BJU ,GKP *******	
		(IV) BJU -HJP ViaMFP -SPJ	BJU	SEE	KIR ,CI	
		(V)BJU -RJO	BJU	JAJ	SEE ,DNR	
5	SPJ	(I) SPJ - DBG*	SPJ	SEE	GKP	*Single entry point
		(II) MNE -SHC *	SPJ	SEE	GKP	
		(III)MFP -VKNR	SPJ	SEE	GKP	

		(IV) SGL -RXL*	SPJ	SEE	GKP	*Single entry point
		(V) KVC -PNYA	SPJ	SEE	GKP	
		SPJ-MFP-NKE (Excl.)	SPJ	SEE	GKP	
		SPJ-MFP(Excl.)SGL-RXL	SPJ	SEE	GKP	
		SMI-RXL	SPJ	SEE	GKP	
		SPJ-DBG-JYG	SPJ	SEE	GKP	
		SPJ-DBG-SMI-RXL-NKE	SPJ	SEE	GKP	
		SPJ-HPO-MNE-SHC-DMH-BNKI, SPJ-BCA	SPJ	SEE	GKP	
		MFP-SMI Via RUSD	SPJ	SEE	GKP	
		SPJ-DBG-SKI-BIRL	SPJ	SEE	GKP	

2. **ACCIDENT RELIEF TRAIN**:

(i) ART Locations are given below: -

(ii) ART Special formation is stabled complete on a separate siding having double entry for faster exit in both directions.

(iii) Rescue/Restoration equipment is kept as per Railway Board's instructions.

(iv) BD Special keys are with the following officials:
- Mechanical Tool Van SSE/SE/JE/Mechanical.
- Engineering Tool Van SSE/SE/JE/Permanent Way.
- Over Head Equipment Tool Van SSE/SE/JE/OHE/TRD.

(vi) Crane Supervisor will ensure availability of adequate fuel and water in the crane at all times.

(vii) On getting emergency call, the Crane Supervisor shall check and ensure:

a. Correct marshalling of Crane according to site requirement.
b. Alert the stand by Crane Operator of 140T Crane.

(viii) In case road approach is faster, re-railing equipment may be moved by road as required.

(ix) The target time for turning out of ART is 30" by day and 45" by night from the time of sounding of siren.

2.1 LOCATION OF ARTs

DIVN	DEPOT	ART			
		CLASS	**Brake**	**Load**	**Speed KMPH**
DHANBAD	DHANBAD	A	AB	6=12	100
	GOMOH	B	AB	7=14	100
	BARKAKANA	B	AB	7=14	100
	BARWADIH	A	AB	7=14	100
	CHOPAN	B	AB	6=12	100
DANAPUR	DANAPUR	A	AB	6=12	100
	JHAJHA	B	AB	6=12	100
Pt.Deen Dayal Upadhayay	DDU	A	AB	6=12	100
	GAYA	B	AB	5=10	100
SONPUR	SONPUR	A	AB	7=14	100
	BARAUNI	B	AB	6=12	100
SAMASTIPUR	SAMASTIPUR	A	AB	6=12	100
	DARBHANGA	B	AB	2=4	100
	SAHARSA	B	AB	3=6	100
	RAXUAL	B	AB	6=12	100

2.2. LOCATION OF CRANE BASES

DIVN	DEPOT	CRANE		
		Speed (Kmph)	Ton	Brake
DANAPUR	DANAPUR	100	140 T	AB
PT.DEEN DAYAL UPADHYAYA	PT.DEEN DAYAL UPADHYAYA	100	140 T	AB
SONPUR	SONPUR	100	140 T	AB
SAMASTIPUR	SAMASTIPUR (BG)	100	140 T	AB
DHANBAD	DHANBAD	100	140 T	AB
	BARWADIH	100	140 T	Dual

3. LOCATION OF ARTS/ARMVS/CRANES/BULLDOZERS OF ADJACENT DIVISION/ ZONE

Zone	Place	ART	ARME	Crane	Bulldozer	Cold Cutting equipment
Eastern Railway	Asansol	Yes	Yes	Yes	-	-
	Sahebganj	Yes	Yes	Yes	-	Yes
	Bhagalpur	-	Yes	-	-	yes
	Jamalpur	Yes	Yes	-	Yes	Yes
North Central Railway	Prayagraj	Yes	Yes	-	-	yes
	Vyasnager	Yes	Yes	-	-	Yes
	Kanpur	Yes	Yes	Yes	Yes	Yes
Northern Railway	Lucknow	Yes	Yes	Yes	-	Yes
North Frontier Railway	Katihar	Yes	Yes	-	-	Yes
North Eastern Railway	Gorakhpur	Yes	yes	Yes	-	Yes
West Central Railway	New Katni	Yes	Yes	Yes	-	Yes
	Jabalpur	Yes	Yes	-	-	-
South Eastern Railway	Adra	Yes	Yes	Yes	-	Yes

4. **LOCATION OF TOWER WAGONS**

DIVISION WISE DETAILS RELATED TO TOWER WAGONs

DHANBAD DIVISION				
SNo	T.W.No.	Type	Base	Max. Speed
1.	RU-00901	8W DETC/ ICF	Dhanbad (DHN)	105 KMPH
2.	ECR-190089	8W DETC/ DMW	GOMO (GMO)	105 KMPH
3.	PTL-2011060053	4 W / DHTW	Hazaribagh (HZD)	75 KMPH
4.	RU -00904	8W DETC/ ICF	Gujhandi (GJD)	105 KMPH
5.	PTL 0086	4W /DHTW	Lathehar (LTHR)	75 KMPH
6.	ER- 866	4W Mark II	Paharpur (PRP)	40 KMPH
7.	ER-844	4W Mark-III	Gomia (GMIA)	65 KMPH
8.	ER-863	4W Mark-II	Gomia (GMIA)	40 KMPH
9.	ER-868	4W Mark-III	BRHI	65 KMPH
10.	PTL-0083	4W DHTW Mark-IV	Khelari(KLRE)	75 KMPH
11.	ER/RU-3906	8W DETC/ ICF	Barkakhana (BRKA)	105 KMPH
12.	PTL-2010080021	4W DHTW	CRP	75 KMPH
13.	EC-210025	8W DETC/ DMW	Khelari(KLRE)	105 KMPH
14.	ECR-200007	8W DETC/ DMW	CPU	105 KMPH
15	ECR-200027	8W DETC/ DMW	GOMO (GMO)	105 KMPH
16	ECR-210015	8W DETC/ DMW	Renukoot (RNQ)	105 KMPH
17	EC-210011	8W DETC/ DMW	SGRL	105 KMPH
18	ECR 190105	8W DETC/ICF	Doltanganj(DTO)	105 KMPH
19	ECR 190060	8W DETC/ DMW	Barkakhana (BRKA)	105 KMPH
20	EC-210037	8W DETC/ DMW	Dhanbad (DHN)	105 KMPH
21	ECR 220009	8W DETC/ ICF	Chandrapura (CRP)	105 KMPH
22	ECR 230060	8W DETC/ ICF	Hazaribag (HZD)	105 KMPH

DDU DIVISION				
1.	ECRU-4907	8W DETC	Gaya (GAYA)	105KMPH
2.	ER-855	4W Mark II	KTQ	40KMPH
3.	PTL-0016	4W Mark-IV	Karmnasa (KMS)	75 KMPH
4.	PTL-0052	4W DHTW	Rafiganj(RFJ)	75KMPH
5.	ER-845	4W Mark-II	SEB	40 KMPH
6.	ER-837	4W Mark-II	Deen Dayalupadhya (DDU)	40 KMPH
7.	PTL-0082	4W DHTW	Bikramganj (BKJ)	75 KMPH
8.	ER-846	4W Mark II	KTQ	40KMPH
9.	ER-902	8W DETC	DeenDayalupadhya (DDU)	105KMPH
10.	ER - 869	4W Mark III	Japala (JPL)	65 KMPH
11.	ER-003	4W Mark III	Japala (JPL)	65 KMPH
12.	ECR-210085	8W DETC	Japala (JPL)	105KMPH
13	ECR - 190021	8W DETC	Dehri-on-sone (DOS)	105 KMPH
14	ECR-210089	8W DETC DMW	Rafiganj(RFJ)	105KMPH
15	ECR-210078	8W DETC ICF	KTQ	105KMPH
16	ECR-220024	8W DETC DMW	Deen Dayalupadhya (DDU)	105 KMPH
17	ECR-220055	8W DETC PTW	Gaya (GAYA)	105 KMPH
18	ECR-230017	8W DETC PTW	Dehari-on-sone (DOS)	105 KMPH

DANAPUR DIVISION				
1.	RU-2902	8W DETC/ ICF	Mokama(MKA)	105 KMPH
2.	ER-781	4W Mark-III	ARA (ARA)	65 KMPH
3.	ER-868	4w Mark-IV	Jhajha/JAJ	75 KMPH
4.	PTL-006	4W DHTW	RGD	75 KMPH
5.	ER-847	4W Mark-III	HIL	65 KMPH
6.	ER-864	4W Mark-III	Dildarnagar(DLN)	65 KMPH
7.	ER- 866	4W Mark III	Bakhtiyarpur (BKP)	65 KMPH
8.	ER-3485	8W/Hydraulic / BEML	TIL	105KMPH
9.	ECR-190081	8W DETC DMW	Buxar (BXR)	105KMPH
10	ECR-210081	8W DETC ICF	Buxar (BXR)	105KMPH
11	ECR-190127	8W DETC DMW	Danapur (DNR)	105 KMPH
12	ECR-210006	8W DETC DMW	Jahanabad (JHD)	105 KMPH
13	ECR-210058	8W DETC DMW	Jhajha/JAJ	105 KMPH

SONPUR DIVISION				
1.	ECR-0011	8W/Hydraulic BEML	Sonpur (SEE)	105 KMPH
2.	PTL-0066	4 Wheeler DHTW	Khagaria (KGG)	75 KMPH
3.	PTL -0065	4 Wheeler DHTW	Ramdyalu (RD)	75 KMPH
4.	ER-785	4 Wheeler Mark-IV	Samastipur (SPJ)	75 KMPH
5.	ER-785	4 Wheeler Mark-III	Navgachhia (NNA)	65 KMPH
6.	PTL -0060	8 Wheeler DHTC BEML	Navgachhia (NNA)	105 KMPH
7.	ECR 190074	8 W DETC/DMW	Barauni (BJU)	105KMPH
8.	ECR 274	8 W DHD	Nav gachhia (NNA)	105KMPH
9.	ECR 230030	8 W /PTL	Sonpur (SEE)	105KMPH
10.	ECR 74	8 W/ IRCON	Sonpur (SEE)	105KMPH

SAMASTIPUR DIVISION				
1	ECR-182305	8 W ICF/ Chennai	SGL	105 KMPH
2	ECR-190039	8 W ICF/ Chennai	NKE	105 KMPH
3	ECR-190050	8W DETC ICF	SHC	105 KMPH
4	ECR-190133	8 W DETC/ DMW	DBG	105 KMPH
5	ECR-200010	8 W DETC/ DMW	KVC	105 KMPH
6	ECR 200059	8 W DETC/ DMW	SMI	105 KMPH
7	ECR-210001	8 W DETC/ DMW	SPJ	105 KMPH
8	ECR-210001	8 W DETC/ DMW	SPJ	105 KMPH
9	ECR-230096	8 W DETC/ DMW	Saraigarh	105 KMPH
10	ECR-2200264	8 W DETC/ DMW	Banbankhi (BNKI)	105 KMPH

5. **AUTHORITY TO ORDER MOVEMENT OF ARMVS & ARTS TO SITE:**

(i) On receipt of information about serious accident involving casualties, ARMVs and ARTs shall be ordered immediately.
(ii) This decision would be taken by the Dy. CHC (Chg.) on duty and nobody's authorization would be required for ordering the same.
(iii) After sounding of siren the ARMV and ART should be run out within the stipulated target time.

CHAPTER-9

DISASTER PREPAREDNESS USE OF ON BOARD RESOURCES

(A) PORTABLE TELEPHONE:

1. Types of Portable Telephones:

(i) Portable Telephones are available in Brake van of Passenger carrying Trains.
(ii) Telephones presently in use are of the 4-wire/2-wire type of portable phones which can be used in RE area as well as in overhead communication territory.
(iii) There are two types of Portable Telephones
-Land line type (Overhead Telephone line transmission)
-Socket Type (Underground cable transmission)
(iv) In overhead territory additional poles are to be carried by Guards for connecting phones to the overhead lines.

2. How to use Portable Telephones:

(a) Overhead type:

(i) Fix "Y" bracket on the poles.
(ii) Use required number of poles available.
(iii) Connect the two wires to phone terminals.
(iv) Circuit on Red colour bracket side connects the section controller telephone line.
(v) Circuit on the Green colour bracket side connects the Deputy Chief Controller telephone line.
(vi) Link "Y" bracket on the circuit and rub it for clear communication.

(b) Underground cable type:

(i) Look at Receiver Arrow sign for socket location on Over Head Equipment mast /location post and move towards the Arrow pointing direction.
(ii) On reaching EMC Socket location, open the socket by using the key kept in the phone box where required.
(iii) Plug in the phone terminal properly for communication.
(iv) In electrified section this phone connects the Traction power controller and then link to section controller.

(B) WALKIE – TALKIE SETS:

(i) Ensure that the set is charged.
(ii) Check that the proper channel is selected for communication.
(iii) Do not intervene when the channel is engaged.
(iv) Never press "SOS" button provided in walkie-talkie unless it is a real emergency. In case of emergency if "SOS" button is provided on the mobile, it should be used to override an ongoing conversation.

(C) USE OF BSNL/CELL PHONE/MOBILE PHONES:

(i) BSNL phone numbers with STD code for Railway Station in a Division are given in (Working Time Table).
(ii) WTT is available with Guard, Driver, and Assistant Guard.
(iii) Refer WTT for nearest Station contact number.
(iv) BSNL phone numbers of important Stations are also available in Public Time Table.

(D) EMERGENCY TRAIN LIGHTING BOX:

How to use ETL BOX:

(i) This box is available in the Brake Van of Passenger carrying trains.
(ii) Open the box by removing the seal.
(iii) Fix the crocodile clip of hand Torch to the coach power supply terminal and use it for searching/surveying.
(iv) Fix the flood light to the Tripod Stand and connect its crocodile clip to the power supply terminal.

CHAPTER-10

DISASTER RESPONSE – OVERVIEW

1. GOLDEN HOUR:

If a critical trauma patient is not given definite medical care within one hour from the time of accident, chances of his ultimate recovery reduce drastically, even with the best of Medical attention thereafter. This one hour period is generally known as <u>The Golden Hour</u>.

During Golden Hour period every effort should be made to:

(i) Render definite medical care to the extent possible preferably by qualified medical practitioners.
(ii) Stop bleeding and restore Blood Pressure.
(iii) Persons under shock should be relieved of shock immediately.
(iv) Transport casualties to the nearest hospital so as to reach within this Golden Hour period.

For being effective, any Disaster Management system should aim at recovering as many critical patients as possible and rushing them to hospital within this period.

2. Disaster Syndrome:

A victim's initial response following a Disaster is in three stages, viz. Shock stage, Suggestible stage and Recovery stage. These initial responses are called Disaster Syndrome.

(i) <u>Shock stage</u>: In which victims are stunned, dazed and apathetic.
(ii) <u>Suggestible stage</u>: In which victims tend to be passive but open to suggestions and willing to take directions from rescue workers and others.
(iii) <u>Recovery stage</u>: In which individuals may be tense and apprehensive and may show generalized anxiety.

3. Different phases of Disaster Response:

Disaster Response in case of a railway accident, constitutes of three phases. These three phases are determined both by the time factor, as also by the extent of specialized assistance available. Firstly, it begins with the spontaneous reaction of men available on the train at the time of the accident. Thereafter the second phase continues with contributions made in rescue and relief work by men and material available locally in nearby

areas of the accident site. The third and longest phase consists of meticulously planned action by trained DM teams who arrive at the accident site to carry out rescue and relief operations. The first phase which is of shortest duration last for about half an hour. It is an amateurish, poorly equipped effort; but is nevertheless the most important phase. In most cases, this is the only help available for a major part of the 'Golden Hour'.

The second phase which is of 2-3 hrs duration is comparatively less amateurish and much better equipped. Their contribution is vital since the 'Golden Hour' period comes to an end during the working of this group. How many critically injured passengers can finally be saved depends solely on the efficiency of this group.

The last and final phase of Disaster Response by railway's DM team continues for a few days. It comes to an end not only with the restoration of traffic but with the departure of most relatives and next of kin from the accident site and disposal of all bodies. Few of the grievously injured who continue to be hospitalized for comparatively longer spells are then the sole responsibility of railway's medical department.

With the above scenario in mind, it is necessary to take firm and quick decisions to save lives and property. To achieve these objectives, Railways have a well-defined action plan that is successfully executed by the coordinated efforts of different disciplines, all of whom function as a team. The three groups which are active during the above mentioned 3 phases of Disaster Response may be classified as follows:

(i) Instant Action Team (IAT)
(ii) First Responders (FR)
(iii) Disaster Management Team (DMT)

4. First Aid in Emergency:

(a) Order of priority for dealing with and helping injured passengers should be as follows:
- unconscious,
- bleeding excessively,
- having breathing problems,
- grievously injured,
- in a state of shock,
- having fractures,
- simple injured.

(b) For assessing and handling injuries, acronym **DR ABC** is to be followed**: -**

(i) D – DANGER:

Look for danger. Make sure that no further danger exists either for the patient or for the First Aider.

(ii) R – RESPONSE:

Check for consciousness. Call by his/her name, slap, pinch and shake gently. If there is no response, then it means that the patient is unconscious.

(iii) A – AIR WAY:

Clear the airway (Trachea). If patient is unconscious, then the airway may be narrowed or blocked making breathing impossible. This occurs due to several reasons. Mass food particles or foreign body in the air passage; or the tongue may have sagged back and blocked the air passage.

To open the airway lift the chin forward with the fingers of one hand while pressing the forehead backwards with the other hand, now the tongue comes forward and the airway is cleared. To clear the other objects in the mouth press the Jaw, open the mouth, put your fingers or a clean cloth in the mouth and clear the things. Now the air passage is clear.

(iv) B – BREATHING:

Check for Breathing. Keep the back of your fingers near the nose of the patient. You can feel the warm air (or) keep your ear near the nose and **look** for the movement of chest, **listen** to the sound from the throat and **feel** the warm air from the nose.

(v) C – CIRCULATION:

Check the pulse. Normally we check the pulse at the wrist; however, sometimes it is not felt because of severe bleeding. So, it is better to check the pulse at neck. (Carotid Pulse).

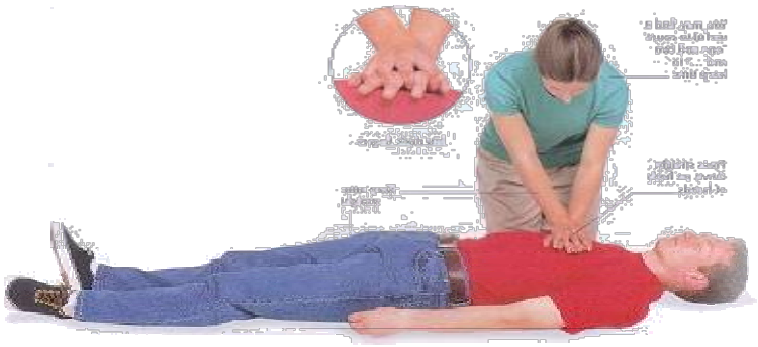
After checking **DR ABC,** there may be **two possibilities**.

(i) If patient is breathing, has circulation but is unconsciousness, immediately turn him to Recovery position and transport to hospital.

(ii) If the patient has failure of breathing and circulation, then immediately start CPR (CARDIO PULMONARY RESUSCITATION) the important lifesaving technique in First Aid.

To revive the lungs, you have to give artificial respiration by mouth to mouth (Kiss of Life) method. Lift the chin forward and press the jaw open the mouth with one hand and close the nose with other hand keep your mouth on the casualty's mouth and blow.

To revive the heart, you have to give external chest compression. The casualty should be made to lie down on a hard surface. Keep heel of the palm on the chest (Pit of stomach) of the casualty and keep the other palm over that hand and compress.



Mouth to mouth ventilation and external chest compression should be given in the ratio of 2:15. This should be continued up to the revival of life or till reaching the hospital. Once life starts, immediately turn the casualty into recovery position and transport to hospital. (Recovery position or three-quarter prone position means turn to one side, better to right side)

Recovery position:

Recovery position is the safest position for unconscious patients. Normally we keep the patient in a **supine position**. However, in case of unconscious patients, it is a very dangerous position because the tongue can fall back and close the airway or saliva and other secretions may get into windpipe. To avoid that, turn the casualty into recovery position and transport to hospital.

Sometimes, you may not be in a position to do First Aid due to tense situation. In such circumstances, at least turn the casualty to **Recovery Position,** which would help to save many precious lives.

CHAPTER-11

DISASTER RESPONSE – INSTANT ACTION TEAM

INSTANT ACTION TEAM (IAT):

1. Instant Action Team comprises:

(i) The Guard, Crew, TS, TTEs, AC coach attendant, Asst. Guard, RPF and other railway staff on duty on the accident involved train.
(ii) GRP staff traveling on the train on duty.
(iii) Railway staff traveling by the accident involved train either on duty or on leave as passengers.
(iv) Doctors traveling by the train.
(v) Passengers traveling on the train who volunteer for rescue and relief work.
(vi) Railway staff working at site or available nears the site of the accident.
(vii) Non-Railway personnel available at or near the accident site.

2. Pre – accident checklist of preparation for Members of Instant Action Team:

(i) Generally, about 15" time elapses before information regarding occurrence of an accident reaches the Divisional Control Office. In case information can be conveyed immediately this time can be saved. This 15" time is of vital importance since it constitutes 25% of the 'Golden Hour'.
(ii) In case they have a Mobile, ensure that telephone numbers of all relevant officials such as those of divisional control offices etc. have been permanently fed into the Mobile for immediate use in an emergency.
(iii) These important telephone numbers should cover all those sections where they are required to work their train either within their own division or even those of adjoining divisions.
(iv) Divisions will get printed and circulate a DM Telephone Directory containing all such telephone numbers that are likely to be required in an emergency.
(v) Whenever they are traveling at night, they should keep a torch handy and secure it by some means. The torch will be of no use in an emergency if it cannot be taken out from inside the suitcase at that point of time; or if the torch cannot be located since it has fallen off due to severe jerk.

3. Duties of Guard, Driver and other Commercial Staff:

Detail duty list of Guard and Driver are laid down in the Accident Manual of Zonal Railways. Some of the more important ones are enumerated below: -

(a) Guard:

(i) Note the time of the accident and the location.
(ii) Switch on the Amber Light, if provided, in Flashing Tail Lamp, in the rear of brake van.
(iii) Inform Driver through walkie – talkie set.
(iv) Inform Station Master on walkie – talkie set, if possible.
(v) Protect adjacent line/lines if required and the line on which the accident has taken place as per G&SR 6.03.
(vi) Secure the train and prevent escaping of vehicles.
(vii) Make a quick survey of magnitude of accident and roughly assess casualty, damage and assistance required.
(viii) Send information through quickest means to Control Office and SMs on either side of the block section. For this purpose: -

(a) Walkie–talkie communication provided with stations should immediately be used.
(b) Otherwise, field telephone should be used.
(c) If a train comes on the other line which is not blocked the same should be stopped and information sent through the driver.
(d) Assistant driver may be sent to the next station to convey information of the accident.
(e) All of the above fail, one of the railway staff on duty on the train should be sent on foot to the nearest station.

(ix) Utilize Emergency Train Lighting box to facilitate medical aid.
(x) Save lives and render First Aid.
(xi) Call for Doctors and seek their assistance.
(xii) Seek assistance of railway staff and other volunteers from train to rescue injured or entrapped passengers.
(xiii) Direct railway staff and other volunteers from train for attending to injured.
(xiv) Ensure that field telephone is constantly manned by a railway staff.
(xv) Arrange protection of passengers' belongings and railway property with the help of railway staff, volunteers on train, RPF and GRP.
(xvi) Stop running trains on adjacent line and utilize resources on that train.
(xvii) In electrified section if OHE is affected, take steps to switch off OHE supply.

(xviii) Arrange for transportation of injured to hospital.
(xix) Record evidence or statements, if any, given by passengers.
(xx) Preserve all clues and evidences regarding probable cause of the accident and ensure that these do not get disturbed.
(xx) Log your activities. Do not leave the spot unless you are relieved by a competent authority.

(b) Driver:

(i) Note the time of the accident and location.
(ii) Switch ON the 'Flasher light' of the locomotive and give 4 short whistles.
(iii) Inform Guard on walkie – talkie set.
(iv) Light the fuse, if required.
(v) Inform Station Master on walkie – talkie set, if possible.
(vi) Protect the adjacent line, if required, and the train in front as per G&SR 6.03.
(vii) Take necessary action to keep the loco safe.
(viii) Take necessary action to prevent Loco/Vehicles/ Wagons from rolling down.
(ix) Make a quick survey of magnitude of accident and roughly assess casualty, damage and assistance required.
(x) Send information through quickest means to Control Office and SMs on either side of the block section. For this purpose,

(a) Walkie–talkie communication provided with stations should immediately be used.
(b) Otherwise, field telephone should be used.
(c) If a train comes on the other line which is not blocked the same should be stopped and information sent through the driver.
(d) Assistant driver may be sent to the next station to convey information of the accident.
(e) If all of the above fail, one of the railway staff on duty on the train should be sent on foot to the nearest station.

(xi) Render all possible assistance to the guard.
(xii) Preserve all clues and evidences regarding probable cause of the accident and ensure that these do not get disturbed.
(xiii) Log your activities. Do not leave the spot unless you are relieved by a competent authority.
(xiv) If necessary, detach Loco and take it to inform SM.

(c) Train Superintendent/Traveling Ticket Examiner:

(i) Preserve reservation charts of each coach containing names of passengers who actually traveled and in which berth no.
(ii) Avail services of Doctors traveling by the train and render Medical Aid.
(iii) Render First Aid to injured.
(iv) Collect particulars of injured passengers and prepare a list showing exact position of injured in coaches, from Train Engine to Brake Van. This should be handed over to railway doctors when ARMV arrives.
(v) Prepare a separate list of dead passengers with address and ticket particulars, if available.
(vi) Take assistance of local people and other volunteers at site.
(vii) Transport injured passengers by road vehicles, if available, to the nearest hospital.
(viii) Inform stranded passengers about alternative transport arrangement.
(ix) Arrange for refreshments and drinking water free of cost to the affected passengers.
(x) Record Evidences or statement given by passengers/others at site.

(d) AC Mechanic/Attendant:

(i) If required, switch off the power supply to avoid short-circuiting.
(ii) They will ensure that all precautions are taken to prevent any problem arising of short circuit consequent to accident.
(iii) To switch OFF the AC machine and work on Exhaust to minimize the comfort of AC passengers and run down of the battery.
(iv) They will ensure that all precautions/steps are taken to avoid short circuits and the problem arising out of the short circuit.
(v) In case of fire, advise passenger to move to the adjacent Coach, stop train by ACP and extinguish fire using correct fire extinguisher.
(vi) They will open emergencies windows and vestibules and break-open AC windows wherever required for providing escape routes to passengers when the doors are jammed.
(vii) They will use the bed sheets and others linens item in their custody for covering dead bodies.
(viii) Assist the TS/TTS in their duties at the accident site.

(e) RPF and GRP staff:

(i) Try and rescue as many passengers as possible from the accident involved coaches.
(ii) Render First Aid to injure.
(iii) Arrange to shift injured persons to the nearest hospital.
(iv) Protect passenger's luggage and railway property.
(v) Preserve all clues and evidences regarding probable cause of the accident and ensure that these do not get disturbed.

(f) Pantry Car's Staff:

(i) They will work as per guidance of team leader and will help in saving as many lives as possible by rescuing injured that are entrapped.
(ii) They will provide food and water to the injured and other passengers to the extent possible.
(iii) They will provide hot water and other things available with them for other use of injured and other passengers.

(g) <u>Railway Staff travelling on the accident affected train</u>:

(i) Whenever a train is involved in a serious accident with casualties/injuries to passengers, all railway staff traveling on the train either on duty or on leave are deemed to be ON DUTY with immediate effect.
(ii) Under no circumstance should any of them leave the accident site unless and until divisional officers arrive, take over charge of rescue and relief operations, and permit them to leave.
(iii) Railway staff on train/at site shall volunteer themselves to render assistance and report to TS/TTE/Guard of the Train.
(iv) The senior most officer traveling on the train will assume charge as Officer-in-Charge Site (OC Site).
(v) Normally the senior most officer will be traveling in either the 1AC or in 2AC coach; and most probably in the HOR quota section of the coach. In any case the TS/TTE would know who the railway officers are, traveling in 1AC or 2AC.
(vi) Similarly, other railway staff will be traveling in 3AC coach; and most probably in the HOR quota section of the coach.
(vii) Similarly, some Group 'D' railway staff may be traveling in Sleeper coach; and probably in the HOR quota section of the coach.
(viii) In the absence of any officer, the TS or senior most TTE/Guard will discharge duties listed out for OC Site.

4. Duties of OC Site – Immediately after the accident :

(i) Note down the time of accident.
(ii) Ensure protection of traffic by Guard and Driver.
(iii) Ensure reporting of accident to nearest Station/Control.
(iv) Roughly assess the extent of damage and likely number of casualties.
(v) Collect railway staff and volunteers from amongst the passengers and form different groups. Each of these groups should be assigned work as detailed at item 6 below.
(vi) Maintain a log of events.
(vii) Till Divisional Officers arrive and take over charge of the situation, continue to discharge duties of OC Site.

(viii) After Divisional Officers arrive, fully brief the DRM & hand over charge to him.

(ix) The on-board OC Site should ensure issue of a detailed message with following information before leaving the site of the accident.

- Time/Date of accident.
- Location Km./between stations.
- Train number and description.
- Nature of accident.
- Approximate number of killed/injured.
- Extent of damage.
- Assistance required.
- Condition of the adjacent line, if any.
- Whether OHE is involved.

(x) From here onwards, the DRM of the accident involved division takes over charge as OC Site.

5. Formation of Groups comprising members of Instant Action Team :

(i) OC Site shall immediately collect all Railway staff on train/at site and form separate groups.

(ii) Passengers traveling by the same train who volunteer for rescue and relief work should also be drafted into these groups.

(iii) Passengers from non-accident involved coaches should be directed towards their own coach.

(iv) Passengers from coaches which are affected can be distributed amongst other non-accident involved coaches.

(v) In the absence of OC site, TS/TTE shall take steps to form such groups.

(vi) In the absence of TS/TTE the Guard/Assistant Guard shall take steps to form such groups.

(vii) 5 or 6 groups should be formed depending on number of coaches involved.

(viii) Ideally, one group should be formed for handling each coach.

(ix) In case sufficient numbers of officers are present, then one officer should be made in-charge of each group.

(x) Otherwise, Sr. Supervisors traveling by the accident involved train should be nominated as in-charge of each group to co-ordinate its working.

(xi) In case sufficient numbers of Sr. Supervisors are also not present, one TTE should be nominated as in-charge of each group to co-ordinate its working.

(xii) Each group should rescue injured, entrapped passengers.

6. Duties of on-board railway staff immediately after the accident:

(i) Don't panic. Once the accident has already occurred and the train has come to a standstill nothing worse can happen.
(ii) In case you have a Mobile and it is working, inform the divisional control office immediately about the accident.
(iii) Observe the position in which your coach has stopped; whether it is standing upright or turned upside down or lying on its side.
(iv) Try and see whether your coach has stopped on a bridge or whether there is level ground on both sides.
(v) In case the coach is on a bridge or very high embankment or in case it is raining heavily, then it is better to wait for some time and not be in a hurry to leave the coach. You may be jumping from the frying pan into the fire.
(vi) Search your coach with your torch and try to determine the general position.
(vii) See that passengers don't panic either. Passengers sometimes make things worse for themselves by panicking at this critical moment. Try to calm them and build up their confidence.
(viii) Ascertain whether passengers are injured or not; and whether any of them are trapped or pinned down inside the debris.
(ix) Call out aloud and find out whether there are any doctors present.
(x) Doctors who are traveling in the coach should be asked to announce their presence so that they can attend to and help injured passengers.
(xi) Call out aloud and find out whether there are any railway staffs present.
(xii) Railway staff, who are traveling in the coach, should be asked to announce their presence so that they can attend to and help other passengers.
(xiii) For each coach, form a core team comprising of railway staff available, doctors and 3 or 4 uninjured passengers from the same coach. This core team should take the lead in helping remaining passengers both injured and uninjured.

7. Duties of members of Instant Action Team – Till arrival of Divisional Officers:

(i) If a person is bleeding and losing blood, or if he is unconscious, then in that case you have to act quickly. 'Golden Hour' should be kept in mind. You may have at the most only one hour's time on hand.
(ii) In such cases, immediately administer First Aid to the injured passenger and try and stop further loss of blood.
(iii) Persons trained in first aid may do 'Cardio Pulmonary Resuscitation'. This may save several lives.

(iv) If the door is open and is accessible, then uninjured passengers should be helped to come out from the door.

(v) In AC coaches the windows panes should be broken open in order to let in fresh air for the occupants, and thereafter to evacuate them.

(vi) Non – AC coaches have one emergency exit window on each side. The position of this emergency window is 5th from the left when facing the line of windows from inside the coach. They are opposite berth nos. 23 and 57. In case the door is locked and jammed, try and open these windows so that some of the uninjured passengers can come out through the emergency exit.

(vii) Special care should be taken while evacuating the old, infant and children in order to ensure that they are not separated from their family members.

(viii) Extrication of critically injured should be done under medical supervision as far as possible.

(ix) In case medical supervision is not available, then critically injured passengers should be made to lie down on a bed sheet and thereafter taken out by 4 persons holding the four corners. This will ensure that no further damage takes place. (Bed sheets will be available in AC coaches).

(x) Passengers who are bleeding from open cuts should be tied up with strips of cloth so as to reduce if not stop the bleeding altogether.

(xi) It is better not to take out the luggage from inside the coaches at the first instance, for two reasons. Firstly, passengers both injured and uninjured should get preference in this evacuation process. Secondly, it may be safer for the luggage to be left inside where there are less chances of their being stolen or pilfered.

(xii) After passengers have been evacuated from your coach, cross check with the reservation chart and against the name of each passenger note down as to whether he/she is injured or not.

(xiii) After all passengers have been evacuated, water and eatables can be taken out gradually.

(xiv) Building up confidence of injured passengers by suitable advice is of great importance.

(xv) After helping evacuate all passengers from your coach go over to the unreserved coaches and provide similar help to those passengers also.

(xvi) Railway officials from divisional Head Quarter generally arrive at the site of the accident within 2 to 3 hours, depending on the distance of the accident site from the divisional Head Quarter Wait for them to come and make further arrangements.

(xvii) Grievously injured passengers who are bleeding or those who are unconscious require immediate hospitalization. In case some local people have arrived by that time, their help should be taken in shifting the grievously injured to the nearest hospital.

(xviii) In case your train has been involved in an accident but neither has your coach derailed nor are any passengers of your coach injured,

then you should go to the unreserved coaches and carry out the duties as listed above

8. Duties of the Instant Action Team – In case of a fire:

(i) In case of fire, pull the Alarm Chain and stop the train immediately.
(ii) Try and put out the fire before it becomes a big blaze by using either water or blankets, Fire Extinguisher etc.
(iii) More people expire due to suffocation from smoke rather than due to actual burning.
(iv) Advise passengers to take a cloth, wet it in their drinking water and cover their nostrils.
(v) Instruct passengers to go to the other end of the coach which is away from the fire and if possible cross over to the next coach through the vestibule.
(vi) Insist that passengers should save themselves first and not to bother about their luggage which can be retrieved later on.
(vii) Make sure that no passenger lies down on the floor.
(viii) After train has stopped, passengers should come down from the coach immediately.
(ix) Building up confidence of injured passengers by suitable advice is of great importance.

9. Duties of OC Site - till arrival of divisional officers

Having formed different groups consisting of available railway staff on the train and volunteers from amongst passengers, the rescue and relief work should be got started in right earnest. This entire exercise would take about 30" time. Once the rescue and relief work by the **Instant Action Team** has got underway, the OC site should then devote his attention to contacting **First Responders**.

(a) Locating nearby villages:

(i) There would be some villages nearby, either visible or out of sight.
(ii) In most cases, villagers turn up on their own having heard the sound of the disaster.
(iii) Otherwise, try and see if any light or any other signs from the village are visible.
(iv) In case none of the above is possible, then speak to either the control office or the nearest station and find out the location of nearby villages as also their general direction.
(v) Location of nearby villages as also their general direction will be available in the Divisional DM Plans.

(vi) Having ascertained the general location of nearby villages, send messengers (preferably railway staff) to inform villagers and seek their assistance.

(b) Locating the nearest manned level crossing gate:

(i) The train driver is the best and fastest source of information regarding location of the nearest manned level crossing gate in either direction.
(ii) Send a messenger (preferably a railway staff) to the gate for contacting the gateman.
(iii) In most cases, the gateman will be able to give location of nearby villages.
(iv) The messenger should then try and stop a passing vehicle and go to the nearby village, inform villagers and seek their assistance.

(c) Organizing assistance from local people available in nearby villages.

(i) Villagers should be asked to make an announcement from their loud speaker (generally available in the local temple, mosque, gurudwara, church etc.) informing others regarding the accident.

(ii) Everybody should be asked to rush to the accident site with following:

- tractor trolleys (both for transportation and for general lighting),
- as many cutting equipments, hammers, chisels etc. as are available,
- ropes,
- ladders,

(iii) If doctors or para-medical staffs are available in the village they should also be sent to the accident site.

(iv) The messenger should stay back and try and organize opening of a big building (preferably a school) for sheltering of injured passengers and/or preservation of dead bodies.

CHAPTER-12

DISASTER RESPONSE FIRST RESPONDERS

(A) Duties of First Responders – Local people:

(1) **At Accident site:**

(i) Tractors which arrive should be lined up in a row facing the track with their headlights switched ON for illuminating the accident site.

(ii) Tractors should be so spaced out that they illuminate the entire length of the accident site. Such spacing would also depend on number of tractors that have arrived.

(iii) Rescue and relief work should now be mounted under the available light.

(iv) Villagers arriving for rescue and relief work should be formed into separate groups for handling individual coaches.

(v) Group leaders of IAT who were earlier conducting rescue and relief work should co-ordinate with the local people and guide them.

(vi) Grievously injured passengers extricated from coaches should be sent to the nearest hospitals in tractor trolleys.

(vii) Passengers who have suffered Trivial injuries and uninjured passengers should stay back at accident site and wait for arrival of railways DM team who would take charge of them.

(viii) As a thumb rule, any injury requiring hospitalization of more than 48 hrs. is grievous, hospitalization of less than 48 hrs. is simple, and any injury not requiring hospitalization at all is trivial.

(ix) The following priority should be adhered to while sending such grievously injured passengers:

- unconscious,
- bleeding excessively,
- having breathing problems,
- grievously injured,
- in a state of shock,
- having fractures,
- Simple injured.

(x) Dead bodies, if extricated should be kept alongside the coach but away from the track for proper tagging etc. before being dispatched for preservation.

(xi) Bodies should be kept in separate lots, coach-wise, so that they do not get mixed up.

(xii) Tagging of dead bodies should indicate the coach number and

also the cabin number, if possible. (For example, ECR 98127, cabin number containing berths 9-16)

(2) **In Villages/ Towns:**

(i) A big building, preferably a school building should be got vacated and made ready for keeping of dead bodies and unclaimed luggage of passengers.

(ii) They should be asked to bring the following to the accident site for train passengers:

- Tea and refreshments,
- Warm clothing, if required.

(iii) Look after injured passengers who have been taken to the village.

(iv) Take injured passengers to the nearest hospital by means of any transport available. For this purpose, apart from tractor trolleys, even trucks passing on the highway can be utilized.

(B) Duties of First Responders– Railway Staff:

1. **Gang Staff:**

(i) On double/multiple line section stop any other train approaching the accident area by showing hand danger signal.
(ii) Ensure that track alignments or lines are not disturbed.
(iii) Report to OC Site and assist in rescue and relief work.
(iv) Assist in extricating injured passengers from coaches.
(v) Assist in transporting them to nearest hospitals.

2. **Gate men:**

(i) Keep gate closed if the train has not cleared the gate.
(ii) On double/multiple line section stop any other train approaching the accident area by showing hand danger signal.
(iii) Arrange to inform SM immediately.
(iv) Don't meddle with Interlocking.
(v) Avail services of road vehicles waiting or passing through LC Gate.
(vi) Send message to nearby village, informing them regarding the accident.
(vii) Collect men and material available nearby and direct them to site.

3. **Station Master at adjoining station:**

(a) **Conveying of information:**

(i) Arrange protection of traffic by keeping all signals at ON position.
(ii) Report the accident to Station Master at the other end. He should be asked to call all off duty staff at his station and send them to the accident site.
(iii) Report the accident to Section Controller.
(iv) Control to be advised regarding –

- Time and nature of accident.
- Brief description of accident.
- Adjacent lines clear or not.
- Damage to rolling stock.
- Damage to track in terms of telegraph posts.
- OHE masts damaged or not, and extent of damage.
- Approximate number of dead and injured (grievous, simple) to be obtained from the TS/TTEs.

(v) Following functionaries should be advised regarding the accident:

- All off duty railway staff posted at that station.
- SS of Junction stations at either end.
- TI, CMI.
- P Way Supervisors – SSE/JE etc.
- TRD Supervisors – SSE/JE etc.
- C&W Supervisors – SSE/JE etc.
- S&T Supervisors – SSE/JE etc.
- SI/RPF, SHO/GRP.
- Nearest Fire Station.

(vi) Inform civil authorities, village/town/city representatives and volunteers for possible relief assistance.

(vii) Supervisory Station Manager of the nearest Jn. station shall proceed to accident site.

(b) **Medical assistance:**

(i) Call for assistance from local Doctors, SJAB, Civil and Army Hospitals.
(ii) Arrange adequate number of First Aid boxes and stretchers.
(iii) Mobilize local medical team and send it to site to render First Aid to the injured.
(iv) Quickly transport ARME Scale – II equipment to the site of the accident.

(c) **Passenger assistance:**

(i) Arrange drinking water, beverages and refreshments, either from Refreshment Room or local sources.
(ii) Supply beverages and refreshments free of cost to stranded passengers.
(iii) Open an emergency counter and display necessary information.
(iv) Obtain reservation charts and display it.
(v) Collect information on dead/injured and convey it whenever asked for.
(vi) Make frequent announcements about diversion, cancellation, regulation of train services.
(vii) Arrange for refund of fares as per extant rules.

(d) **Transport assistance:**

(i) Arrange for transport from local resources, if available, for transporting injured passengers to nearest hospitals by fastest possible means.
(ii) For this purpose, apart from tractor trolleys, even trucks passing on the highway can be utilized.
(iii) Stranded passengers to be transported from the accident spot by arranging transshipment either by train or by hiring road vehicles.

(e) **Security assistance:**

(i) Advise RPF/GRP/State Police to provide security to passengers, their belongings and railway property.
(ii) They should also be asked to assist in rescue and relief work.

(f) **Communication Assistance:**

(i) Direct passengers to PCO booths available nearby.
(ii) Make available STD phone to relatives of dead/injured.

(g) **Sending manpower for site**:

(i) Proceed to site of the accident by quickest means with trolleys, coolies, lamps, vendors and any other equipment that is considered necessary.
(ii) Till relieved by a Traffic Inspector or Divisional Officers be in charge of site and carryout rescue/relief operations.

(h) **Preservation of clues and evidences:**

(i) TI/SM first reaching the site shall take action to preserve clues and evidences.
(ii) Secure records related to accident in the Station/Cabin.
(iii) Seal slides, levers, knobs and Relay room, if accident takes place within the Station limit.

4. **Duties of TI/PWI/SI/CWI/CLI :**

(a) Rushing to accident site with men and material:

(i) Before leaving for the site of accident organize maximum number of men to go to the accident site along with their equipment.
(ii) Reach the site of accident by quickest available means.

(b) Rescue and relief:

(i) Ensure that the obstructed line is protected.
(ii) Direct all staff working under them to assist in rescue and relief work.
(iii) All of them should work as per directions of OC Site.
(iv) Assess casualties and arrange to render First Aid.
(v) Shift injured to nearest hospital.

(c) Joint measurements and preservation of clues and evidences:

(i) Collect and record all evidences relating to the accident such as:
- Condition of track, with special reference to alignment, gauge, cross levels, super elevation, points of mount and drop and any sign of sabotage etc.
- Condition of Rolling stock with reference to Brake Power and braking gear.
- All marks on sleepers, rails, locomotives and vehicles etc. especially for preservation of clues.
- Position of derailed vehicles.
- Prima facie cause of accident.

(ii) Seize and seal the Train Signal Register, Log book, Private Number Book, Line Admission Book, Speed Recorder Chart and other relevant records.
(iii) Note down the position of panel switches, indication, block instrument, condition of relay room, status of data logger, etc.

(iv) Condition of switches, ground connections, point locking, occupancy of track circuit, details of damage to outdoor signal/point gears should be noted down.

(v) Seize and seal the Speed Recording Graph and all other registers and repair log book of the locomotive.

(vi) Record details of Brake Power and other aspects of Rolling stock as per Performa.

(vii) Joint measurements of rolling stock should be taken.
Note down observations, measurements of Loco etc. at site. If it is not possible arrange for taking the reading at shed.

(viii) These can also be recorded on a video or digital camera subject to availability.

(ix) Details of all readings taken and position of all equipment noted should be jointly signed by supervisors of all 5 departments at accident site.

(x) Obtain statement of staff involved in the accident.

(xi) CWI shall prepare a sketch showing position of Rolling stock.

(xii) PWI shall prepare a final sketch indicating the position of track, with respect to alignment, point of mount, point of drop, OHE mast, point number etc.

(xiii) Survey the situation, assess assistance required and issue message to Divisional Control Office.

(xiv) Take charge of the situation pertaining to your own department and remain till Divisional officers arrive at the site.

CHAPTER-13

DISASTER RESPONSE OFFICERS AT DIVISION & HEAD QUARTER

(A) GENERAL:

1. Intimation of Accident- Divisional Control Office:

(i) In the Divisional Control Office, information regarding an accident is generally received either by the Sectional Controller or the TPC.

(ii) In most cases, the First Information Report also intimates the approximate number of coaches involved and a rough estimate of the likely number of casualties (such as 'heavy casualties expected').

(iii) Accidents involving a passenger carrying train where the first information says that heavy casualties are expected, should prima-facie be treated as a Disaster.

(iv) The moment information regarding an accident involving a passenger carrying train is received in the divisional control office; the accident bell in the control room should be sounded for alerting all on-duty functionaries.

(v) After all on-duty functionaries gather around the section control board they will be briefly informed about the accident.

(vi) Each functionary will thereafter resume his position and take steps to set in motion activities required of him.

(vii) TPC will switch off OHE in case it has not tripped. OHE will not be restored even on adjacent line unless confirmation has been received from site that adjacent line is not obstructed and OHE is alright.

(viii) PRC will undertake the following action in the given order of priority:

- Give orders to Loco Foreman for sounding the siren for ARMVs and ARTs.
- PRC will also order movement of ARMV and ART (With 140 T crane) from adjoining divisions for approaching the accident site from the other end; details given in Chapter-3
- Thereafter he will inform his departmental officers and supervisors.

(ix) Dy. CHC (Chg.) will first inform Hospital Casualty. Thereafter he will inform officers and supervisors as given below.

(x) Each departmental functionary will inform divisional officers and supervisors of his department about the accident as detailed below:

Functionary	Officers and Supervisors
• Dy. CHC (Op)	Operating & Safety
• Dy. CHC (Chg.)	Hospital Casualty, DRM, ADRM, Medical
- TPC	Electrical
- PRC	Mechanical
- Engg. Control	Engg., Personnel, Accounts
- Test Room	S&T, Stores
- Commercial Control	Commercial, Public Relations
- Security Control	RPF

(xi) For this purpose, all functionaries working in the divisional control office will have a ready list of telephone numbers (Railway, BSNL and Mobile) of all officers and supervisors of their departments.

(xii) After Dy. CHC (Chg.) has informed Hospital Casualty, DRM, ADRM and Medical Doctors, he will then inform Dy. CHC (Chg.) or Dy. CHC (Op) in Head Quarter Emergency Control regarding the accident.

2. Intimation of Accident-Railway Doctors:

Dy. CHC (Chg.) will inform the Hospital Emergency of Railway Hospital regarding details of the accident. Railway doctor on emergency duty shall undertake the following:

(i) Note down time of receiving message.

(ii) Inform CMS, MS, other Doctors & para-medical staff and instruct them to reach the ARMV immediately.

(iii) Collect necessary Medical team in the hospital.

(iv) Inform PCMD about movement of ARMV.

(v) Alert blood donors, SJAB.

(vi) Bare minimum medical team should remain in the hospital; rest of the doctors should be rushed to the accident site.

(vii) Arrange to move Emergency boxes from ARME Scale-II locations to the accident site.

4. Intimation of Accident-Head Quarter, Central Control Office:

(i) In Head Quarter. Central Control Office also, the accident bell in control room should be sounded for alerting all on-duty functionaries.

(ii) After they gather around the Dy. CHC they will be briefly informed about the accident.

(iii) Each functionary will thereafter resume his position and take steps to set in motion activities required of him.

(iv) Each departmental functionary will inform Head Quarter. Officers of his department about the accident as detailed below:

- Dy. CHC (Op) Operating & Safety
- Dy. CHC (Chg.) GM, Medical
- TPC Electrical
- PRC Mechanical
- Engg. Control Engg., Personnel, Accounts - Test Room S&T, Stores
- Commercial Control Commercial, Public Relations
- Security Control RPF

(v) For this purpose, all functionaries working in the Central control office will have a ready list of telephone numbers (Railway, BSNL and Mobile) of all officers and supervisors of their departments.

(vi) After Dy. CHC (Chg.) has informed GM and Medical Doctors, he will thereafter inform Safety Directorate's Emergency Cell in Railway Board.

(vii) GM will inform CRB regarding the above accident.

(viii) PHODs will inform their respective Board Members. In case PHOD is not available in Head Quarter, then the next senior most officer of that department will inform his Board Members.

(ix) PCSO/Dy. CSO will inform CRS.

(x) In case of major accident, Head Quarter special train carrying GM & other PHOD's are required to move immediately. As soon as the information of major accident received by CPTM, he will arrange special train either from Patna or Sonpur depending upon time and location of accident or as directed by GM.

(xi) Functionaries of different departments will also inform their respective departmental officers regarding timing of 1st Special train carrying GM and other Head Quarter Officers to the accident site.

(xii) In case, the accident side is far away and going by air would be faster, then the helicopter or special Air force Plane may be arranged by Secretary to GM.

5. Informing Non-Railway Officials:

(i) DM, SP and CMS of the district within which the accident site falls should be informed regarding the accident by the CHC.

(ii) ADRM will inform the following regarding the accident:
- IG/GRP,
- ADG/GRP,
- Divisional Commissioner,
- Home Secretary

(iv) In case POL rake is involved, then IOC/BPC/HPC officials should also be informed.

(iv) In case Mail bags of RMS are involved, then Postal officials should also be informed.

(v) Telephone numbers of all DMs, SPs, CMSs and Divisional Commissioners are available in Divisional DM Plans.

(vi) Telephone numbers of IOC, BPC and HPC officials are also available in the Divisional DM Plans.

5. Divisional Officers required going to site:

(i) All divisional officers required to go to the accident site should proceed by the ARMV.

(ii) Road vehicles should be sent to accident site separately. Maximum number of road vehicles should be sent to accident site from Divisional Head Quarter.

(iii) ARMV shall be dispatched within 15" by day and within 25" by night after sounding of siren.

(iv) DRM will proceed to the accident site. ADRM shall stay back at divisional Head Quarter for co-ordination work.

(v) **All Branch Officers should proceed to the accident site. FOR this purpose, officers heading different branches within the same department are referred to as Branch Officers. For example, in Electrical department, TRD and 'General' will be considered to be separate branches and both will be required to go to site.**

(vi) **The second senior most officer of each branch should stay back at divisional Head Quarter**.

(vii) **Of the remaining officers from each branch, a majority of both Senior and junior scale officers should also proceed to the accident site.**

(viii) Once it has become clear that the accident is a Disaster, then the 80/20 rule should be followed:
(a) 80% of all officers should go to the accident site, and only 20% should stay back at Head Quarter.
(b) Similarly, 80% of all supervisory staff should go to the accident site, and only 20% should stay back at Head Quarter.

(ix) The complement of officers available in each department varies from division to division. Hence, Divisional DM Plans should specifically

spell out, department wise, designations of officers who will be required to go to site, and those who will be required to stay back in Head Quarter.

(x) Divisional DM plans should also spell out the same thing for Supervisors of each department.

(xi) Arrangements of Road Vehicles to proceed to accident site, indicating alternative vehicles as well, shall be indicated in Divisional DM Plans.

(xii) Arrangements of vehicle drivers including spare drivers shall also be notified.

6. Supervisors required going to Accident Site:

(i) At the divisional level 80% of all supervisors available in divisional Head Quarter. should proceed to the accident site.

(ii) All other supervisors available in the field at other stations should also proceed to the accident site.

(v) Divisional Control Office should issue a recorded control message from DRM to all Supervisors for proceeding to the accident site immediately by fastest possible means.

7. Head Quarter Officers required to go to site:

(A) HEAD QUARTER OFFICERS

(i) All Head Quarter. Officers required to go to the accident site should proceed by the 1st special train which will be carrying GM and other officers from Head Quarter.

(ii) This special train shall be arranged by Danapur/Sonpur Divisional Control Office, in consultation with Head Quarter Central Control. Scheduled departure time will be informed to Head Quarter. Officers by their departmental functionaries in Head Quarter. Central Control.

(iii) GM will proceed to the accident site. PCOM shall stay back at zonal Head Quarter for co-ordination work.

(iv) Department wise, designations of officers who are required to go to site, and those who will be required to stay back in Head Quarter. is given below:

Department	Site	Head Quarter
Medical	PCMD	Dy. CMD
Commercial	PCCM, CCM(G), CCM(M&R),*	Dy. CCM(Claims), Dy CCM (G)
Mechanical	PCME, CME(D&DM), CRSE/Chg,CRSE/Frt**	CWE, 1 JA Grade,
Civil	PCE, CTE, CBE, 3 JA grade	2 JA Grade
Electrical	PCEE, CELE, 2 JA Grade	2 JA Grade

S&T	PCSTE,CSE, CSTE(Con) Dy. CSTE (Tele)	2 JA Grade
Operating	*	PCOM, CFTM, Dy. COM/ Chg.
Safety	PCSO**	Dy.CSO(T)/ DY.CSO(S&T)
Security	PCSC, Dy.CSC	SO to PCSC
Personnel	PCPO,*	Dy. CPO
Accounts	PFA,Dy.FA(Traffic)	Dy. FA&CAO
Stores	PCMM, Dy. CMM(G)	CMM

** All other JA Grade, Senior and Junior Scale officers.
* All other Senior and Junior Scale officers.

(v) PHODs should issue local instructions based on the above regarding supervisors who will be required to go to the accident site.

(vi) Only 3 supervisors of each department should stay back in Head Quarter. All others should go to the accident site.

(B) **OPERATING DEPARTMENT**:

Duties of the Operating Department in Head Quarter are given under the heading 'Disaster Response – Co-ordination Centers'.

(C) **SAFETY DEPARTMENT**:

PCSO will proceed to accident site along with all other officers and supervisors of the Safety Organization. Duties of Safety Organization at accident site has been listed out in Chapter 19, under the heading 'Site Management Plan-I'.

(D) **PUBLIC RELATIONS**:

Duties of the Public Relations Department are given in Chapter 15, under the heading 'Media Management Plan."

(E) **MEDICAL DEPARTMENT:**

1. Formation of two teams:

(i) On receipt of information regarding the accident where casualties are expected, the doctor on emergency duty in the hospital casualty would inform all other doctors and para medical staff concerned.

(ii) Two teams of Doctors and Para medical staff would be formed, Team 'A' and Team 'B'.

(iii) Team 'A'- headed by CMS/MS in-charge will rush to the accident site immediately by ARMV along with 10 doctors and 15-20 paramedics.

(iv) Team 'B'- headed by the senior most doctor amongst them will stay back at the divisional hospital and perform duties as given below.

(vi) In case the accident site is far away from divisionalHead Quarter., then injured passengers are unlikely to be brought back to the divisional hospital for treatment.

(vii) In that case, only bare minimum number Doctors should be left behind for manning Team 'B' and most of the available doctors should be rushed to accident site as part of Team 'A'

2. **Duties of Team 'A':**

These are listed in detail in Chapter 12, under the heading 'Site Management Plan-II'.

3. **Duties of Team 'B':**

(i) Team 'B' will establish an Emergency Cell in the Casualty Unit of Railway Hospital.

(ii) Contact adjoining divisions and organize movement of 2 more ARMVs to accident site, one from each end, as detailed in Chapter 3, (1.4)

(iii) Contact local hospital (Railway/Govt./Private) near the accident site and ask them to rush their road ambulances along with necessary medical team to the accident site immediately.

(iv) Contact local hospital (Railway/Govt./Private) near the accident site to keep them in readiness to receive and provide medical treatment to injured passengers.

(v) Data Bank of medical facilities along the track is available section wise for each division in Divisional DM Plans. Copy of Divisional DM Plans should be available in the Hospital Emergency of Railway Hospital.

(vi) The above Data Bank is also available in the ECR Web Site on Railnet at www.ecr.indianrail.gov.in. Details of name, address, telephone no., facilities available etc. can be collected from this.

(vii) Arrange to send the following in the 2nd and 3rd Special trains carrying backup logistic support to the accident site, from each end: as many more medical teams as possible,

- adequate number of Safaiwalas & other health workers,
- members of SJAB, Scouts and Civil Defence personnel.

(viii) Co-ordinate with MS/PCMD of adjoining Divisions/Zones and ask them to send their medical team to the accident site.

(ix) These medical teams should be sent to the accident site by train/road or combination of train-cum-road, as feasible. In case suitable Railway vehicles are not available, taxis should be hired for this purpose.

(x) Adequate number of following items should be arranged and sent to accident site for the purpose of handling dead bodies:

- Shrouds.
- Polythene covers for dead bodies.
- Wooden Coffins.
- Dry ice.

(xi) One doctor will be available in Divisional Emergency Cell for maintaining liaison with UCC and the medical team at the accident site. Requirement of medicines required either at the accident site or in various hospitals where patients have been admitted should be noted, procured and sent as required.

(xii) Prepare Railway Hospital to receive and provide treatment to injured passengers, as and when are brought back from accident site.

(xiii) Arrange to send anti snake venom 4 vials and other items in cold chain carrier.

(F) **COMMERCIAL DEPARTMENT:**

(i) Sr. DCM should proceed to site of accident along with all other Commercial Officers except DCM. DCM will be available in Divisional Control Office for providing backup support.

(ii) A nominated supervisor should be authorized for withdrawing sufficient money from station earnings before proceeding to site.

(iii) Similarly, PCCM along with other HODs and other commercial officers from Head Quarter Will proceed to accident site as detailed at Section (A7) above.

1. Transportation of men and material to accident site:

(i) On duty commercial supervisor should ensure to dispatch the maximum No. of TTE's/TCs and licenced porter in uniform to the accident side in case of Disaster.

(ii) More TTEs/TCs can be sent by the 2nd and 3rd Special trains carrying backup logistic support to accident site, from each end. TTEs from the Divisional squad should also be utilized for this purpose.

(iv) After the first batch of staff has proceeded to the accident site in the ART, the entire manpower of the commercial department should be mopped up in order to send them on the 2nd and 3rd special trains which would carry backup logistic support to the accident site, from each end. For this purpose, 80% TCs/TTEs from the entire division should be sent.

(v) 2nd and 3rd Special trains should carry the following:

- 2 gas stoves, 4 gas cylinders, 1000 mineral water bottles, provisions for making poories, vegetables, tea, etc., would be rushed to the site. This will be augmented later if necessary. These will be arranged by the affected division and provided by catering personnel/IRCTC.

- Sufficient cooks and catering staff from departmental catering or catering contractor (including IRCTC) would be ensured at the site for arranging tea, biscuits, packed meals like poories and vegetables to the stranded passengers, railways working force and other officials at site.

(vi) Sr. DCMs should prepare section-wise nominations of catering agencies both departmental and private for rushing to site. This should be available in Divisional DM Plans.

2. Helpline Enquiry Booths at stations:

(a) General:

(i) Helpline Enquiry Booths within ECR would be opened as below:
- Originating and destination stations of the accident involved train.
- All junction stations within the jurisdiction of ECR falling on the route of the train.
- Divisional Head Quarter.
- Any other stations as may be decided.

(ii) Helpline Enquiry Booths on other Zonal Railways would also be opened as follows:
- Originating and destination stations of the accident involved train.
- All junction station falling on the route of the train.
- Divisional Head Quarter of originating and terminating Zonal Railways.
- Any other station as may be decided.

(iii) Helpline Enquiry Booths shall have DOT telephones with STD, Railway telephones with STD, fax machine, photocopier and a PC with internet connection.

(iv) Helpline Enquiry Booths would be manned by computer literate Sr. supervisors on round the clock basis.

(v) Helpline Enquiry Booths within the accident affected division should keep in touch with the Divisional Emergency Cell.

(vi) Divisional Emergency Cell will collect updated information regarding all aspects of the accident from the UCC and pass on the same to:

- All Helpline Enquiry Booths within the division.
- Emergency Cells of other divisions of ECR.
- Head Quarter Emergency Cell.

(vii) Such information should be received from UCC by E-Mail and transmitted by E-Mail to all concerned. For this purpose, all Helpline Enquiry Booths should be provided with PCs with internet connection.

(viii) Similarly, Helpline Enquiry Booths outside the accident affected division, but within ECR jurisdiction should keep in touch with Divisional Emergency Cell of their respective divisions.

(ix) Head Quarter Emergency Cell will collect updated information regarding all aspects of the accident from the UCC and pass on the same to:

- Emergency Cells opened on other divisions of ECR.
- Emergency Cells opened on originating and terminating Zonal railways.

(x) Helpline Enquiry Booths should not contact the accident site or the UCC directly.

(b) Accident details to be available

(i) Accident details would include number of dead and injured.
(ii) Break up of type of injuries, such as grievous, simple etc.
(iii) Disposal of injured passengers in various hospitals.
(iv) Names of injured passengers.
(v) Officials in-charge of Helpline Enquiry Booths would display the list of injured passengers on the notice board.
(vi) For this purpose, Computer printout of E-Mail received should be taken out and displayed at number of places at the station.
(vii) Normally, list of injured passengers is available quickly since most injured passengers are conscious and are in a position to give details of their names, addresses etc.
(viii) Identification of dead bodies takes much longer since either
- they were traveling alone, or
- their companions are injured and are not in

a position to identify them, or
- their companions have also perished.

(ix) Under such circumstances it is possible to identify dead bodies only when relatives come from their home town.
(x) This aspect of identification of dead bodies and reasons for delay should be explained to the public.
(xi) Number of dead bodies identified, and their names should be available.
(xii) This information would continue to be updated once every 3 hrs.

(c) Information regarding running of trains:

(i) Departure of unaffected front portion of the accident involved train, and its expected time of arrival at destination.
(ii) Departure of unaffected rear portion of the accident involved train, its diverted route, and expected time of arrival at destination.

(iii) Expected date and time of starting of relatives special from originating and destination stations of the accident involved train, its stoppages enroute and its expected time of arrival at intermediate stations.
(iv) Free passes to be given to relatives of dead and injured for going to the accident site. These passes will be issued by WLI who should be drafted into Helpline Enquiry Booths.
(v) Details of other trains that were scheduled to run on the accident affected section, but have been:
- Delayed,
- Regulated,
- Diverted,
- Rescheduled,
- Short terminated,
- Cancelled.

(d) Refunds:

(i) Booking counters at stations be augmented for granting of refund to large number of passengers who have been unable to either complete or commence their journey as a result of the accident.
(ii) Refund of money should be granted for trains:
- Delayed,
- Regulated,
- Diverted,
- Rescheduled,
- Short terminated,
- Cancelled.

(iii) Staff manning Refund counters should be thoroughly familiar with rules for granting of refunds under such circumstances.

(iv) Sufficient amount of cash should be available at these Refund counters for this purpose.

(G) MECHANICAL DEPARTMENT

(i) Sr. DME as well as AME should proceed to site of accident. DME will be available in Divisional Control Office for providing backup support.

(ii) Similarly, PCME, CMPE (Dsl)/CME/Plg, CRSE and other JA grade officers from Head Quarter will proceed to accident site as detailed at Section (A7) above.

1. Rushing of men and material to site:

(i) 2 ARTs with 140 T crane should be moved to the accident site, one from each end as detailed in Chapter 3.

(ii) In addition to above, Brake Down Special should be sent from other base stations within ECR, so that additional rescue equipment such as cutters, spreaders, hydraulic jacks etc. are available.

(iii) BD Special without Crane should be requisitioned from adjoining divisions also so that additional rescue equipment such as cutters, spreaders, hydraulic jacks, generators, lighting equipment etc. are available as detailed in Chapter 3.

(iv) The aim should be to ensure one ART with 140 T crane along with one BD special at each end of the accident site.

(v) Provision should be made for availability of standby crane driver on each ART working at site, so that ARTs work round the clock.

(vi) Road cranes of sufficient capacity should be arranged so that these cranes can start working from the center while the 140T cranes can continue working from either end.

(vii) Trucks should be arranged for carrying BD equipment near to accident involved coaches, so that the site of accident can be approached from the middle, and more work centers can be opened up simultaneously.

(H) SECURITY DEPARTMENT:

(i) Sr. DSC will proceed to the site by ARMV along with maximum number of RPF personnel. Only one officer will stay back at divisional Head Quarter

(ii) Similarly, PCSC/RPF will proceed to accident site along with Dy. CSC as detailed in Section (A7) above. PCSC/RPF will

assume control and take necessary steps for discharging duties allotted to Security department.

1. Rushing of men and material:

(i) On receipt of first information the nearest RPF Post should muster maximum available manpower within the shortest possible time and dispatch them to the site of accident, by fastest available means.

(ii) Simultaneously, the Post/Outpost in charge would requisition additional manpower from adjoining RPF Posts.

(iii) He should also pass on the information to Local Police and Police Control Room, local Fire Brigade, Hospitals, local voluntary organizations and the like at the earliest.

(iv) Divisional Security Control shall get reinforcement from neighbouring posts/outposts, reserve line, divisional Head Quarter or zonal reserve and send them by the ART. If they could not be sent by the ART then they should definitely be sent by the 2nd and 3rd Special trains carrying backup logistic support to the accident site, from each end.

(v) In case any RPSF battalion or Company is located in the vicinity, men can be requisitioned from there for dealing with such emergent situations till additional force is available from other sources.

(vi) Additional RPF personnel from Zonal Head quarter should be shouldered and sent to accident site.

(vii) Additional RPF personnel available throughout the division should be alerted and sent to the accident site by the 2nd and 3rd special trains carrying backup logistic support of men and material, from each end.

(viii) While sending reinforcement, the Divisional Security Control shall ensure that the necessary equipment required for rescue, recovery and protection of the scene of incident are provided as follows:

- Torches (1per person) and other lighting arrangements.
- Nylon ropes (1kms) and poles for segregating the affected area.
- 4 loud speakers for making announcements.
- 10 stretchers and first aid equipment.
- Digital Camera for photographing the scene (both on negative and slide films)
- Video recording of rescue and salvage operations and connected administrative arrangements.

2. Co-ordinate with Local Police:

Maintain constant liaison with IG/GRP and ADG/GRP for following: -

(i) Rushing of all available GRP personnel to the accident site.
(ii) Obtaining additional manpower from the local police for purpose of crowd control.
(iii) Issue of necessary instructions to local police for giving expeditious clearance for starting restoration work.
(iv) Issue of necessary instructions to SP of the district for waiving off formalities of Post Mortem on dead bodies

(I) ELECTRICAL DEPARTMENT:

(i) Sr. DEE (G) as well as AEE(G) should proceed to site of accident. DEE(G) will be available in Divisional Control Office for providing backup support.
(ii) Sr. DEE/TRD as well as AEE/TRD should proceed to site of accident. DEE/TRD will be available in Divisional Control Office for providing backup support.
(iii) Similarly, CEE, CEE(Op). and other JA grade officers from Head Quarter will proceed to accident site as detailed at Section (A7) above.
(iv) Main responsibility of Electrical Department will be regarding site illumination and OHE.
(v) Maximum number of electrical staff should be sent by 2nd and 3rd Special trains for installation and operation of electrical equipment.
(vi) Officers staying back in divisional Head Quarter shall maintain constant liaison with site and find out quantum of assistance required by way of men and material.
(vii) These should be rushed to accident site either from:

- Railway sources within the division, or
- Railway sources from adjoining divisions and zones, or
- Non-Railway sources within the division

(J) SIGNAL & TELECOMMUNICATION DEPARTMENT:

(i) Sr. DSTE as well as ASTEs should proceed to site of accident. DSTE will be available in Divisional Control Office for providing backup support.
(ii) Similarly, CSTE along with HODs and other JA grade officers from Head Quarter Will proceed to accident site as detailed at Section (A7) above.

(iii) Main responsibility of S&T Department will be for providing effective and adequate means of communication.

1. **Rushing of men and material to site**:

a. Sr. DSTE along with ASTE will carry the following to the accident site:
- Satellite phone.
- FAX cum printer,
- two 25 W VHF sets along with antenna and battery
- 10 numbers 5 W walkie-talkie sets.

b. He will be accompanied with at least two TCI and two TCM.

c. As per requirement TCI/TCM, SIs of the section and maximum number of telecom staff should be sent for installation and operation of telecom equipment. They should go to the site of accident either by ART or latest by 2nd and 3rd Special trains carrying backup logistic support to the accident site, from each end.

d. Satellite phones of HQ and one FAX machine will be carried in GM special by at least two TCI and two TCM.

e. All mobile phones available with the Division should also be rushed to site for emergency use.

f. Sufficient number of spare batteries and battery chargers for these mobiles should also be taken to accident site.

2. Arranging communication at site:

a. DSTE in the division will immediately come to divisional control office and ensure setting up of all communication arrangements as required.

b. DSTE will keep a record of the numbers of Railway telephones, BSNL telephones, IMMERSAT phones provided at site and telephones provided at Helpline Enquiry Booths. This information shall be passed on to the Divisional Emergency Cell.

c. He should liaison with BSNL officials in the area for immediate provision of additional BSNL telephone/hot lines at the accident spot, nearest station and at Helpline Enquiry Booths duly utilizing assets under his disposal where required.

d. Should hire sufficient number of cell phones and send them to accident site.

e. Obtain E-Mail addresses of Emergency Cells set up on other Divisional and Zonal Head Quarter

3. Communication at Head Quarter and Divisional Emergency Cells:

a. Communication arrangements are required to be provided at ECR Head Quarter. Emergency Cell immediately.

b. 2 BSNL Telephones, one having STD facility are already available in the Head Quarter. Central Control. Dynamic locking code of the telephone is available with CHC/Emergency. FAX machine is also provided on one BSNL telephone in the Emergency control.

c. Apart from this telephone, 4 other BSNL telephone numbers (2 with STD facilities) should be made available in Head Quarter. Emergency Cell for use by Chief Emergency Officer. These should be temporarily transferred from officer's chambers.

d. One FAX machine shall be provided on one BSNL telephone.

e. 2 Railway telephone numbers with STD facilities should also be made available.

f. 2 Mobile telephones should also be made available in Head Quarter Emergency Cell.

g. Similar Communication arrangements should also be provided in the Divisional Emergency Cell.

4. **Communication at Helpline Enquiry Booths:**

a. Helpline Enquiry Booths are to be opened at all important stations en-route of the affected train as mentioned at Section (F2a) above.

b. Location of these Helpline Enquiry Booths will be on Platform No. 1 of their respective stations.

c. 2 BSNL phones should be identified and kept pre-wired to the Helpline Enquiry Booths so that these can be energized at short notice.

d. Similarly, 2 Railway phones should be identified and kept pre-wired to the Helpline Enquiry Booths so that these can be energized at short notice.

e. One FAX machine, Photocopier and PC with internet connection and printer should also be provided at Helpline Enquiry Booths. These should also be kept pre-wired so that these can be energized at short notice.

f. Stations at which such arrangements are to be made and telephones which are to be utilized should be identified by Sr. DSTE with approval of DRM.

(K) ENGINEERING DEPARTMENT:

1. Rushing men and material to accident site:

PCE along with HODs and other JA grade officers will proceed to accident site by the special train organized for this purpose as detailed at Section (A7) above.
Sr.DEN/C and DEN concerned will proceed to the site of accident by ARMV. In the absence of Sr.DEN/C, the next senior most DEN of the Division will proceed along with the concerned DEN. In the absence of DEN of the Section, DEN of the adjoining Section will proceed by ARMV. It is expected that AEN and PWI of the Section would have already reached the accident site before arrival of ARMV. In cases, where the PWI and AEN are based at divisional Head Quarter, they should move along with staff by ART. At least, 2 SSE/Works and 1 SSE/Bridge should move along with their staff by the ART.

2. Mobilization of work force:

(i) Sufficient nos. of workmen along with PWI & Black smith are required to reach the site of the accident. For this purpose, labour specials will be run from the specified destination as decided by the Divisional Engineering Control.

(ii) ½ Km of rails, sleepers and fittings and one set of 1 in 12 and 1 in 8 ½ turnouts are available in the ART. The Mechanical and Operating Departments will ensure that part 'C' of ART (consisting of additional Engineering Material Wagons) shall follow the ART. The additional half Km. of matching materials and one set of 1 in 8 ½ and 1 in 12 turnouts shall be kept in the Track Depot of the Division. For loading of this material, 2 BFRs and 2 BCX wagons should be immediately placed for the dispatched to the site of accident. This will be ensured by the SSE (P.Way) Track Depot and Divisional Engineering Control.

(iii) At least two nos. of JCBs available with the ballast depot contractor shall be immediately moved.

(iv) The bulldozer available at DHN ART will be moved by special train arranged by Dhanbad Division.

(v) SrDEN/DEN in Divisional Emergency Control will request concerned authority (Army/State Govt. Deptt.) for bulldozer/earthmoving machinery in the area.

(L) IT Department:

(i) PCSO's room which will be used as Head Quarter Emergency Cell should be provided with a 2nd PC from Dy. CSO/Traffic's room.

(ii) Similarly, Two PCs should also be provided in the Emergency Cell of Div. Control office connected to Railnet and the E-Mail addresses.

iii) PCs in various Helpline Enquiry Booths at different stations should all be made functional, connected to railnet and made ready for receiving and sending E-Mails

(iv) Following information should be uploaded on to ECR's Website as quickly as possible:

(a) List of injured and deceased passengers:

- Names of stations where Helpline Enquiry Booths have been opened along with their telephone numbers.
- Accident details would include, number of injured passengers rescued.
- Break up of type of injuries, such as grievous, simple etc.
- Disposal of injured passengers in various hospitals.
- Names of injured passengers- coach wise.
- Number of dead bodies recovered.
- Number of dead bodies identified.
- Names of deceased passengers.

(b) Details of trains which have been diverted, regulated, short terminated, cancelled or rescheduled.

(c) Details of special trains which are to be run:

- Passenger special carrying passengers of front portion of accident involved train.
- Passenger special carrying passengers of rear portion of accident involved train.
- Relatives special from originating and terminating stations of the accident involved train.

CHAPTER-14

DISASTER RESPONSE-CO-ORDINATION CENTERS

1. Rushing of ARMVs & ARTs to accident site:

(i) After ARMVs and ARTs have been ordered, PNL should locate diesel powers for these ARMVs and ARTs.

(ii) First available diesel powers should be nominated, even by temporarily detaching from a Mail/Express train on run, if necessary.

(iii) If diesel power is not readily available and OHE is functional up to the next junction station, then ARMVs and ARTs should be moved out by Electrical loco and diesel powers can be changed en-route.

(iv) In case a diesel power is not available on the division, then it should be requisitioned from adjoining divisions.

(v) Movement of ARMV and ART should never be clubbed together. ARMV should be started first and moved separately for faster movement.

(vi) ARMVs and ARTs should be dispatched from the base station, within the target time stipulated. Departure of ARMVs and ARTs should not be delayed on any account including arrival of doctors or officers. Anybody who is left behind can proceed later on either by GM special or by next special train or ever by road.

(vii) ARMVs must be run out within the target time, even without full complement of doctors, if necessary. This will ensure that other doctors who are available at accident site can utilize facilities of ARMV after its arrival at site.

(viii) ARMVs and ARTs should be moved on top priority taking precedence over all other trains. They should not be stopped anywhere en-route for picking up any one.

(ix) Running lines at 7 stations on either side of the accident affected block section should be kept clear of all trains. In case there are any stabled loads, the same should be lifted.

(x) Freight trains on run towards accident site should be reversed and returned.

(xi) Fresh stabling, if any, should be done beyond 7 stations on either side.

(xii) Even for stabling beyond 7 stations, both Up and Dn loop lines should not be blocked at the same station.

(xiii) For stabling beyond 7 stations, Up loop and Dn loop should be blocked, at alternate stations.

2. **Diversion, Regulation, Short termination, Cancellation and Rescheduling of Mail/Express/Passenger trains**:

(i) The moment information is received about the accident, all Mail/Express trains on run towards the accident involved section should be stopped. They should not be advanced beyond the last Jn. from where they can be diverted.

(ii) They should be regulated at convenient stations before a decision is taken regarding their further movement. This decision should normally be taken within the next one hour.

(iii) Trains should preferably be regulated at stations where food can be arranged.

(iv) However, too many trains should not be simultaneously brought to a Jn. station for regulation, since it may create law and order problems.

(v) It is better to keep them moving slowly so that passengers do not agitate. In such cases, a caution order may be served to the driver to proceed at 30 kmph.

(vi) Passenger trains can be run out to the next convenient location and thereafter terminated so that their rakes are available for use.

(vii) Head Quarter Emergency Cell shall decide on the following in consultation with adjoining Railways and Coaching Directorate of Railway Board:

- Diversion,
- Regulation,
- Short termination,
- Cancellation,
- Rescheduling.

(viii) The above decision regarding diversion etc. should be taken in about an hour's time after ARMVs, ARTs, GM special have been run out and there is a slight lull in the information flow.

(ix) As far as possible, trains which are already on run should be diverted. They should not be short terminated, since this will create problem of dispersal of passengers.

(x) Trains should be diverted from the last possible Jn. station onwards so that maximum number of passengers can detrain at their proper destination stations. (For example, in case of an accident on the PNBE-DDU section, Up trains towards New Delhi should be diverted from PNBE and not from ASN itself).

(xi) Sr.DEE/OP& Sr.DME/P would be in-charge of co-ordination with operating department regarding requirement and availability of crews etc.

(xii) Sr.DEE/OP& Sr.DME/P will take into consideration changing traffic requirement because of diversions etc. and accordingly plan crew deployment.
(xiii) Adjoining divisions should be informed about these diverted trains so that spare crews can be sent to interchange points.
(xiv) For diverted trains, drivers and guards having necessary road learning should be arranged.
(xv) Drivers nominated for working these diverted trains should be empanelled for working Mail/Expresses as per Railway Board's instructions.
(xvi) Crews should also be planned for diesel engines sent to the accident site working ARMVs, ARTs, other special trains and likely to be held up there till restoration.
(xvii) The Diesel power should be deployed in Accident affected section as per requirement of Accident site in-charge.
(xviii) 3 sets of diesel crews should be planned for each diesel loco deployed at the accident site.
(xix) If necessary, diesel crews should be arranged from adjoining divisions also.
(xx) In the absence of Sr.DEE/OP & Sr DME/P, DEE/OP & DME/P will perform this function.

3. Running of Special trains:

Following special trains will be required to be run in the given order of priority:

(i) ARMVs.
(ii) ARMV from the other end.
(iii) 2 additional ARMVs from adjoining divisions, one from each end.
(iv) ART.
(v) ART from the other end.
(vi) 2 additional BD Special one from each end.
(vii) 1st special train carrying GM and other officers from Head Quarter and some leftover officers from division (in case it passes through the divisional Head Quarter).
(viii) Unaffected front portion of the accident involved train in case the same can be moved.
(ix) Unaffected rear portion of the accident involved train in case the same can be moved.
(x) In case the front and rear portions cannot be moved, then they should be left as they are.
(xi) 2 empty coaching rakes, one from either end for clearing unaffected passengers of the accident involved train.
(xii) 2nd and 3rd special trains for accident site, one from each end, carrying logistic backup support, material and additional manpower from junction stations. These should normally be run

out 2-3 hrs. After arrival of ARMV, carrying DRM and other divisional officers at the accident site.

(xiii) Before these 2nd and 3rd special trains are run from each end, railway staff at all stations en-route should be informed regarding running of these trains so that supervisory staff of all departments, from Jn. stations can go to the accident site on these trains.

(xiv) 2 light engines should be stationed, one at each station on either side of the accident involved block section.

(xv) 2 Engineering specials, one from each end, carrying engineering material and gangmen from the section.

(xvi) Running of 2 passenger specials for carrying relatives to the site of accident. These trains will be started from the originating and destination stations of the accident involved train and will be given same stoppages as the accident involved train for picking up relatives' en-route. This is to be co-ordinated by Head Quarter Emergency Cell in consultation with Railway Board.

(xvii) Arrangement for the visit of MR/MOSR, CRB and other Board Members to the accident site should be made in coordination with the Safety Directorate and Secretary, Railway Board.

(xviii) 2 empty coaching rakes, one from either end for being stabled at convenient locations where watering and charging facilities are available. These stabled rakes will be used for housing the staff working at accident site.

4. Sequence of movement of ARMVs and ARTs into the accident effected block section:

(i) The sequence of sending and taking out various trains into and out of the accident affected block section should be planned carefully.

(ii) Except for 140T cranes and Engineering specials, all other trains should be sent into the block section with engine leading so that they can reach faster.

(iii) If the unaffected front and rear portions of the accident involved train can be pulled out, then these should be withdrawn before sending in ARMVs into the block section.

(iv) After the unaffected front and rear portions have been pulled out, both portions should be augmented by being patched up with extra coaches at the first Jn. station en-route.

(v) In case the front and rear portions cannot be pulled out then they should be left as they are.

(vi) After the 1st pair of ARMVs reaches adjacent stations from either side, they should be sent into the block section, one from each end.

(vii) BD specials without cranes that have arrived should be pushed into the block section after the ARMV so that use of additional cutters, spreaders, hydraulic jacks etc. can be made.

(viii) After all equipments from BD specials have been unloaded at accident site and staffs have detrained, both BD specials should be withdrawn. These should then be kept 4 stations beyond.

(ix) The 2nd pair of ARMVs that have been requisitioned should also be moved on top priority. After BD specials have been withdrawn, these ARMVs should be sent into the block section while the first ones are still there.

(x) In case 2nd pair of ARMVs arrive before BD special, then item no (ix) should be carried out before item No. (vii) and (viii).

(xi) Both ARTs with 140 T cranes should be regulated at least 1 station before so as not to clutter up the adjacent station.

(xii) Empty coaching rakes that have been sent for clearing uninjured passengers should be sent into the block section thereafter, while both ARMVs are still there.

(xiii) After transshipment of passengers, both empty coaching rakes should be pulled out and run out as passenger special to the original destination of the accident involved train.

(xiv) After the work of ARMVs is over, all of them should be withdrawn and returned back.

(xv) The front and rear portion of the accident involved train should now be withdrawn by sending diesel light engines into the block section.

(xvi) Last of all both ARTs with 140 T crane should be marshaled as per site requirement and sent into the block section with crane leading, one from each end.

(xvii) Tower wagons should be sent in Block Section from each end following the ART.

5. Setting up Emergency Cells in Divisions:

(iii) Divisional Emergency Cell shall be opened immediately after receipt of information of the accident at Divisional Control Office.

(iv) This unit will exercise control, co-ordinate and arrange supplementary assistance to the accident site.

(v) It shall function in a separate cubicle at Divisional Control Office provided with centralized communication networks, hot line to the site and Head Quarter

(iv) Sr. DOM will be over all in charge of the Divisional Emergency Cell and will function as the Divisional Emergency Officer for the purpose of managing relief and restoration operations from divisional level.

(v) In case Sr. DOM is not available, DOM (Movement) will be the Divisional Emergency Officer.

(vi) In case both officers are not available, any other officer nominated by DRM will take over charge.

(vii) Requirements of all departments for movement of men and materials to the accident site shall be conveyed to the Divisional Emergency Officer, who shall arrange their movement.

(viii) Timings of 2nd and 3rd special trains to be moved from each end to the accident site, carrying backup logistic support will be conveyed to all concerned beforehand.

(ix) Divisional Emergency Cell will maintain:

- Telephone and FAX numbers of the accident site. These should be maintained functionary wise for each functionary available in the UCC.

- Similarly, telephone and FAX numbers of functionaries available in CAC should also be available with the Divisional Emergency Cell.
- E-Mail addresses of UCC, CAC, Helpline Enquiry Booths and Head Quarter Emergency Cell.
- Names and phone numbers of hospitals where injured have been admitted/shifted, along with number of patients.

(x) Divisional Emergency Cell will collect updated information regarding all aspects of the accident and pass on the same either telephonically or by E-Mail to:
  - All Helpline Enquiry Booths within the division.
  - Head Quarter Emergency Cell.

(xi) Divisional Emergency Officer on duty shall chronologically record all information and instructions received or given in a logbook.

(xii) For Dhanbad division, similar Emergency Cell will also be opened at BRKA/CPU Control Office. DTM/BRKA/CPU will function as Emergency Officer and discharge all duties listed above.

(xiii) In addition to the Division where accident has taken place similar Emergency Cells will be opened in other Divisional Control Offices of ECR that are involved in restoration and relief operations. Chief Emergency Officer will decide division where Emergency Cells are to be opened.

(xiv) Helpline Enquiry Booths outside the accident affected division, but within ECR jurisdiction should keep in touch with Divisional Emergency Cell of their respective division.

(xv) If necessary, similar emergency cells will be opened at other major terminals as decided by Chief Emergency Officer.

(xvi) After relief, rescue and restoration work is completed, winding up of Divisional Emergency Cells shall be decided by DRM.

6. Setting up Emergency Cells in Head Quarter:

(i) Head Quarter Emergency Cell shall be opened immediately after receipt of information of the accident at Head Quarter Office.

(ii) This unit will exercise control, co-ordinate and arrange supplementary assistance to the accident site.

(iii) It shall function from a separate room in ECR Head Quarter office provided with centralized communication network, hot line to UCC and Divisional Emergency Cell.

(iv) PCSO's chamber in ECR Head Quarter Office should be converted into Head Quarter Emergency Cell for the duration of the disaster till the proper functioning of Multi Disaster Resistant control Room.

(v) CFTM will be over all in charge of the Head Quarter Emergency Cell and will function as Chief Emergency Officer for the purpose of managing relief and restoration operations from Head Quarter level.

(vi) In case CFTM is not available, Dy. COM/Chg. will be Chief Emergency Officer.

(vii) In case both officers are not available, any other officer nominated by PCOM will take over charge.

(viii) Requirements of all departments for movement of men and materials to the accident site from adjoining zones and divisions shall be conveyed to the Chief Emergency Officer, who shall arrange their movement.

(ix) Head Quarter Emergency Cell will maintain:

- Telephone and FAX numbers of the accident site. These should be maintained functionary wise for each functionary available in the UCC.
- Similarly, telephone and FAX numbers of functionaries available in CAC should also be available with the divisional emergency cell.
- Telephone and FAX numbers of Helpline Enquiry Booths that would have been set up at various stations on adjoining zones.
- E-Mail addresses of UCC, CAC, Helpline Enquiry Booths and Divisional Emergency Cells set up on other Divisions of ECR.
- E-Mail addresses of Emergency Cells opened on train originating/terminating Divisions & Zones and Safety Directorate Emergency Cell in Railway Board.
- Names and phone numbers of hospitals where injured have been admitted/shifted along with number of patients.

(x) Head Quarter Emergency Cell will collect updated information regarding all aspects of the accident and pass on the same either telephonically or by E-Mail to:

- Emergency Cells opened on other divisions of ECR,

- Emergency Cells opened on originating and terminating Zonal railways.
- Safety Directorate's Emergency Cell in Railway Board.

(xi) Head Quarter Emergency Cell will monitor movement of ARMVs/ARTs etc. coming from adjoining Zones/divisions.

(xii) Assistance from Defense, Para military establishments, State Govts. Should be coordinated by Head Quarter Emergency Cell as and when required. Officials to be contacted and their telephone numbers are indicated in DMP Part II.

(xiii) Chief Emergency Officer on duty shall chronologically record all information and instructions received or given in a logbook.

(xiv) CPRO shall monitor various important media channels to keep track of media reporting. Suitable correction /clarifications may also be issued, if required.

(xv) After relief, rescue and restoration work is completed, winding up of all Emergency Cells on ECR shall be decided by PCOM.

7. Manning of Divisional/Head Quarter Emergency Cell in shift duty:

(i) Divisional/ Head Quarter Emergency Cell shall be manned round the clock by officers.

(ii) In addition to officers of the Operating Department, there will be officers of Engineering, Mechanical, S&T, Electrical, and commercial, Medical, Security and Personnel departments in the Divisional/ Head Quarter Emergency Cell round the clock.

(iii) Divisional Emergency Cell will be manned by Senior Scale/Junior Scale officers of all departments round the clock.

(iv) Similarly, Head Quarter Emergency Cell will be manned by JA Grade/Senior Scale officers of all departments round the clock.

(v) Senior most officer of each department who is available in the division/ Head Quarter Shall be on duty in the Divisional/ Head Quarter Emergency Cell during the day shift

(vi) Senior most officer of each department shall issue a duty roster for his own department for the night shift

(vii) Round the clock roster should cover both officers and supervisors.

(viii) Same officers and supervisors should be repeated each day without any change or rotation, up to winding up of Emergency Cell. This will maintain continuity and will ensure that experience gained on the first day can be gainfully used on subsequent days.

8. Liaison with Railway Board:

Head Quarter Emergency Cell will maintain constant liaison with Safety Directorate's Emergency Cell in Railway Board regarding following activities:

(j) Movement of additional ARMVs and ARTs from adjoining zones.
(ii) Movement of additional diesel powers from adjoining zones.
(iii) Diversion, Regulation, Short termination, Cancellation and Rescheduling of Mail/Express trains.
(iv) Arrangement of men and material as required from adjoining Zonal Railways and their expeditious movement.
(v) Opening of Helpline Enquiry Booths on other Zonal Railways as follows:
- Originating and destination stations of the accident involved train.
- All junction stations falling on the route of the train.
- Divisional Head Quarter of originating and terminating divisions.
- Zonal Head Quarter of originating and terminating Zonal Railways.
- Any other station as may be decided.

(vi) Movement program for visit of MR/MOSR, CRB and other Board Members to the accident site.
(vi) Assistance required from Defence, Para Military organizations, State Govts. Should be conveyed to Railway Board who shall coordinate the same.
(vii) Assistance required from Defence, Para Military organizations, State Govts. Should be conveyed to Railway Board who shall coordinate the same.
(viii) 3 hourly progress reports on the rescue and relief work shall be communicated to Safety Directorate's Emergency Cell in Railway Board.

9. Duties of Additional Divisional Railway Manager:

(i) Undertake making of announcements over local TV channel and cable network for all supervisory staff to rush to the accident site.
(ii) Ensure that functionaries of different departments in Divisional Emergency Cell carry out duties assigned to them as per Zonal DM Plan.
(iii) Monitor movement of assistance from other divisions/zones
(iv) Co-ordinate with State Govt.
(v) Co-ordinate with defence and Para Military authorities.
(vi) Monitor various important media channels to keep track of media reporting. Suitable corrections/clarifications may also be issued, if required.

CHAPTER-15

DISASTER RESPONSE – ASSISTANCE FROM ADJOINING DIVISIONS/ZONES

1. Necessity of assistance from adjoining Division/Zones:

(i) No division can be equipped to handle a disaster of such a large magnitude like Firozabad or Gaisal.
(ii) Assistance has to be sought from adjoining Divisions/Zones.
(iii) A division is normally expected to handle an accident of the magnitude involving up to 100 injuries (Grievous + Simple). Threshold levels have been given in terms of injuries, because initially it is difficult to estimate number of casualties.
(iv) Whenever number of injuries is estimated to go beyond 50, assistance should be sought for from adjoining Divisions/Zones.
(v) This is to be co-ordinated by the Chief Emergency Officer in Head Quarter Emergency Cell.

2. Assessment of assistance from adjoining Division/Zones:

(i) DRM after reaching the accident site should make an immediate assessment of likely injuries.
(ii) Quick assessment is an absolute in order to ensure that assistance from adjoining divisions can be rushed at the shortest possible time.
(iii) Assessment made by DRM should be based on number of coaches involved.
(iv) As a thumb rule, for each coach that has capsized, 30 injuries should be estimated.
(v) Total injuries estimated would be equal to no. of coaches x30.
(vi) This should be conveyed to Sr. DOM in Divisional Emergency Cell and Chief Emergency Officer in Head Quarter Emergency Cell.
(vii) Based on the above figures, decision should be taken and assistance rushed from adjoining divisions and zones.

3. Scale of assistance from adjoining Division/Zones:

(i) As a thumb rule, assistance should be sought from adjoining division in case of any disaster.
(ii) In case of every disaster, following should be used as an approximate guideline for deciding level of assistance required:

Threshold level	injury >50	injury >100	injury >150
No. of teams	1 team	2 team	3 team
ARMVs	2	3	2+2
140 T Crane	2	3	2+2 BDs

(iii) Complement of staff in each team sent by adjoining divisions/zones will be as per norms given below:

-	Officer in charge	Senior Scale
-	Doctors	5
-	Para-medical staff	10
-	Commercial officers	2
-	Commercial supervisors	10
-	Commercial Staff	20
-	Personnel Supervisors	5
-	Group 'D' staff	20
-	RPF	1 platoon

4. Assistance from Defence & Para Military forces:

(i) Assistance should be sought from nearest army & Para-military establishments.

(ii) Railway staff no matter how dedicated and loyal, are not experts in extricating dead bodies, handling injured passengers, their evacuation etc.

[iii] Army has the necessary expertise and are trained and equipped to handle such war like situation.

(iv) Therefore, divisional/zonal Head Quarter Should get in touch with the nearest army command and request for necessary assistance.

(v) Selected telephone numbers of Army and Para-military establishments are given in DMP Part II.

(vi) Additional telephone numbers of Army are given in Divisional DM Plans.

5. Departmental assistance from adjoining divisions/zones:

(a) S&T Department:

(i) Satellite telephones from ARTs of adjoining divisions.

(ii) Mobile Telephones from each ART of adjoining divisions

(b) Electrical Department:

(i) Generators from ARTs of adjoining divisions.

(ii) Lighting equipments from ARTs of adjoining divisions.

(iii) Portals and OHE masts.

(c) Civil Engineering:

(i) Additional workmen are required who are to be moved from adjoining divisions/zones.

(ii) Each such division sending assistance should move workers along with artisans and PWIs.

(iii) One DEN and one AEN each should also move to the site of accident from each such division.

CHAPTER-16

NATIONAL DISASTER RESPONSE FORCE

General – First and Key Responders:

The role and importance of community, under the leadership of the local authorities, Panchayati Raj Institutions (PRIs) and Urban Local Bodies (ULBs), being the bedrock of the process of disaster response, is well recognized. For their immediate support, there are other important first responders like the police, State Disaster Response Force (SDRFs), Fire and Medical Services. The NDRF will provide specialist response training whenever required. In serious situations, the resources of all NDRF battalions, on an as required basis, will be concentrated in the shortest possible time in the disaster affected areas. Other important responders will be the Civil Defence, Home Guards and youth organizations such as NCC, NSS and NYKS. The deployment of the armed forces will also be organized on as required basis. Establishment/raising of NDRF should progressively reduce deployment of the Armed Forces. However, Armed Forces would be deployed only when the situation is beyond the coping capacity of State Government and NDRF.

Location, Constitution and Functions

These have been formed under the Disaster Management Act at 12 selected locations in the country for dealing with relief and rescue operations related to all types of disasters. The NDRF consists of battalions of Central paramilitary forces drawn from the Border Security Force (BSF), Indo-Tibetan Border Police (ITBP), Central Industrial Security Force (CISF)and Central Reserve Police Force (CRPF) for the purpose of specialist response in disaster situations. Each Battalion has 6 Companies comprising of 3 teams each. Team comprises of 45 men out of which 24 are for Search & Rescue and balance 21 for support functions. Short-listed & trained staffs are on deputation in NDRF. Further details are as under:

Details of NDRF organization and 12 battalions are as under:

SN	Name of Officers/ Designation	STD	Tele(O)	Mobile No.	Fax Nos.
Head Qtr	DG/NDRF, CGO Complex, Lodhi Road, New Delhi 110003	011	24369278 24369280		24363261
1	Commandant, Ist Bn NDRF Patgoan PO Azara, Guwahati	0361	2840027	09401048790	2849080
2.	Commandant, 2nd Bn NDRF, Digberia Camp, PO-Badu Road, adhyamgram, Barasat, Kolkata	033	25875062	09434742836	25875032

3.	Commandant 3rd Bn NDRF, PO-Mundali, Cuttack, Odisha	0671	2879710	09439103170 09437964571	2879711
4.	Commandant 4th Bn NDRF PO-Suraksha Campus Arrakonam Distt. Vellore Tamilnadu	04177	246269	09442105169	246594
5.	Commandant 5th Bn NDRF PO-Vishnupuri Telegaon, Pune (Maharashtra)	02114	247010	09423506765	247008
6.	Commandant,6th Bn NDRF Chilora Road,Gandhinagar	079	23202540	09428826445	23201551
7.	Commandant 7th Bn NDRF Bibiwala dia (Punjab)	0164	2246193	09417802032	2246570
8.	Commandant 8th Bn NDRF Kamala Nehru Nagar, Ghaziabad, UP	0120	2766013	09968610014	2766618
9.	Commandant 9th Bn NDRF Bihta Patna, Bihar	06115	253942	0776288444	253939
10.	Commandant 10th Bn NDRF Mangalagiri,Vijaywada (AP)	0863	2293050	09419217790	2293050
11.	Commandant 11th Bn NDRF Varanasi, U.P.	0542	2501201	09455511003	2501101
12.	Commandant 12th Bn NDRF Itanagar, Arunachal Pradesh	03621	242940	09435483204	242940

As per the Disaster Management Act, various ministries and departments under Government of India should join hands for mutual assistance in case of a disaster. Assistance from local government and non-government agencies is invariably required by the railway administration for prompt relief and rescue operation in case of disasters affecting railways and, therefore, assistance of NDRF could be of great help to the railways. The rail infrastructure is not in an island away from the civil areas (of the Districts/States). In most cases of a disaster, other than a train accident, the State Governments as well as the Zonal Railways would, therefore, requisition the NDRF simultaneously (for the same disaster). Coordination amongst the affected agencies (many departments of the Central Government and the States) is very important before the help of NDRF is required.

Coordination with NDRF

Zonal Railways should get in touch with NDRF offices at the nearby locations to have the first-hand knowledge of the resources available with them and also to familiarize them with railway related disaster situations and expose them to the issues relevant to the rescue and relief of passengers during railway accident. It has also been advised to associate NDRF in full scale exercise that is held once every year. There are no charges for availing the services of NDRF except the rail transportation which railways may provide at their cost for attending to rail disasters. Railways may also have to provide rail transportation logistics for transporting NDRF even in case of non-railway exigencies.

The Railway Board has empowered DRMs/CSOs to directly requisition the relevant NDRF battalion for relief and rescue operations depending on the gravity of situation so that their services could be made available expeditiously without any loss of time. During the meeting between NDMA/NDRF and Railway Board officials held on 19th February, 2013, it was decided that NDRF HQ will draw an annual calendar for zone/division-wise meeting between NDRF Battalion Commandants and Railway Safety officials for better coordination and management during disasters/major train accidents and each NDRF battalion should carry out at least one or two mock exercises/coordination meeting with each zonal Railway each year.

During meeting held on 26th July, 2010 between NDMA/NDRF and Railway Authorities, it was decided that the Railways would be associated in all future mock exercises being conducted by the NDMA and for which a copy of annual calendar of mock exercises will be provided by the NDMA and CSOs will coordinate Zonal Railways' participation in such mock exercises. Similarly, Railways will carry out mock exercises on train accidents in presence of NDRF Battalion Commandants.

CHAPTER-17

MANAGEMENT OF LAND SLIDES, CYCLONES, CHEMICAL DISASTERS, FLOODS AND OTHERS

1. Landslide Risk

Landslides are one of the natural hazards that affect at least 15 percent of the land area of our country–an area which exceeds 0.49 million km. Landslides of different types are frequent in geo-dynamically active domains in the Himalayan and Arakan-Yome belt of the North-Eastern parts of the country as well as in the relatively stable domains of the Meghalaya Plateau, Western Ghats and Nilgiri Hills. In all, 22 states and parts of the Union Territory of Puducherry and Andaman and Nicobar Islands are affected by this hazard. The phenomenon of landslides is more pronounced during the monsoon period.

1.1 Nodal agency of Government of India: -

The Geological Survey of India was declared the nodal agency for landslides by the Government in January 2004. The responsibilities of the Ministry of Mines/Geological Survey of India as the nodal ministry/agency include coordinating all the activities related to landslide hazard mitigation, and monitoring the occurrence of landslide in the country.

As per the Disaster management Act, the responsibility to cope with natural disasters is essentially that of state governments and the role of the central government is a supportive one in terms of supplementing physical and financial resources.

1.2 Monitoring and Forecasting of Landslides

The monitoring and forecasting of landslides, which are two of the least developed fields of landslide management practice will be given special attention as a part of mitigating the risk arising from landslide hazard. Monitoring of landslides includes:

i) Surface measurements of landslide activity.
ii) Sub-surface measurements of landslide activity.

1.3 Action Plan: -

Although management of landslides requires coordinated and multi-faceted activities among many stakeholders in the total disaster management cycle, one important recommendation for follow up by Civil Engineering Directorate of Railway Board is the landslide hazard

mapping in macro and micro scales after identification and prioritization of the areas in consultation with the Border Roads Organization, State Governments and local communities.

2 Cyclone Disasters

2.1 Cyclone vulnerability in India

A long coastline of about 7,516 km of flat coastal terrain, shallow continental shelf, high population density, geographical location, and land physiological features of its coastal areas makes India, in the North Indian Ocean (NIO) Basin, extremely vulnerable to cyclones and its associated hazards like storm tide (the combined effects of storm surge and astronomical tide), high velocity wind and heavy rains.

Though the frequency of Tropical Cyclones (TCs) in the NIO covering the Bay of Bengal and the Arabian Sea is the least in the world (7% of the global total), their impact on the east coast of India as well as the Bangladesh coast is relatively more devastating. This is evident from the fact that in the last 270 years, 21 of the 23 major cyclones (with a loss of about 10,000 lives or more) worldwide occurred over the area surrounding the Indian subcontinent (India and Bangladesh). This is primarily due to the serious storm tide effect in the area.

Thirteen coastal states and Union Territories (UTs) in the country, encompassing 84 coastal districts, are affected by tropical cyclones. Four states (Tamil Nadu, Andhra Pradesh, Orissa and West Bengal) and one UT (Puducherry) on the east coast and one state (Gujarat) on the west coast are more vulnerable to hazards associated with cyclones.

About 8% of the area in the country is prone to cyclone-related disasters. Recurring cyclones account for large number of deaths, loss of livelihood opportunities, loss of public and private property and severe damage to rail infrastructure.

2.2 National Cyclone Risk Mitigation Project

The National Cyclone Risk Mitigation Project (NCRMP), to be implemented with financial assistance from the World Bank, is envisaged to have four major components:

- Component- A: Improvement of early warning dissemination system by strengthening the Last Mile Connectivity (LMC) of cyclone warnings and advisories. Railways need to obtain advance warnings from the systems developed.

- Component -B: Cyclone risk mitigation investments. On the Railways, along the high-risk coastal rail infrastructure lengths, a similar protection needs to be planned where required.

- Component- C: Technical assistance for hazard risk management and capacity-building, where required on the railway infrastructure.

- Component- D: Project management and institutional support by advance coordination by the Sr. DEN/PCEs of the Divisions and Zonal Railways is essential to be able to obtain it at short notice.

Early warning to station masters and passengers is the key to informing concerned stake-holders in the DM Plan. Coastal afforestation, construction of protection walls, cyclone shelters near railway stations where required and strengthening of bridges and rail tracks are some of the mitigation measures which Indian Railways can play to undertake, in a phased manner, as per the mitigation plan. Zonal Railways should identify the affected places and put-up mitigation projects for consideration and fund allocation. Not only floods, but management of all types of disasters is the basic responsibility of the States and Central Govt. role is restricted to that of support in terms of coordination, resource allocation and making available requisite funds.

2.3 Coordination by Railways regarding Cyclones Risk Management, Advance Warnings and Mitigation: -

The Zonal Railways in the high risk zone of cyclones (four states – Tamil Nadu, Andhra Pradesh, Orissa and West Bengal), one UT (Puducherry) on the east coast; and one state on the west coast (Gujarat) have to be in close coordination with the respective Government departments for handling all phases of the cyclones. These include:-

- Cyclone risk mitigation investments on rail track, colonies in the vicinity of high risk area.

- Capacity building on rail tracks/bridges and important rail installations both for reducing devastation from a cyclone, and for relief, restoration etc.

- Advance warning of a cyclone. Action for regulation mainly of Passenger trains follows thereafter.

The Railway infrastructure is located in the vulnerable States in part either in a densely populated area or alternately where no significant population exists. While in the former case the resources of the District/State Government would also be concentrated for rescue/relief/mitigation, in the latter case the Railways would have to depend mostly on their own resources for restoration of Railway track.

3 CHEMICAL DISASTERS

3.1 Guidelines by NDMA:

National Disaster Management Authority (NDMA) has issued guidelines on the management of chemical disasters. These guidelines are directed more towards their prevention and mitigation of their effects, if these happen than on rescue and relief operations afterwards.

The main stakeholders in the management of chemical disasters are Ministry of Environment and Forests (MoEF; the nodal ministry); Ministry of Home Affairs (MHA); Ministry of Labour and Employment (MoLE); Ministry of Agriculture (MoA); Ministry of Shipping, Road Transport and Highways (MoSRT & H); Ministry of Defence (MoD); Ministry of Chemicals and Fertilizers (MoC&F); Ministry of Petroleum and Natural Gas (MoP &NG). Department of Atomic Energy (DAE);

3.2 Salient features of NDMA Guidelines:

The growth of chemical industries has led to an increase in the risk of occurrence of incidents associated with hazardous chemicals (HAZCHEM). With their proliferation, the demands on its transportation by rail have gone up significantly. Common causes for chemical accidents are deficiencies in safety management systems and human errors, or they may occur as a consequence of natural calamities or sabotage activities. Chemical accidents result in fire, explosion and/or toxic release. The nature of chemical agents and their concentration during exposure ultimately decides the toxicity and damaging effects on living organism in the form of symptoms and signs like irreversible pain, suffering, and death. Meteorological conditions such as wind speed, wind direction, height of inversion layer, stability class etc. also play an important role by affecting the dispersion pattern on toxic gas clouds. The Bhopal Gas tragedy of 1984 – the worst chemical disaster in history, where over 2000 people died due to the accidental release of the toxic gas Methyl Isocyanate, is still fresh in our memories.

3.3 Genesis of NDMA's Guidelines on Chemical Disasters:-

Effective Chemical Disaster Management (CDM) is possible by the adoption of preventive and mitigation strategies as most chemical disasters are preventable in comparison to natural disasters that are difficult to predict and prevent.

In the NDMA's Guidelines comprehensive instructions for installations and storages (including isolated storages of HAZCHEM) that contain good engineering

practices for safety, accident reporting, investigation and analysis checklists and safety promotional activities as important tools for effective CDM, are provided.

In the guidelines are instructions related to chemical accidents during transportation of HAZCHEM. The areas covered include:

- Preparation of a highway DM plan.
- Modification of rules pertaining to transport emergencies.

- Specific roles and responsibilities of MAH units, transporters, drivers, authorities and aspects related to emergency communication systems and training of various stake holders.

- The need for the development of an efficient pipeline management system.

3.4 Guidelines on Chemical Disasters: -

Railway's guidelines/instructions relevant to the zonal railways have been issued separately in detail for taking necessary action and incorporating suitable provisions in their respective DM Plans. These guidelines will add to the existing safeguards listed in the Red Tariff on handling, storage and transportation of hazardous material.

3.5 Railways Red Tariff – Transport of Hazchem: -

Indian Railways have also been transporting chemicals and hazardous materials e.g. petroleum products (petrol, Naphtha, HSD, etc.), Caustic soda, Alcohol, compressed gases (LPG gas etc.) Chemical manures, Acids, Matches etc. These goods are carried either in the SLRs or in the Parcel Vans or in the goods wagons. Quantum and type of transportation of such hazardous material varies from railway to railway and different zonal railways need to prepare themselves based on the type and extent of hazardous material being handled and transported by them.

Indian Railway's Rules for carrying dangerous (hazardous goods) by rail have been legislated in the Railway Red Tariff Rule 2000 as per which dangerous goods have been classified into following 8 classes:

I	Explosives
II	Gases, Compressed, liquefied or dissolved under pressure
III	Petroleum & other inflammable liquids
IV	Inflammable solids
V	Oxidizing substance
VI	Poisonous (Toxic Substances)
VII	Radio-active substances
VIII	Acids & other Corrosives.

Chapter I to VIII deal with the above classes of dangerous goods which include General rules governing acceptance, handling, Carriage, storage, delivery and the list of commodities included in that class. Carriage of Goods of a hazardous nature other than those specified in these chapters shall not be accepted for transport by rail unless specially authorized by the railway administration as provided under these Rules.

Out of the above 8 classes of dangerous goods, classes II (Gases, Compressed, Liquefied or dissolved under pressure), III (Petroleum and other inflammable liquids) and VIII (Acids and other corrosives) are dealt in bulk on the railways whereas other classes of dangerous goods are dealt in piecemeal/small quantities in parcel vans/SLRs. Railways may refer to the specific paras pertaining to all these classes of dangerous goods.

3.6 Monitoring Movement of Hazchem:

Dedicated communication system is to be established for Rail Transportation to monitor movement of Toxic Chemical Agents. A mechanism is to be developed like a Geographic Information system (GIS) for continuous monitoring of such Transport Vehicles along their route. This may require to be dove-tailed with the FOIS network of the Railways, once the TMS/FOIS is extended for booking (preparation of RRs) and movement of chemical items in wagons to be included in FOIS.

3.7 Rescue Relief and Restoration Operations:

Railway's expertise in dealing with the mis-happenings like spillage, catching fire etc. of these dangerous goods is very limited. It is therefore imperative that the respective zonal railways will develop and nurture coordination with those agencies and Organizations on their system that have expertise in dealing with the hazardous material being handled and transported on the respective zonal railways. Contact details e.g. Name, Designation, Telephone Nos., Mobile Nos. etc. of such agencies should be available in the Divisional and Zonal Railway Disaster Management Plan so that these agencies can be called for without any delay during any untoward incident. Nominated staff of ARMVs, ARTs and few of the staff maintaining the rolling stock which is used for transportation of hazardous material may be trained and equipped with the equipment used for dealing with such material.

3.8 Preventive Action the Rail Route of Movement of Hazchem

Divisions located on the "Hazchem Rail Transportation Highways" have to be in close touch with specialized services available with IOC/GAIL and Pvt. Chemical Factories and NGOs to be able to call upon their men and firefighting fire extinguishers etc at short notices.

Vulnerability on this Highway needs to be reduced by the removal of Jhuggies from close to the track (say till at least 50 m away). This is essential as in the case of derailment of a Naphtha loaded (or even POL Tank Wagon etc) train, there is a high possibility of spillage of the dangerous products and its spread over a wide area. These products are highly prone to catch fire and even explode, resulting in fire in the Jhuggies etc.

DISASTER INFORMATION

(a) LAND SLIDES (Geological Survey of India)

Category	Description	Stage
IV	Landslides of small dimensions that occur away from habitations and do not affect either humans or their possessions. These may occur near infrastructural installations, agricultural and forestlands and may not affect them in a significant manner. These slides may include small incidents that block communication routes for short periods or do not affect the society in a significant manner.	Yellow
III	Landslides which are fairly large and affect infrastructural installations like strategic and important highways and roads rail routes and other civil installations like various appurtenant structures of hydroelectric and irrigation projects. The landslides that enter large water bodies like reservoirs of hydroelectric projects and could damage some of Components of these projects.	Orange
II	The landslides that may occur on the fringes of inhabited areas and result in limited loss of life and property. Landslides, which result in blockade of courses of relatively smaller natural drainages. If the blockade is of relatively smaller dimensions	Orange

	its impact would be of a lower order. Although a threat potential is there, it may not be immediate.	
I	Landslides of large dimensions that are located over or in close vicinity of inhabited areas like urban settlements or fairly large rural settlements. Activity on these slides can result in loss of human lives, dwellings on large scale. These slides may also inflict heavy losses on urban infrastructure. The slides that block busy pilgrimage routes during peak times resulting in hardships to thousands of pilgrims and some times resulting in loss of human life. Landslides which result in blockade of courses of relatively large natural drainages. If the blockade is fairly large it could lead to formation of a very large reservoir of water behind it. Formation of a large landslide dam could result in sudden flooding of areas located upstream. Abrupt breaching of landslide dam would suddenly release enormous quantities of water in the downstream areas leading to flash floods that could result in loss of life and damage to property on large scale.	Red

(b) CYCLONE (India Meteorological Department)

Category	Description	Stage
Cyclone Alert	Issued 48 hrs. before the commencement of bad weather when a system is located about 500 km or more away from the coast. The forecast may not contain information about landfall and hence it is still of informatory type but at the same time meant to trigger preparatory actions. During this stage, Disaster Managers plans on the course of action required to be initiated once the system moves closer to the coast.	Yellow
Cyclone Warning	These messages are issued 24 hours before commencement of bad weather and are of a **"serious nature".** During this stage the system is monitored closely and the expected place & time of landfall and the districts along the coastal areas likely to be affected are clearly indicated in the warning messages. The location of the system at this stage may still be 300 km – 500 km away from the coast. Disaster Management Machinery is expected to be geared up fully during this phase.	Orange
Post landfall outlook:	During this phase warning messages are issued about 12 hours before actual landfall and are of a **"very serious nature"**. At this stage, it is expected that the Disaster Management machinery is in full operational mode to face the impending disaster. All preparedness action should have been completed by this time. MHA would be closely monitoring steps taken by the concerned State	Red

	Governments regarding evacuation and relief activities like food, sanitation etc. This phase is fit to be classified as “Great Danger” and all warning messages issued to MHA Control Room are required to be forwarded to senior officials of the PMO.	

(c) EARTHQUAKE (India Meteorological Department)

Category	**Description**	**Stage**
Slight	M ≤ 5.0	Yellow
Moderate	5.0 ≤ M ≤ 6.9	Orange
Great	M ≥ 7.0	Red

(d) FLOOD (Central Water Commission)

Category	**Description**	**Stage**
IV	Low Flood (Water level between Warning Level and Danger Level)	Yellow
III	Moderate Flood (Water level below 0.50m, less than HFL and above Danger Level)	Yellow
II	High Flood (Water level less than Highest Flood Level but still within 0.50m of the HFL)	Orange
I	Unprecedented Flood (Water level equal and above Highest Flood Level (HFL)	Red

(e) RAILWAYS (Ministry of Railways)

Category	Description	Stage
Minor	50 or less casualties (inclusive of death and injuries)	Yellow
Medium	51-99 casualties (inclusive of death and injuries)	Orange
Major	100 or more casualty (inclusive of death and injuries) where	Red
	additional assistance is sought by the Ministry of Railways.	

(f) FOREST FIRE (Ministry of Environment & Forests)

Category	Description	Stage
Ordinary Fire	Localized fires which can be controlled by the concerned territorial Conservator of Forests.	Yellow
Medium Fire	Where large forest area is under fire, which can be controlled by the State Government and no Central intervention is sought by the State Government.	Orange
Major Fire	Large fire, which may result in substantial loss of human lives, massive environmental degradation or loss of wildlife.	Red

(g) AVALANCHES (Defence Research & Development Organisation)

Category	Description	Stage
Low	Generally favourable condition. Triggering is generally possible only with high additional loads and on very few extreme slopes. Only sluffs possible and reach valley in small sizes. Valley movement is safe. Movement on slopes with care.	Yellow
Medium	Partly un-favourable condition. Triggering is possible on most avalanche prone slopes with low additional loads and may reach the valley in medium size. Movement on slopes with extreme care. Valley movements with caution. Avoid steep slopes. Routes should be selected with care.	Yellow
High	Unfavourable condition. Triggering possible from all avalanche prone slopes even with low additional loads and reach the valley in large size. Suspend all movements. Airborne avalanches likely.	Orange
All round	Very unfavourable condition. Numerous large avalanches are likely from all possible avalanche slopes even on moderately steep terrain. Suspend all movements. Airborne avalanches likely.	Red

(h) TSUNAMI (Department of Ocean Development)

Category	Description	Stage
	No Yellow Stage	
Moderate	When an earthquake of greater than 6.0 is reported and/or a Tsunami watch alert is received from JMA/PTWC.	Orange
Great	When change in water level after an earthquake is reported by National Institute of Ocean Technology, ITWC would issue a **Tsunami Warning *** as per laid down channels.	Red

* The warning may be withdrawn after a better assessment of the level of rise in water level.

Management of Floods:

Vulnerability to Floods:

In ECR floods are common phenomenon during rainy season. Floods cause huge losses to lives, properties, livelihood systems, infrastructure and public utilities. ECR divisions' geographical area are in high risk and vulnerability is highlighted because hectares of land are affected, lives are lost and the damage caused to crops, houses and public utilities due to floods. Eighty percent of the precipitation takes place in the monsoon months from June to September. The rivers bring heavy sediment load from the catchments. These, coupled with in adequate carrying capacity of the rivers are responsible for causing floods, drainage congestion and erosion of river- banks. Cyclones, cyclonic circulations and cloud bursts cause flash floods and lead to huge losses. The fact that some of the rivers causing damage in India originate in neighboring countries, adds another complex dimension to the problem.

Institutional Frame work:

As per the constitutional provision, Flood Management (FM) is a state subject and as such the primary responsibility for flood management lies with the states.

The Ministry of Water Resources is responsible for the technical aspects of Flood Management. The Ministries of Agriculture, Civil Aviation, Environment and Forests, Health, Space, Earth Sciences, Mines, Railways etc. also have important role in management of floods in their respective fields. Not only floods, but management of all types of disasters is the basic responsibility of the States and Central Govt. role is restricted to that of support in terms of coordination, resource allocation and making available requisite funds.

India Meteorological Department:

The IMD established in 1875, is responsible for the National Meteorological Services and the principal government agency in all matters relating to meteorology, seismology and allied subjects. The IMD is mandated as follows:

To warn against severe weather phenomena like tropical cyclones, north-westerly dust storms, heavy rains and snow, cold and heat waves etc., which cause destruction of life and property.

For the convenience of administrative and technical control, there are six Regional Meteorological Centres (RMCs) located at Mumbai, Chennai, New Delhi, Kolkata, Nagpur and Guwahati. Under each RMC, there are different types of operational units such as meteorological centres at state capitals, forecasting offices, agro-meteorological advisory service centres, flood meteorological offices (FMOs) and area cyclone warning centres

Activities for Minimizing Flood Risk and Losses*:*

(a) By Central/State Governments:

These activities include identification and marking of flood prone areas on maps, preparation of close contour and flood vulnerability maps, formulating plans for expansion and modernization of flood forecasting and warning systems, identification of priority flood protection and drainage improvement works, identification of reservoirs for review and modification of operation manuals and rule curves and undertaking special studies on problems of river erosion.

(b) Increase in Water Ways:

Examining adequacy and if required, increasing the water ways of bridges/culverts under roads railway embankments by the Ministry of Shipping, Road Transport and Highways (MOSRTH), Ministry of Railways, Ministry of Defence, National Highways Authority of India, Border Road Organization and State governments.

(c) Action Plan for Alignment, Location, Design and Provision of Waterway on Railways Embankments:

Roads and Railway embankments cut across the drainage lines and may lead to increase invulnerability of the area, through which they pass and to flooding and drainage congestion, if they are not properly aligned, located and designated. In-adequate waterway in the form of vents/culverts/bridges/ causeways is another cause of increase in vulnerability to floods. Further, breaches in them may result in huge loss of life and properties. Insufficient height of rail embankments may result in over topping and breaches.

The Ministry of Shipping, Road Transport and Highways (MOSRTH), MOR, MOD, NAHI, BRO, State Governments/SDMAs will ensure that national highways, state highways, district and other roads are aligned, located and designed properly with respect to height and width and provided with adequate waterway in the form of vents, culverts, bridges and causeways so as to make them flood safe and not increase the vulnerability of the area to flooding and drainage congestion. The safety of existing roads/railway embankments against floods will also be checked by the MOSRTH, MOR, MOD, NHAI, BRO and state governments/SDMAs/DDMAs and if found inadequate, measures by way of increasing height and width and augmenting water way by constructing additional bridges/ culverts/ causeways or by adding more spans to existing ones, will be taken up.

Flood Forecast:

Forecasts (stage/inflow) are issued whenever the river stage at the Flash Flood site exceeds or is likely to exceed a specified level called warning level of the site which is fixed in consultation with the concerned state government. The warning level is generally 1 m below the danger level of the site, although there is no-common format designed for issuing flood forecasts by various fields divisions, as forecasts are issued according to the user's convenience. In the forecast, the current date and time of issue of forecast, present water level/ inflow and anticipated water level/ inflow with corresponding date and time are normally included.

Dissemination of Flood Forecasts and Warnings:

On reaching a critical point, the final flood forecasts are then communicated to the user agencies such as the concerned administrative and engineering authorities of the state/central governments including railways, defence and other agencies connected with flood protection and DM by special messenger/ telegram/ wireless/ telephone/ fax/ e-mail.

The Central Water Commission's Flood Forecasting Network in India:

The CWC's FF network covers most of the flood prone inter-state river basins in the country. The CWC is presently issuing flood forecasts for 175 stations of which 147 stations are for river stage forecast and 28 for inflow forecast.

Role of CWC to be given out in detail as their warnings are more relevant for flood forecast and effecting evacuation. For Railways, early warnings are important for smooth movement of trains.

Do's and Don'ts after flood

- There is a possibility of spread of water borne diseases after flood, and hence medical treatment should be taken immediately.
- Do not enter deep, unknown waters.
- Do not go near the riverbank even after the floodwater has receded.
- Sprinkle medicines in the stagnant dirty water.
- Inspect your house for any cracks or other damage. Check all the

walls, floor, ceiling, doors and windows, so that any chance of house falling down can be known and you can be aware about the immediate danger.

- If the floodwater has entered the house or has surrounded the house, then it is advisable not to enter such house.
- Keep listening to weather forecast on radio and television. Move to your residence only when instructed by the competent authority. It is not safe to believe that the problems have ended after the flood water have receded
- Inform the competent authority/officer for restoration of the necessary connections like gas, electricity, telephone, drainage etc.
- Beware of the various insects or poisonous snakes that may have been dragged inside the house along with the floodwater.
- Destroy the food commodities that have been affected by floodwater.
- Check properly all the electric circuits, floor level furnace, boilers, gas cylinders, or electric equipments like motor pump etc. Check whether any inflammable or explosive item has not entered along with the floodwater.
- Switch off the main electric supply, if any damage is noticed to the electric equipments. If you find any breakage in the drainage system stop using latrines and do not use tap water.
- Do not use polluted water.
- Sewerage system should be checked and any damage should be repaired immediately so as to curtail spread of diseases.
- Empty the water clogged in the basement slowly with help of water pump so that damage to infrastructure can be minimized
- Check gas leakage which can be known by smell of gas or by hearing the sound of leakage; immediately open all windows and leave the house.
- Boil drinking water before usage and drink chlorinated water.
- Eat safe food.
- Rescue work should be undertaken immediately after flood situation as per the instruction. Do not follow any shortcut for rescue work.
- Do not try to leave the safe shelter to go back home until the local officials declare normalcy after flood and instruction to return home are not given.

CHAPTER-18

MANAGEMENT OF CROWDS

1. Guidelines by NDMA.

National Disaster Management Authority (NDMA) has issued a guide for administrators and organizers of events and venues for managing crowds in 2014. The scope of the guidelines involves study of past crowd disasters, framework for administrators to plan and manage events better, to provide practical guidelines to venue managers and event organizers etc.

2. Salient features of NDMA guidelines.

Important aspects of planning for events/places of mass gathering includes understanding the visitors, various stake holders and their needs, crowd management strategies, risk analysis and preparedness, information management and dissemination, safety and security measures, facilities and emergency planning, transportation and traffic management. One of the important points to be kept in mind is the demand and supply gaps. Depending on the type of event, venue and type of crowd expected proper signage have to be planned. Specific focus should be on fire, electrical and structural safety. NDMA has suggested the following guidelines on Incidence Response System.

(i) Systematic and complete planning process.
(ii) Clear cut chain of command.

(iii) System of accountability for the incident response team members.
(iv) Well thought out pre-designed roles for each member of the response team.
(v) Effective resource management.

(vi) System for effectively integrating agencies into the planning and command structure without infringing on the independence of the concerned agencies;

(vii) Integration of community resources in the response effect and

(viii) Proper and coordinated communications set up.

3 Crowd control and management.

For effectiveness in this, RPF, GRP and District Police have to act in a synchronized manner in consultation with magisterial authorities. Chapter 10 (Maintenance of Public Order and Tranquility) of the Criminal Procedure Code (Cr.P.C.) Part-A deals with 'Unlawful Assemblies". Legal procedures are outlined in Sections 129 to 132 of the Cr.P.C. for dealing with Unlawful Assemblies. These provisions empower Members and Officers of Armed Forces (RPF is an Armed Force of the Union) to deal with Unlawful Assemblies.

One of the intelligent video analytics to be incorporated in the Integrated Security System is related to signal for crowd density within station premises when it exceeds the prescribed limit. This will enable RPF personnel and railway authorities to get timely information when heavy crowd builds up within station premises and plan follow-up action. Pictures stored on CCTV system will be of immense help in identifying miscreants and in ensuring effective legal action.

We should prescribe preventive protocols, when laid down footfalls defined separately for important stations become extraordinarily high, as during Melas or other exceptional situations. It may not be out of place to ban all commercial vending and parcel handling on such occasions, supplement exists if possible, and bring more area under illumination.

It is important to press upon the District Magistrate (Dy. Commissioner) or the Civil Police (Senior Superintendent of Police) to give an approximate indication of the number of persons likely to reach Railway stations in the days when rush is expected. Even more important is the number of such persons reaching each Railway station within a one to two hour time slots. Unless this information is given, it would not be possible for Railways to plan special trains. The OD flows of the passenger are very important to plan destination wise running of special trains. It may be kept in mind that often the Inward and outward passenger traffic is not equal; there are wide variations. Further the inward rush comes in a staggered and spaced interval; the outward rush goes back at one go. It would be essential for the Zonal Railway or Division to impress upon the State Government (or the District Magistrate) in writing of their peak capacity to clear rush, as also they can do so only direction wise. The District Administration has to regulate and control the entry of more than this number beyond which (in 1-2 hourly slots) the Railway would be unable to evacuate.

4. Role of responsibility of Zonal Railways/Divisions

Depending upon the past experience Zonal Railways/divisions should identify events of mass gathering over their system. The events can be of periodic in nature or one time events where mass gathering of passengers is expected in the station which is beyond the normal capacity that can be handled at that station.

Concerned Zonal Railway/division should have a close coordination with the organizers and law enforcement agencies to understand crowd arrival and departure, their numbers for each such event. Railway administration should identify the threats, assess the risk and plan accordingly. Based on the past experience a coordinating officer should be nominated for better planning and execution crowd management at the station. He should be designated as incident commander and shall be overall in charge of that particular station. He shall be assisted by staff drawn from the respective departments to discharge his/her functioning.

5 Crowd control and Management of rush at Railway Stations:

Specific defined areas of jurisdiction for crowd control and duties assigned to GRP/RPF and the city Police needs to be placed on record much before the expected days of rush. Close coordination has to be maintained between the 3 wings of security personnel Railway Protection Force, Civil Police and GRP with well defined areas of responsibilities.

The car and other vehicle parking facility at a station may be discontinued; sale of Platform Tickets can also be banned for short period of time. RPF and GRP personnel deployed on each platform will monitor crowds and rush build up in the circulating areas, booking windows, station platforms and mainly on the FoBs. Special teams of commercial staff will liaise with the RPF/GRP and relay 2/4 hourly position to a centralized location viz. commercial control who will advise the need for running of special trains to specified destination to the operating departments control room.

6 Explosion in trains and railway premises: -

One of the key components of the Integrated Security System is explosive detection and disposal. It provides for effective detection and disposal capability with RPF. Explosive detection and disposal, being a highly skilled and challenging job, requires Bomb Detection and Disposal Squad comprising of personnel. Such RPF personnel have been identified on each zonal railway and they are being trained in phased manner by the National Security Guard (NSG). Preventive measures to be taken in such situation have been separately circulated vide Security Directorate Secret letter No.2003/Sec (Spl.) 200/14 dated 16.01.2008.

7 Terrorist acts & Hijacking of trains:-

Procedures have been outlined in the Crisis Management Plans of the Government of India, of the Ministry of Home Affairs and of the Ministry of Railways to tackle such situations. Above mentioned secret documents are available with concerned Authorities and action has to be ensured in accordance with the provisions mentioned in the above mentioned plans.

Ministry of Home Affairs is the Central Nodal Ministry to tackle hostage or terrorist situations requiring specialized handling. National Security Guard (NSG) has to be requisitioned in such situations. Crisis Management Plan of the Ministry of Railways envisages management of such crisis by the National Crisis Management Committee (NCMC) and Crisis Management Group (CMG) at the Railway Board level and by the zonal management group at the zonal level.

Coordinated efforts have to be ensured by all security agencies present at the spot. Senior most officials available at the spot shall handle situations in accordance with conditions of the crisis at local level and instructions received from concerned Crisis Management Groups at Zonal and National levels. Quick Reaction Teams (QRTs) of RPF personnel should be available round the clock at bigger stations which will be of immense help to tackle such situations during initial phases specially in cases of terrorist attacks.

CHAPTER-19

SITE MANAGEMENT PLAN-I

There are 2 aspects of Disaster Management work at an accident site. Firstly, rescue relief and restoration operation which is carried out by one set of functionaries. Second aspect pertains to rehabilitation of accident involved passengers, taking care of dead bodies, dealing with their relatives etc. for which a different set of functionaries are required. For managing these 2 distinct aspects of DM work that are required to be discharged by railways, two separate establishments should be set up at an accident site.

1. Unified Command Center (UCC):

(i) Unified Command Centre (UCC) should be set up at the accident site.
(ii) This will be some kind of a control office to be located near the centre of the accident site.
(iii) This is basically meant for catering to operational needs of railway in rescue, relief and restoration work.
(iv) UCC is to be manned by staff of relevant departments such as:
- Medical,
- Commercial,
- Operating,
- Safety,
- Security,
- Public Relations,
- Mechanical,
- Electrical,
- S&T,
- Civil

(v) UCC will be provided with all facilities similar to a control office.
(vi) Adequate lighting with generator backup should be provided in the UCC.
(vii) Adequate number of telephonic links to Divisional Emergency Cell and Head Quarter Emergency Cell should be provided. Preferably each department in the UCC should be given an independent telephone.
(viii) Satellite telephone should be installed in the UCC.
(ix) UCC should be provided with FAX, Photocopier, PCs and Loudspeakers.
(x) PC/Laptop should be connected to internet for E-Mailing of detail update to all concerned, including Divisional Emergency Cell, Head Quarter Emergency Cell and Helpline Enquiry Booths.

(xi) A big banner displaying 'UNIFIED COMMAND CENTER' should be put up at a prominent place at the entry to the shamiana.
(xii) Similarly, there should be sufficient number of signages indicating the way to UCC on approach roads etc.
(xiii) UCC at the site will be manned by sr. Supervisors on round the clock.
(xiv) Officers will not be permanently stationed in UCC. They will move about the entire accident site supervising and monitoring working of their department at different activity centers. However, they will keep coming to the UCC off and on and will keep in touch with their departmental functionaries in UCC.
(xv) Various functionaries in the UCC will monitor and co-ordinate the working of their departments, and assistance required by them, if any.
(xvi) Each functionary at the UCC will maintain a log book. Flow of information both incoming and outgoing would be recorded along with the time and names of officers/staff who were given the message.
(xvii) UCC will basically supervise the working of 2 LCCs and co-ordinate with Divisional and Head Quarter Emergency Cells.
(xviii) Functionaries of different departments in LCCs should provide updated information regarding progress of work to their counterparts in UCC.
(xix) This updated information should be provided once in every 3 hrs. as per the following timings:
- 1/- hrs.
- 4/- hrs.
- 7/- hrs.
- 10/- hrs. & like wise

2. Local Command Centers (LCC)

(i) Depending on the spread of the accident site, Local Command Centers (LCC) on the same pattern as the UCC should be set up.
(ii) If the site is spread out over 300-400 mts. 2 LCCs should be set up.
(iii) Representatives of same departments as in UCC should be present in LCCs also. However, they should be either one or at most 2 men per department.
(iv) LCCs will serve as co-ordination centers for various teams that are working spread out over different geographical locations.
(v) Each LCC will oversee the working of DM teams at one end of the accident site.
(vi) Jurisdiction of each LCC will extend to all men and materials belonging to 2 ARMVs, BD special and 1 ART at that end of the accident site.
(vii) One SAG officer of Mechanical department will be overall in charge of each LCC.

(viii) LCCs should be provided with loudspeakers for making announcements.
(ix) LCCs should be provided with direct telephonic links to UCC.
(x) However, LCCs should not be provided with telephonic links to either Divisional Emergency Cell or Head Quarter Emergency Cell. This will ensure that there is minimum telephonic disturbance from outside to teams which are actually working at the accident site. It will also ensure that outflow of information from accident site goes from UCC only.
(xi) Members of different teams of each department working at the accident site in rescue, relief and restoration work should provide updated information regarding progress of work to their respective functionaries at the LCC.
(xii) This updated information should be provided once every 3 hrs. As detailed at 1 (xix) above.

3. Need for setting up of Central Assistance Center:

(i) Relatives of passengers who arrive at an accident site are already traumatized by the tragedy.
(ii) They arrive at an unknown location with no place to stay, no friend or acquaintances and not knowing whom to turn to.
(iii) The problem is made even more challenging since many relatives and next of kin come from far flung areas in some other state.
(iv) Being semi-literate and from different parts of the country some of them are not even familiar with the local language. For them even communicating becomes a problem.
(v) In addition to above, complex legal formalities and multiplicity of paper work is required to be completed before dead bodies are handed over to their next of kin.
(vi) For taking care of relatives of passengers, providing them with succour in their hour of agony and for guiding them sympathetically, some kind of an assistance centre is required.

4. Formalities required to be completed by relatives of passengers:

(a) Sequence of formalities that are required to be completed by relatives of injured passengers includes:

(i) Locating the name of the passenger on reservation charts, in case passenger was traveling in reserved accommodation.
(ii) Going through the list of injured and dead passengers to find out whether the name appears.

(iii) In case the name is not available in the list, then taking a round of different hospitals to find out whether their relatives has been admitted in one of them in an unconscious state.

(iv) Hospitals are generally at separate locations, sometimes even in different towns; and commuting becomes a problem.

(v) In case the passenger can be located in one of the hospitals, they have to find out the severity of injuries, likely period of hospitalization etc.

(vi) Collect the ex-gratia paid by railways.

(vii) Try and locate missing luggage of the injured passenger. For this they have to take a round of the building where all unclaimed luggage has been kept.

(viii) Arrange for medicines/diet etc. and payment of hospital bills, if required.

(ix) Thereafter, they have to keep in touch with the hospital and get their relatives released.

(b) Additional formalities that are required to be completed by next of kin of dead passengers include:

(i) In case the passenger could not be located in any of the hospitals, then they have to go to the building where unidentified dead bodies have been kept.

(ii) Take a round of various rooms where bodies have been kept, examine each body and try and locate their near and dear one.

(iii) Identify the dead body, if the same has been extracted by then.

(iv) Otherwise wait for all bodies to be extracted and try and identify their relatives.

(v) In case they fail to identify the same then they have to go through photographs of unidentified bodies taken at site.

(vi) After the body is finally identified, they have to produce proof of relationship for railways to entertain their claim.

(vii) Obtain medical death certificate from the railway doctor.

(viii) Obtain post mortem report, from the Govt. doctor who has performed post mortem on the body.

(ix) Obtain official death certificate from the local municipality.

(x) Accept of ex-gratia payment from railways.

(xi) Collect forms for lodging claim for compensation in RCTs.

(xii) Take over custody of dead body from the local police.

(xiii) Perform last rites at the same place or take back the body to their native place, depending on circumstances.

(xiv) Make arrangements for their return journey back to their native place.

5. Problems encountered by relatives:

(i) Each of these formalities are under the jurisdiction of a different agency, either railway, or police, or civil administration, or local administration.
(ii) In such a situation the level of co-ordination between these various agencies leaves much to be desired.
(iii) Sometimes it even takes up to 48 hours before all these documentary formalities can be completed.
(iv) In most cases, relatives have to run from pillar to post for completing all these formalities and the bitter experience leaves them permanently antagonized towards railways.
(v) For this purpose, a single window clearance system should be available for relatives and next to kin.

6. Combined Assistance Center (CAC):

(i) The UCC should have a Combined Assistance Centre (CAC) located towards the rear site, away from the track, for rendering help to passengers and their relatives.
(ii) This is basically meant for catering to requirements of passengers and their relatives/next of kin, and for providing a single window clearance for all types of formalities.
(iii) CAC should be separate from the UCC so that it does not interfere with normal rescue and relief work.
(iv) CAC will be manned by staff of relevant departments such as:
- Operating,
- Medical,
- Commercial,
- Security,
- Personnel

(v) There should be only one such CAC, and all railway resources should be pooled into it.
(vi) LCCs should not have any small CAC located in the rear. It is likely to create logistic problems.
(vii) A big banner displaying 'COMBINED ASSISTANCE CENTER' should be put up at a prominent place at the entry to the shamiana.
(viii) Similarly, there should be sufficient number of signages indicating the way to CAC on approach roads etc.
(ix) Railway staff fluent in the language of relatives should be posted for doing work of interpreters.
(x) Post mortem formalities should be waived off so that number of formalities gets reduced by one.
(xi) Different counters should be provided in sequence for each of these formalities, so that the entire exercise can be completed in about an hour.

(xii) Functionary concerned from the local Municipality who issues Official Death Certificates should be made to come and sit in the CAC so that these certificates can be issued immediately without any delay.

(xiii) CAC should have different counters for various purposes in following sequence:

(a) Reservation chart, for locating the name.

(b) List of dead and injured along with name of hospital. The name of passenger involved should be checked up from the list of dead or injured, if available, and their current status informed.

(c) Counter for providing commercial supervisor or WLI as escort along with a vehicle, for accompanying the relatives and going to hospitals or mortuary.

(d) Railway doctor for issue of Medical Death Certificate.

(e) Govt. doctor for issue of Post Mortem Certificate, in case the same is necessary.

(f) Municipality official for issue of Official Death Certificate.

(g) Local Police for issue of authority for handing over of dead body.

(h) Claims counter-Payment of ex-gratia and issue of Claims Compensation form.

(i) Counter for helping performance of last rites in case relatives decide to cremate the body there itself.

(j) Pass counter for issue of return journey pass.

(k) Return journey facilitation counters for making arrangements for return journey.

7. First Aid Posts:

(i) Medical Posts should be provided in both UCC and CAC.

(ii) Medical Post in UCC will provide first aid to injured passengers after extrication, assess their injuries and make arrangements for sending them to nearby hospitals.

(iii) Medical Post in CAC will keep all records of injured and dead passengers, names of hospitals where they have been admitted etc.

(iv) FA posts should be provided in LCCs.

(v) This will be meant for treating passengers and classifying their injuries before they are sent for admission to various hospitals.

8. Setting up of UCC, LCC and CAC:

(i) One SSE/Works shall be exclusively responsible for setting up of these facilities. He shall undertake the following:
- move along with sufficient staff for setting up of these facilities.
- Immediately start setting up of the tentage accommodation after taking out tents and *Shamianas* provided in ARTs.
- In addition, he should also requisition agencies which provide tentage accommodation on contract. Details of such agencies have been given in Divisional DM Plans.

(ii) Bridge Line staff will assist in setting up tentage and above mentioned facilities. Dy. CE/Bridge will also move to the site and in case, bridge is not involved, he will take full charge of tentage arrangements.

(iii) Bridge Unit will take with them sufficient Manila ropes, wire ropes, survey instruments, binoculars, helmets, life jackets, ladders and other equipment. Nylon ropes should be sufficient in length to ensure barricading at sites and camping areas.

(iv) Sufficient facilities for erecting temporary stage/scaffolding etc. should also be organized, if required at site.

(v) Few temporary toilets should be provided at one location in addition to number of urinals at 3 or 4 places.

(vi) Water tankers will be ordered for supplying water at site and arrangements shall also be made for drinking water.

(vii) Temporary kitchen in tents/shamianas is to be set up so that catering unit or IRCTC can provide cooked food to staff working at accident site.

(viii) About 100 folding chairs should also be arranged.

(ix) Bridge Line staff will have list of divers who in case of emergency can be hired for rescue or restoration operations wherever site is surrounded by deep water.

(x) Signages for both UCC and CAC should be provided at prominent locations.

9. Collection and Dissemination of Information-Channel of Communication:

The following would be the responsibility and channel both for collection as also dissemination of information. Before each shift goes off duty, details of work done should be updated in the LCC. The LCC should in turn update the UCC regarding the latest progress. This updated information would be conveyed to Divisional Emergency Cell every 3 hrs.

(a) Number of dead and injured-Medical department:

(i) Medical department at site should confirm the number of dead.
(ii) Doctors in charge of various teams working on different coaches should give 3 hrs reports to Medical counter in LCC who in turn will inform UCC.
(iii) Number of injured passengers.
(iv) Type of injuries, whether grievous, minor or trivial.
(v) Names of injured, and names of various hospitals where injured have been sent.

(b) Identification of dead bodies-Commercial department:

(i) Ex-gratia paid to injured.
(ii) Number of dead bodies identified.
(iii) Ex-gratia paid to dead.
(iv) No. of bodies handed over to relatives.

(c) Number of coaches dealt with-Mechanical department:

(i) No. of coaches thoroughly searched.
(ii) No. of coaches made off track.
(iii) No. of coaches yet to be dealt with.

CHAPTER-20

SITE MANAGEMENT PLAN-II

Nominated officials from various departments arriving at site by ARMVs and ARTs form part of the Disaster Management Team. Officials representing each department are responsible to ensure that assigned duties of their respective departments are efficiently carried out. Senior officers of each department will also ensure that their work is synchronized with that of functionaries of other departments for quick rescue, relief and restoration operation.

(A) Members of the Disaster Management Team:

1. Disaster Management Team normally comprises members of following departments:

   (i) Trained railway men from Medical, Commercial, Safety, Electrical, S&T, and Mechanical, Engineering, Security, Personnel and other departments.

   (ii) In case of fire accidents, trained fire service personnel shall form part of this unit.

   (iii) In case of an accident on water body, divers and naval cadets will also be part of the team.

   (iv) In case of sabotage or bomb explosion, bomb disposal squads and GRP/Local Police will also be involved.

   (v) Various rescue units shall accompany ARMVs, ARTs or move by road as quickly as possible.

2. **Officers-in-charge of Site (OC Site):**

   On arrival of ARMV at accident site DRM shall take over as OC Site from the senior most officer of the accident involved train. On arrival of 1st Special train carrying GM and other Head Quarter officers, GM shall be OC Site. In the absence GM, the senior most officer shall be OC site. He will be responsible for forming Core Groups as required and direct them to carry out efficient rescue, relief and restoration operations.

3. **Rescue, Relief and Restoration Operation:**

DM Team on arrival by ARMVs and ARTs shall undertake following actions:

(i) Crowd Control and Law and Order.
(ii) Rescue operation.
(iii) Relief operation.
(iv) Video coverage of accident site.
(v) Installation of Communication Network.
(vi) Clearance from State Police for restoration.
(vii) Preservation of Clues and Evidence.
(viii) Media Management at site.
(ix) Salvage operation.
(x) Restoration operation.

4. Photography:

Prior to starting restoration work at an accident site, divisions should undertake suitable video film coverage to the extent feasible. Still photography by digital camera should also be undertaken extensively for its obvious advantages. The photograph should be taken from a vantage point and from as many angles as possible so as to give a bird's eye view as also close up photographs.

(i) Such photographs should clearly indicate:

- Severity of the accident.
- illustrate the damage to P-Way, Rolling Stock, Signal, OHE and other structures and equipment.

(ii) Separate set of photographs to be taken to preserve clues and evidence of sabotage if suspected.

(iii) Victims and unidentified bodies should also be extensively photographed as detailed in (II)(Xvi)below.

(B) General:

For efficient Disaster Management, responsibilities of various departments are to be executed by deputing responsible officers and supervisors. Important duties of such officers/supervisors are enlisted as follows:

1. **OC Site:**

(i) Ensure setting up of UCC, CAC and LCCs at the earliest.

(ii) Collect information from OC Site of IAT.

(iii) Take stock of the situation and plan for efficient rescue operation.

(iv) Estimate quantum of assistance required for each department from:

- Within the division,
- Adjoining divisions of ECR,
- Adjoining zones,
- Non-railway agencies.

(v) Channelize local resources to supplement available railway resources.

(vi) Ensure that duties of various functionaries of different departments as laid down in ECR's Zonal DM Plan are carried out.

(vii) Ensure co-ordination among all departments for efficient rescue, relief and restoration operation.

(viii) Ensure information to SP Police and District Magistrate.

(ix) In case of sabotage, direct RPF to obtain quick clearance from State Police.

(x) In case of serious explosions or fire, clearance from Controller of Explosives is to be obtained.

(xi) Give prima facie cause of the accident along with forecast of expected date and time of restoration.

(xii) Ensure timely information on the progress of rescue, relief and restoration work every 3 hrs. With following details:

- Number of coaches searched.
- Number of injured passengers recovered.
- Nature of injuries to passengers.
- Number of bodies recovered.
- Number of bodies identified.
- Number of coaches dealt with.
- Supplementary assistance required, if any.

(xiii) Forecast for completion of each activity mentioned below should also be firmed up. These target dates and times should be communicated to all officers and supervisors at accident site:

- Re-railment,
- Track fitness,
- OHE fitness,

- Points and inter-locking,
- Clearance of section,
- Movement of first train.

2. Duties of Divisional Railway Manager:

(i) Ensure that functionaries of different branches at the accident site carry out duties assigned to them as per Zonal and Divisional DM Plan.

(ii) Co-ordinate with Divisional Emergency Cell regarding assistance required.

(iii) Co-ordinate with Civil Authorities especially with regard to:

- Requisitioning of buses from State transport authorities, with drivers for round the clock duty.
- Waiving off of Post Mortem formalities.
- Positioning of Municipal Official in the CAC for issuing of Official Death Certificate.

3. Formation of two teams at accident site for round the clock working:

(i) At the accident site, departmental officers available from both Head Quarter and division shall be formed into two teams for round the clock.

(ii) PHODs/CHOs shall be available on duty during the day time.

(iii) PHODs/CHODs shall take on the spot decision regarding composition of the team for night shift for their respective department. This composition should not normally be changed during the stay at the accident site.

(iv) Branch Officers shall be available on duty during the day time.

(v) Branch Officers shall take on the spot decision regarding composition of the team for night shift for their respective department. This composition should not normally be changed during the stay at the accident site.

(vi) Similarly, supervisors availably from both Head Quarter and divisions shall also be put in two teams.

(C) Duties of Operating Department:

Immediately after getting the information.

(i) All sectional TIS and Supervisory SSs should be directed to reach the accident site by first available means.

(ii) Similarly additional RG/LR staff from the section should be sent to 3 stations on either side so that SMs can be free for going to accident site.

(iii) Since considerable amount of shunting is required to be performed at adjoining stations, 2 traffic supervisors in 2 shifts should be posted at adjoining stations on each side.

(iv) Ensure that special trains are sent into the accident affected block section according to the sequence.

(v) Ensure proper marshalling of crane while proceeding to the accident spot in the block section.

(vi) Ensure that Engineering vans of the ART are placed nearest to the accident site. For this purpose, Engineering van/wagon should be placed closet to site of accident by sending it in pushing condition.

(vii) Ensure prompt clearance of stranded passengers at the site in coordination with the Divisional Emergency Cell.

(viii) Regarding running of special trains, keep in touch with Divisional Emergency Cell and given requirement from site.

(D) Duties of Safety Department:

(i) Preserve all clues and evidences regarding probable cause of the accident and ensure that these do not get disturbed till police clearance is received.

(ii) Ensure that video/still photographs by digital cameras are taken as required.

(iii) Ensure that joint measurements, observations are recorded in the prescribed Proforma before restoration work begins.

(iv) Ensure that unaffected rolling stock is moved away from the site and thereafter stabled at convenient location for further examination during accident inquiry.

(v) Ensure that evidence of train staffs, station staff and public are recorded on the spot.

(vi) Addresses of passengers willing to give statements later should also be obtained.

(vii) Ensure that special trains are sent into the accident affected block section according to the sequence.

(E) Duties of Medical Department:

1. Main functions:

Main functions of the Medical department can be broadly classified as:

(i) Taking an initial round of hospitals and assessment of situation.
(ii) Taking out injured passengers from accident involved coaches. Attending to injured passengers and giving them First Aid.
(iii) Preparing list of injured passengers.
(iv) Classification of their injuries.
(v) Transporting them to hospitals and getting them admitted.
(vi) Post admittance hospital care of the injured.
(vii) Dealing with dead bodies.
(viii) Preservation of dead bodies.

2. General:

(i) Ensure collecting blood and urine samples of train crew in case the same is necessary.
(ii) Organize as many road ambulances as possible at the accident site.
(iii) Data Bank of Divisional DM Plans have names, telephone numbers and contacted on phone for sending road ambulances along with team of doctors.
(iv) Set up Medical Counter in UCC and CAC for passenger assistance.
(iv) Set up First Aid Posts in LCCs.

3. Site management:

(i) Leader of Team 'A' (Normally CMS/MS In-charge of the Division) would take control of the site, co-ordinate relief measures and distribute duties amongst doctors available as detailed below:
(ii) Different teams and groups will be formed for discharging various duties of the Medical department as detailed in Section (E1) above. Each team should consist of 4-6 members and each group should consist of 3-5 teams, depending upon requirement.
(iii) One group of doctors will take a round of various hospitals where injured passengers have already been admitted. (Para 4 below)
(v) One group consisting of 4-5 teams of doctors and para-medics

will take out injured passengers and dead bodies from accident involved coaches. (Para 5 below)

(v) One team will attend to injured passengers and given them First Aid and other medical treatment. (Para 6 below)

(vi) One team will prepare list of injured passengers, note down details of their injuries and classify them. (Para 7 & 8 below)

(vii) One team would be in-charge of transporting injured passengers to hospitals and getting them admitted. (Para 9 below)

(viii) One team would be in-charge of post admittance hospital care of the injured. (Para 10 below)

(ix) One team will deal with dead bodies after these have been extracted from coaches. They will prepare a list and arrange for their preservation. (Paras 11 & 12 below)

(x) In case sufficient doctors are available then more groups should be formed for rescue operations. (Para 5 below)

4. Taking an initial round of hospitals:

(i) Separate doctors will be deputed to visit each hospital where injured passengers have already been shifted.

(ii) One commercial officer will also accompany doctors and make a general assessment.

(iii) At the hospital, they should collect information about dead/injured persons, their name, age, sex, address telephone No., name and telephone no. of relatives/friends, nature of the injury, etc.

(iv) These information should be immediately communicated to CMS/MS at accident site by using local PCO/Cell phone etc.

(v) Prepare a list of persons dead/injured already in hospitals in three copies by using carbon paper.

(vi) The list thus prepared is to be signed by railway doctor on duty in the hospital. One copy is to be handed over to the Commercial Department.

(Vii) 2nd copy to be kept with the doctor in charge as office copy and the 3rd copy to be given to paramedical staff to get multiple photocopies for further distribution.

(viii) One copy should also be sent to CAC for being fed into the PC provided in the CAC.

(ix) The initial list prepared should be updated at regular intervals, as and when any change occurs.

5. Taking out injured passengers:

(i) Maximum number of doctors should be deputed for this activity.

(ii) This group should consist of at least 4-5 teams. If numbers permit, more such teams should be formed.

(iii) Teams involved in rescue operation should ensure rapid access to all injured passengers.
(iv) They should take assistance of mechanical/ Engineering/ RPF staff to extricate injured passengers.
(v) Each team will join up with teams of Mechanical staff who would also be involved in extracting dead and injured from coaches.
(vi) Maximum number of coaches should be tackled simultaneously, except those that have climbed on top or have telescoped into one another.
(vi) Coaches should be thoroughly searched including lavatory and vestibule portions before abandoning and moving on to the next coach.

6. Attending to injured passengers:

(i) One team will be asked to provide medical treatment to injured passengers immediately after their evacuation from coaches.
(ii) Ensure stabilization of condition of injured passengers already taken out from coaches, before they are dispatched to hospitals by road.
(iii) In case of patients in critical condition where stabilization of condition at site is not possible, they should be moved immediately by road ambulance or shifted to ARMV.

7. Preparing list of passengers:

(i) Collect list of injured passengers prepared by TS/TTEs and assess the situation.
(ii) Separate lists to be prepared coach wise.
(iii) The list should contain following details:
- If found Conscious: Name, Sex, Age, Identification marks, address, ticket number, originating and destination station.
- If found Unconscious: Approximate age, sex, identification marks, ticket number and other particulars if relatives and friends are available.

(iv) Once the preliminary list of injured passenger has been prepared, the list should be signed by the CMS/MS In charge and a copy handed over to commercial department.
(v) The list of injured passengers will thereafter be updated periodically, as rescue and relief work continues.

8. Classification of Injuries:

(i) Injuries are classified as under:
  (a) 'Grievous' injuries as defined below.
  (b) 'Simple' but excluding 'trivial' injuries such as abrasions or bruises.

(ii) Following are considered to be grievous injuries (as per section 320 of the Indian Penal Code):
  (a) Emasculation
  (b) Permanent privation of sight of either eye.
  (c) Permanent privation of hearing of either ear.
  (d) Privation of any member or joint.
  (e) Destruction or permanent impairment of powers of any member or joint.
  (f) Permanent disfigurement of head or face.
  (g) Fracture or dislocation of a bone or tooth.
  (h) Any hurt which endangers life, or which cause the sufferer to be during the space of twenty days, in severe bodily pain or unable to follow his ordinary pursuits.

(iii) Injuries other than those defined above are considered to be simple injuries.

(iv) Apart from injuries defined above, there may be cases where a passenger or trespasser receives only petty abrasions or bruises. These are of trivial nature and technically speaking should not be taken as injuries.

(v) As a thumb rule, any injury requiring hospitalization of more than 48 hrs. is grievous, hospitalization of less than 48 hrs. is simple, and any injury not requiring hospitalizations at all is trivial.

(vi) Classify injured passengers into separate categories as grievous or simple.

(vii) Inform Commercial department for arranging ex-gratia payment.

9. Transporting injured passengers to hospitals:

(i) One team will be asked to arrange transport of injured passengers to nearby hospitals.

(ii) Ensure expeditious transportation of injured either to AMRVs or to nearby hospitals.

(iii) Critically injured passengers should be transported by means of road ambulances and other by means of ordinary road vehicles.

(iv) Commercial staff should also be associated with transfer of injured passengers to hospitals.

(v) Before doctors and supervisors leave the accident site for hospital duty, they should note down the DOT and Mobile Telephone No. of the accident site, CMS, MS and other doctors at the site for quick communication.

(vi) Doctors going to different hospitals should have separate vehicles.

(vii) In case sufficient numbers of railway vehicles are not available, they should hire taxis for their movement by withdrawing from stations earnings.

10. Post admittance hospital care:

(i) One railway doctor, one commercial supervisor and one welfare inspector should be deputed round the clock at each hospital.

(ii) Normally one doctor should look after one hospital, along with a commercial supervisor and WLI.

(iii) If large no. of hospitals are involved 2/3 hospitals may be given to one doctor. In that case, the doctor, in consultation with CMS/MS, should station himself at the hospital where maximum no. of patients are admitted.

(iv) Make an assessment about capabilities of the hospitals to handle injured persons especially with reference to types of injuries they have suffered. Decide whether the patient needs to be shifted to other hospital with better facilities and then arrange to shift the patient.

(vi) In case any injured passenger succumbs to his injuries in the hospital, then the doctor in-charge of that hospital should update this fact to the medical counter at CAC.

11. Dealing with dead bodies:

(i) Problem faced by rescue teams is regarding dealing of dead bodies.

(ii) On IR it is not clearly spelt out as to who will deal with them.

(iii) Accident Manual is silent as to who will extricate dead bodies from coaches, and then take them to either hospital or the mortuary.

(iv) It can only be inferred that Medical Department will do this work.

(v) In case of a major disaster, the usual complement of medical staff in any ARMV is grossly inadequate for undertaking work of this magnitude.

(vi) Adequate number of Safailwals and other health workers who have come to the accident site should be mobilized for this purpose.

(vii) Often rescue and relief operations continue for more than 48 hours.

(viii) Dismembered bodies begin emitting foul odour after two days. Carrying out this task under such circumstances became a real problem.

(ix) Target should be to extricate all dead bodies within 24 hrs.

(x) Dead bodies should be dealt with coach wise, otherwise bodies taken out from different coaches get mixed up.

(xi) Bodies taken out from coaches should be stacked at quite some distance from the track in front of respective coaches, in separate lots, coach wise. While this may slow down the work initially, in the long run it is more systematic since bodies don't get mixed up.

(xii) Shift dead bodies from coaches to a nominated place at the accident site with the help of paramedical staff, SJAB, Scouts, Civil Defence, personnel, other railway staff and non-railway volunteers available at site.

(xiii) Ensure covering of dead bodies with shrouds.

(xiv) Put cloth label (white cloth of 12"x9" written by Marker pen) on each dead body on the chest just below the neck as below:

- Date_____
- Dead body Serial No._____
- Name_____
- Age_____Sex_____
- Coach No._____

(xv) In case of unidentified dead bodies, against the item 'name', it should be written as unidentified-1/unidentified-2, etc. Approximate age should be estimated from the appearance, such as between 35-45 years.

(xvi) 5 photographs preferably by digital camera should be taken of each dead body. Two should be close up of face from in front and sideways, third should be with the label visible as per item (xiii) above and fourth and fifth should be of full length of the body.

(xvii) If possible each body should also be video photographed.

(xviii) After photographs have been taken, each body should be placed inside a body /plastic bag with zip having proper labeling system where same information is also to be provided.

(xix) After this, bodies will be handed over to GRP or Local Police for safe custody.

(xx) Take necessary steps to handle unhygienic condition that may arise due to decomposed/mutilated bodies.

12. Preservation of dead bodies:

(i) Numbering and photography of bodies should be done even when relatives are on hand to claim the body.

(ii) Arrangements have to be made for a more permanent location for them till such time as the next of kin arrive to claim these bodies.

(iii) In all such accidents passengers are invariably separated from their belongings. As such in many cases, there are no tickets or other identification papers on their persons.

(iv) This problem is further compounded in unreserved coaches where no reservation charts are available.

(v) Identification problems come up in case of mutilated bodies also. In such cases, photographs are better means of identification.

(vi) Arrange hiring of a couple of big halls, for keeping bodies.

(vii) Rooms should preferably be at single locations so that relatives do not have to go around from mortuary to mortuary.

(viii) A large building having number of rooms would be ideal for storing them. Best option would be to take over a school building temporarily.

(ix) Arrange to move dead bodies to nominated buildings being used as temporary mortuaries.

(x) Bodies should be neatly lined up with their numbers prominently displayed and kept in different rooms coach-wise.

(xi) Notice Board outside the building should display the room nos. where bodies extracted from a particular coach have been kept.

(xii) These details should also be pasted on a notice board outside each room.

(xiii) This will prevent unnecessary handling of bodies which in any case would be in an advanced state of decomposition.

(xiv) For dead bodies whose relatives are not readily available and delay is expected, arrange for their preservation by dry ice etc.

(xv) Procure following items from local market for dealing with dead bodies:

- Shrouds,
- Polythene bags,
- Coffins,
- Dry ice

(xv) 4 Commercial Supervisors should be put on round the clock duty in the building housing the temporary mortuary for guiding relatives as and when they come.

(F) Duties of Commercial Department:

1. Main Functions:

Main functions of the Commercial department can be broadly classified as:

(i) Withdrawal of cash from station earnings.
(ii) Hiring of road vehicles.
(iii) Providing beverages and catering to injured and uninjured passengers.
(iv) Initial round of hospitals and assessment of situation.
(v) Preparing list of injured passengers.
(vi) Transporting them to hospitals and getting them admitted.
(vii) Payment of ex-gratia to injured and next of kin of dead.
(viii) Dealing with refund and claims compensation formalities.
(ix) Taking charge of luggage and consignments.
(x) Post admittance hospital care of the injured.
(xi) Taking care of relatives.

2. General:

(i) Before Sr. DCM proceeds to accident site he should withdraw sufficiently large amount of cash from station earnings. (Para 3 below)
(ii) At the accident site, handpicked commercial supervisors should be deputed for manning commercial counters in UCC and CAC.
(iii) Each commercial counter in CAC is to be manned by one group as detailed in Chapter 11, Section 6 (xiii)
(iv) Different teams and groups will be formed for discharging various duties of the Commercial department as detailed in Section (F1) above. Each team should consist of 4-6 members and each group should consist of 3-5 teams, depending upon requirement.
(v) Separate teams and groups should be formed as detailed below, headed by a commercial officer.
(vi) One team will hire road vehicles for use and other related activities. (Para 4 below)
(vii) One group will arrange beverages and food both for injured as also for uninjured passengers. (Para 5 below)
(viii) One team will take an initial round of hospitals along with doctors and assess the situation. (Para E4 above)
(ix) One group should take care of uninjured passengers who have to be cleared from the accident site. (Para 6 below)

(x) One group will assist Medical department in preparing a list of injured passengers, input the same into the PC in CAC. (Para E7 above and Para 7 below)

(xi) One group will assist Medical department in shifting injured passengers to hospitals (Para E9 above)

(xii) One group will assist the Medical department in preparing a list of dead bodies and looking after them. (Paras E11 and E12 above).

(xiii) One team will make ex-gratia payment to injured passenger and next of kin of dead. (Para 8 below)

(xiv) One team will deal with refund cases and claims compensation formalities. (Para 9 below)

(xv) One group wills in-charge of unclaimed luggage and other consignments. (Para 10 below)

(xvi) One group will be in-charge of post admittance hospital care of injured and taking care of relatives as detailed in Chapter 14 under 'Passenger care'.

3. Withdrawal of cash from station earnings:

(i) In order to meet accident-related expenditure, officers can withdraw money from station earnings duly following the procedure incorporated in Commercial Manual Vol. II Rule No. 2425.

- Departmental expenditure necessitated by floods, accidents or earthquakes, etc.
- Ex-gratia payments to persons involved in train accidents. (22)

(ii) Before Sr. DCM leaves for accident site, he should withdraw sufficiently large amount of cash from station earnings to meet with immediate requirements at the site.

(iii) More should be withdrawn subsequently as and when required.

(iv) Procedure and accountal as detailed below should be followed. (Para 11 & 12 below)

(v) A commercial supervisor should be nominated for this purpose and he should withdraw Rs. 5 lakhs and carry it with him, duly escorted by RPF personnel.

4. Hiring of Vehicles:

(i) A large number of road vehicles are required at an accident site for following purposes:

- Taking injured passenger to hospitals.
- Taking doctors and other railway officials to hospitals.
- Clearance of uninjured passengers.

- Taking dead bodies to mortuaries.
- Bringing men and materials, etc. to accident site.
- Taking unclaimed luggage for being kept in safe custody.
- Taking relatives to hospitals and mortuary.
- Other miscellaneous work.

(ii) For this purpose apart from whatever number of railway vehicles may be available, extra road vehicles should be hired.

(iii) All road vehicles should be hired along with standby drivers for round the clock duty.

(iv) At least 10 road vehicles should be attached to CAC for taking relatives to hospitals mortuaries etc.

(v) Nominated railway staff to be attached to each hired vehicle round the clock (even group 'D' would suffice), so that optimum use can be made of the vehicle.

(vi) Buses from State transport authorities should also be requisitioned along with extra drivers for round the clock duty.

(vii) One railway staff should be put in charge of each bus on round the clock duty, who will accompany the bus wherever it goes and bring it back in time (even group 'D' would suffice)

(viii) In case hospitals are in different towns, then road transport buses should be put on fixed time round trip schedule for shuttling relatives from CAC to various locations and back to CAC.

(ix) All hired vehicles and requisitioned buses should have stickers pasted on their front and rear windscreens indicating 'RAILWAY ACCIDENT DUTY'.

5. Catering arrangements:

(i) Arrangements for supply of food and beverages to not only injured but also to other passengers of the accident involved train should be swiftly organized.

(ii) Food and beverages should be supplied free of charge.

(iii) These may be arranged from railway sources or outside sources as necessary, including IRCTC or their contractors.

(iv) To supplement Railway catering arrangements nearby Dhabas and Hotels should be contacted and arrangements made for opening up stalls at the site.

6. Clearance of uninjured passengers:

(i) First of all, arrangements for water and food for stranded passengers should be made.

(ii) Announcement should be made for registering names of safe passengers.

(iii) Clearance of accident affected passengers from accident site should be planned along with Operating branch who will provide the empty coaching rake.

(iv) Make announcement through PA system informing passengers regarding their clearance from site either by:

- Front portion of the accident involved train.
- rear portion of the accident involved train,
- empty coaching rakes that have been brought to the accident site,
- road bridging that has been arranged.

(v) Arrange adequate coolies for carrying passengers luggage while they transfer to the new train.

(vi) In case of road bridging, arrange road transport to clear stranded passengers, record details of passengers dispatched and relay particulars to Divisional Emergency Cell.

(vii) Senior-most official at site shall have powers to arrange conveyance for affected passengers free of charges by any available mode of transport and also incur expenditure for carriage of passenger's luggage etc.

7. Preparing list of injured passengers:

(i) Collect list of injured passengers prepared by TS/TTEs and assess the situation along with Medical department.

(ii) Separate lists to be prepared coach wise by Medical department.

(iii) The list should contain following details:

- If found Conscious: Name, Sex, age, identification marks address, ticket number, originating and destination station.
- If found Unconscious: Approximate age, sex, identification marks, ticket number and other particulars if relatives and friends are available.

(iv) Once the preliminary list of injured passengers has been prepared, the list should be signed by the CMS/MS In-charge and a copy handed over to commercial department.

(v) This list should be input into the PC available in the CAC.

(vi) The list should be E-Mailed to the Divisional Emergency Cell and Head Quarter Emergency Cell.

(vii) The list of dead and injured that is initially fed into the PC will thereafter be updated periodically, as rescue and relief work continues.

8. Amount of Ex-Gratia payable:

(i) The amount of ex-gratia relief payable to injured passengers or to dependants of dead are as under:

(a)	In case of death	-	Rs. 50,000/-
(b)	Grievous injury	-	Rs. 25,000/-
(c)	Simple injury	-	Rs. 5,000/-

(ii) The amount of ex-gratia relief admissible to road users who meet with an accident due to Railway's prima facie liability at manned level crossing gate accidents will be as under:

(a)	In case of death	-	Rs. 50,000/-
(b)	Grievous injury	-	Rs. 25,000/-
(c)	Simple injury	-	Rs. 5,000/-

(iii) Payment of ex-gratia will be made on the basis of categorization of their injuries made out by doctors at site.

(iv) No ex-gratia payment would be admissible to trespassers, persons electrocuted by OHE and road users at unmanned level crossings.

(v) Ex-gratia payment should also be made to railway staff killed or injured by a moving train while performing their duty, for example, gangman working on track run-over accidentally by a moving train.

(vi) Ex-gratia amount is to be paid in cash.

(vii) In case of injured passengers, ex should be paid to the injured passenger himself or in case he is too ill, to his re-gratia lative in his presence.

(viii) In case of death cases where relatives' identity and claim the body, following precautions are to be taken:

(a) Photograph the face of the body from front and from the side.

(b) Photograph the person taking the ex-gratia payment.

(c) Record the relationship of the person claiming the body along with details of proof, if any.

(d) In case enhanced ex-gratia is announced by the Hon'ble MR, then the enhanced amount should be paid by cheque by Accounts department.

(e) Ex-gratia paid is not to be adjusted against claims payable as decreed by RCT subsequently.

(ix) Payment should be arranged preferably on the spot by a senior scale officer nominated by GM after making such enquiries as can be reasonably made on the spot after immediate needs by way of medical attendance etc. to injured persons have been attended.

(x) For payment of ex-gratia, and to meet other expenses at site, one commercial inspector, authorized by Sr. DCM shall withdraw Rs. 5 lakh from station earnings of a nearby station, and shall be available at site duly escorted by RPF personnel.

(xi) Sr. DCM/DCM will ensure availability of sufficient cash for payment of ex-gratia/refund.

9. Refund and Claims Compensation:

(i) Refund of fares must be granted in the CAC for unfinished journey as per rules.

(ii) Injured passengers and next of kin of deceased passengers must be supplied with blank claims compensation forms along with Claims Booklet explaining complete procedure.

(iii) Photocopy of a filled up Claims Compensation form may also be given along with the blank form so as to help them in filling it up.

10. Luggage and consignments:

(i) As and when unclaimed luggage and personal belongings are taken out from coaches, a list should be made coach wise, and each item should be tagged with coach no.

(ii) A list of each item with distinguishing marks should be made.

(iii) If possible, the cabin number inside the coach should also be indicated.

(iv) Luggage claimed should be handed over on satisfactory proof of ownership.

(v) Unclaimed luggage and personal belongings of injured/dead passengers should be taken possession of for safe custody.

(vi) Unclaimed luggage should be stored in a safe place, preferably, part of the same school building which is being used for preserving dead bodies.

(vii) These should be stored in separate rooms coach wise so that it is easy for relatives to identify.

(viii) A list should be displayed outside each room indicated the coach no. whose luggage is stored there.

(ix) It is the responsibility of Commercial department to take charge of all unclaimed luggage etc. These should be taken over from the charge of RPF.

(x) Booked luggage, parcels and consignments available in SLRs, VPUs etc. should be taken out and sent by road to nearest Jn. station for safe custody.

(xi) Booked perishables available in SLRs, VPUs should be taken out and either auctioned at site or sent by road to nearest Jn. station for being auctioned.

(xii) RMS consignments on the train should be shifted to school building for safe custody till Postal Authorities came and take over custody.

11. Withdrawal from station earnings-procedure:

(i) In order to meet accident related expenditure, officers can withdraw money from station earnings duly following the procedure incorporated in Commercial Manual Vol II Rule No. 2425.

- Departmental expenditure necessitated by floods, accidents or earthquakes, etc (8)
- Ex-gratia payments to persons involved in train accidents. (22)

(ii) The nominated supervisor in-charge of the department concerned may alone withdraw from station earnings through a requisition in respect of the above items specified in rule 2425 of the IRCM.

(iii) This requisition should be made in the form appended below indicating the official making such withdrawal, the departmental officer concerned and also the purpose of withdrawal.

From	To
Name of Supervisory Official	Station Master
Designation/Station	Station

Please arrange to pay from Station Earnings an amount of Rs._____(Rupees_____)
towards_____(Purpose to be indicated). This is one of the authorized items of withdrawal from Station Earnings. The expenditure is chargeable to the head_____
Accounting Authority_____
Controlling Officer_____
Designation_____
Station_____

Payment made from station earnings amount:_____	Received an amount of Rs.____ from station earnings_____

Signature of SM/SS	Signature: Designation:

(iv) Requisition is required to be prepared in triplicate. 1st to be kept as record, 2nd to be presented to SM for arranging payment against proper acknowledgement and 3rd should be sent to Sr. DFM concerned duly countersigned personally by the Divisional Officer of the department.

(v) Any failure by the supervisory official withdrawing cash to follow above instructions or any other irregularity will render him personally responsible and liable for action under Discipline & Appeal Rules.

12. Withdrawal from station earnings-accountal:

(i) Branch Officer concerned shall forward requisitions received from stations to the Divisional Accounts Office indicating circumstances under which the withdrawal was necessitated.

(ii) The countersigned requisition shall be accompanied by relevant Branch Officer so that they reach Account Office within 15 days from the date of withdrawal.

(iii) Executive Officer concerned shall furnish full particulars of the amount withdrawn, details of payments made, reasons for the payment, the rate and period for which payment is made and the total amount paid with the acquaintance of the payee with necessary revenue stamp wherever due to Sr. DFM.

(iv) Sr. DCM will compile a monthly statement of all withdrawals pertaining to his division obtaining a statement from various executives in his division and send it to PCCM.

(v) A monthly return of requisitions issued during the period should be submitted to the Accounts Office by Executive Officers.

CHAPTER-21

SITE MANAGEMENT PLAN-III

(A) Duties of Mechanical Department:

For discharging the dual responsibility of extricating injured passengers & dead bodies from coaches and toppling those coaches whose search has been completed, 2 separate groups will be formed at each end for purposes of 'search and rescue' and 'off tracking of coaches'.

Once 4 ARMVs, 2 ARTs and 2 BD specials have arrived at the accident site from both ends, normally no more mechanical equipment will be required from anywhere else. The main work will then consist of using of these resources effectively and efficiently.

Different teams and groups will be formed for discharging the dual responsibilities of the Mechanical department. Each team should consist of 4-6 members and each group should consist 3-5 teams depending upon requirement.

One Sr. Supervisor should be in-charge of each team conducting 'search and rescue' at the site. All such 'search and rescue' groups at each end of the accident site would function under directions of an AME.

Similarly, one Sr. Supervisor should be in-charge of each team working on 'off tracking of coaches' at the site. All such 'off tracking of coaches' groups at each end of the accident site, would function under direction of another AME who will also be in charge of the crane at that end.

(i) Take precautions in electrified section that power supply is switched off before commencing rescue/relief work.
(ii) Use necessary safety equipment like hand gloves, helmet etc.
(iii) If spillage of inflammable substances is suspected, then only cold cutting equipment should be used.
(iv) In case of suspected sabotage, ensure minimum interference to clues. Save lives and extricate passengers after video and digital photographs have been taken.
(v) Be cautious in using rescue tools like gas cutters, cold cutters, spreaders, hydraulic jacks etc. so that passengers trapped inside or buried under the debris do not get hurt.
(vi) Ensure marshalling of ART according to site requirement before it is sent into the accident involved block section.

(vii) For efficient extrication of entrapped passengers take assistance of Medical/Engineering departments.
(viii) Each team will join up with Medical teams who would also be involved in extracting dead and injured from coaches.
(ix) Maximum number of coaches should be tackled simultaneously, except those that have climbed on top or have telescoped into one another.
(x) Road cranes of sufficient capacity should be arranged so that these cranes can start working from the center while the 140 T cranes can continue working from either end.
(xi) Trucks should be arranged for carrying BD equipment near to accident involved coaches, so that number of coaches can be simultaneously approached and more work centers can be opened up.
(xii) Examine unaffected or re-railed rolling stock and certify their fitness for further movement.

(B) Duties of Security Department:

Main functions of the Security Department can be broadly classified as:

(a) Co-ordination with GRP and Local Police.
(b) Crowd management.
(c) Protection of luggage.
(d) Protection of railway property.

1. Liaison with Civil Police:

(i) In case of sabotage, liaison with Local Police & officials of district administration and get early clearance.
(ii) Clearance should be obtained as expeditiously as possible, for starting restoration work.
(iii) Additional manpower should be requisitioned from local police officials and district administration for purpose of crowd control.
(iv) Exemption should be obtained from SP of the district for waiving off formalities of Post Mortem of dead bodies.
(v) Obtain assistance from GRP and Local Police as and when required.

2. Crowd Management:

The first problem at an accident site is that of surging crowds. Carrying out any kind of rescue and relief operation becomes next to impossible. Railway men who try to undertake any kind of rescue and relief work become victims of mob fury.

(i) Cordon off the site and prevent unauthorized entry of outsiders.
(ii) Segregate the area of accident by putting up temporary barriers using nylon ropes or any other make shift device available at the scene so that outsiders do not disturb the site or hamper rescue operations.
(iii) These barriers should be at quite some distance away from the track, so that UCC, CAC and LCCs are inside the cordoned off area.
(iv) Provide barricade and ask for additional force to control crowd during VIP visit.

3. Protection of luggage:

(i) Protect unclaimed luggage of passengers till these are duly take over by commercial department for safe custody.
(ii) Unclaimed luggage of passengers should be isolated and stacked coach wise, with proper labeling indicating coach no. from which recovered.
(iii) If possible, the cabin number inside the coach should also be indicated.
(iv) All such unclaimed luggage should be protected till they are handed over to claimants or taken over by commercial department.
(v) Unclaimed luggage should be stored in a safe place, preferably, part of the same school building which is being used for preserving dead bodies.
(vi) These should be stored in separate rooms coach wise so that it is easy for relatives to identify.

4. Protection of railway property:

(i) Protect Railway consignments/goods/parcels till these are duly taken over by commercial department and dispatched to nearest station for proper disposal.
(ii) Guard perishables till they are auctioned off at site or till they are dispatched to nearest station for being auctioned.
(iii) RMS consignments on the train should be shifted to school building for safe custody till Postal Authorities come and take over custody.
(iv) Provide security for the cash withdrawn for payment of ex-gratia by the commercial department.
(v) Preserve all clues and evidences regarding probable cause of the accident and ensure that these do not get disturbed.
(vi) Ensure that no railway staff tampers with any track fittings, or rolling stock parts.
(vii) Anybody found moving under suspicious circumstances should be questioned.
(viii) No railway staff should be allowed to move about near the accident site with loose or piece meal equipment.

5. General:

(i) RPF personnel should respond to any call for assistance to rescue victims and transport them to the nearest hospital.
(ii) 3-hourly strips will be updated by field personnel at the scene of incident to the RPF functionary in the UCC, giving the latest situation.
(iii) RPF Assistance Post will be established within the CAC so that people needing help can approach RPF.

(C) Duties of Electrical Department:

For discharging the dual responsibility of providing illumination at site and managing the OHE, 2 separate units will be formed at each end of the accident site consisting of 'General branch' officers & staff and TRD officers & staff.

Once 4 ARMVs, 2 ARTs and 2 BD specials have arrived at the accident site from both ends, normally no more electrical equipment will be required from anywhere else. The main work will then consist of using of these resources effectively and efficiently.

Different teams and groups will be formed for discharging various duties of the Electrical department. Each team should consist of 4-6 members and each group should consist of 3-5 teams, depending upon requirement.

1. Site illumination:

One Sr. Supervisor should be in-charge of each group working at the site. All 'General Branch' teams at each end of the accident site, would function under directions of an AEE (G).

(i) Senior most electrical officer at site would make a quick assessment of the electrical requirement of the site.
(ii) This would be done keeping in mind the geographical spread of the site, the size of UCC, LCCs, CAC and only other requirement as necessary.
(iii) Thereafter, he would assess the quantity of electrical fittings and generating sets available in ARMVs and ARTs.
(iv) In order to set up adequate illumination facilities, all generating sets and lighting fixtures available in ARMVs and ARTs would be used.
(v) First priority for lighting would be the accident site along the track where rescue, relief and restoration work is going on.

(vi) Next priority would be given to lighting up of UCC, CAC and LCCs.
(vii) Additional requirements of generators and lighting fixtures, if any, should be called for immediately from other railway sources within the division, well in time.
(viii) In case divisional sources are inadequate, then sources from other divisions should be tapped.
(ix) Officer at site should hire additional generating sets, lighting fixtures etc., as required, from non-railway sources available nearby. List of such sources are given in Divisional DM Plans.
(x) Once generators and lighting fixtures have been set up, efforts should be made to tap direct power supply from some nearby sources, if available.
(xi) In case power supply is not available nearby and illumination has to continue on generator supply, then sufficient quantity of petrol and diesel should be procured and kept in stock.

OHE at site:

One Sr. Supervisor should be in charge of each group working at the site. All TRD teams at each end of the accident site, would function under directions of an AEE/TRD.

(i) In case OHE is to be brought down, then the same should be done immediately so that working of crane does not get held up on account of OHE.
(ii) In case slewing of OHE suffices for some sections, then the same should be done quickly so that working of crane does not get held up on account of OHE.
(iii) Sr. DEE/TRD shall arrange movement of 6 Tower Wagons along with men and material from adjacent depots from both sides of accident site.
(iv) In case more tower wagons are required these should also be requisitioned from other depots along with men and material.
(v) An assessment should also be made of the extent of damage to OHE masts, and other equipment.
(vi) Additional requirement of materials, if any should be called for immediately from other railway sources within the division.
(vii) In case divisional sources are inadequate, then sources from other divisions should be tapped.
(viii) In case other divisional sources are also inadequate, then sources from other zones should be tapped.
(ix) Availability of OHE masts is a long lead item. Requirement of masts should be quickly worked out so that these can be moved immediately,

(x) Ensure temporary portals are erected without delay.
(xi) In case damage to OHE is extensive and a wiring train is considered to be more efficient, then the same should arrange for from other zone after discussion with RE organization.
(xii) Ensure that the section is earthed before staff starts working near OHE.
(xiii) OHE should not be charged until all staff, tower wagons, cranes etc. have cleared the block section.

(D) Duties of Signal & Telecommunication Department:

Duties of S&T department consist of providing sufficient and reliable means of communication at the accident site and other work centers.

1. Types of communication facilities:

For this purpose, following types of communication facilities should be provided:

(i) Satellite telephones.
(ii) BSNL telephones.
(iii) Mobiles, in case the area is under mobile coverage.
(iv) Walkie-Talkie sets.
(v) Railway telephones.
(vi) PA system.

2. Locations:

These should be provided at following locations:

(i) UCC
(ii) CAC
(iii) LCCs
(iv) Hospitals
(v) Mortuary
(vi) Any other location as decided.

3. Numbers to be provided:

(i) Satellite telephones-5 to be provided. 2 in UCC, 1 in CAC, 2 for passengers.
(ii) BSNL telephones-2 in UCC, 3 in CAC and 1 in each hospital.
(iii) Mobiles-as many as can be arranged in UCC and CAC. In addition to above at least 2 in each hospital.

(iv) Walkie-Talkie sets-each functionary should be covered.
(v) One 25 W VHF sets shall also be provided in UCC.
(vi) One 25 W VHF set shall be installed in a road vehicle so that mobile communication can be setup, upto a range of about 15-20 Kms.
(vii) Railway telephones-each functionary in UCC, CAC and LCCs should be covered.
(viii) In RE area emergency sockets will be utilized for extending communication to the accident site and in non-RE area where 6 Quad cable is available the same will be utilized for providing communication.
(ix) PA system at UCC, CAC and LCCs.

4. Public Address System:

(i) Provide adequate number of PA system, Handsets.
(ii) PA system should be provided in UCC, CAC and LCCs. These are to be used for communicating with passengers and for giving directions to railway staff.
(iii) For this purpose, additional PA systems may become necessary depending upon the requirements at accident site.
(iv) Mega mikes available in ART should also be utilized.
(v) Volume of PA system in UCC, CAC and LCCs should be so that announcements made over one of them reach only those areas which are under its jurisdiction. It should not interfere with announcements being made by other PA systems.

5. General:

(i) Ensure availability of adequate copies of Disaster Management telephone directory containing important telephone numbers.
ii) Adequate number of Mobile Battery Chargers should be provided in UCC, CAC and LCCs along with number of spare batteries.

(E) Duties of Engineering Department:

Some duties have been detailed in Chapter 11 Section 8. Additional duties are as follows:

(i) AEN/SSE (P.Way/Works) shall collect men, rescue tools and arrive at site by fastest means possible.
(ii) Setup UCC, CAC and LCCs at the accident site.
(iii) Assist Medical/Mechanical Department in rescue work.
(iv) If necessary, contact Army/Navy/Air Base and collect required personnel like Divers for rescue operation.
(v) If necessary, hire Private Road Cranes, Bulldozers, Earth movers etc.
(vi) Two Engineering specials, one from each end, carrying engineering materials and gang men from the section.
(vii) Additional requirements of track materials, if any, should be called for immediately from other railway sources within the division, well in time.
(viii) In case divisional sources are inadequate, then sources from other divisions should be tapped.
(ix) Additional workmen are required who are to be moved from adjoining divisions/zones.
(x) Each such division sending assistance should move men along with artisans and PWIs.

(xi) One DEN and one AEN each should also move to the site of accident from each such division.
(xii) Plan for coordinated working and movement of track machine for quick restoration in consultation with TRD and operating officials.

(F) Duties of Personal Department:

(i) Sr. DPO shall proceed to accident site along with all WLIs.
(ii) Assist Doctors in collecting details of injured/dead and shifting them to hospitals.
(iii) WLIs shall be available round the clock in shift duty to look after the welfare of injured persons in each hospital.
(iv) Issue complimentary return journey passes to relatives for escorting injured and taking them back home.
(v) Manning personnel branch counters in CAC and discharging duties listed out for those counters.

(G) Duties of Accounts Departments:

(i) Making available sufficient amount of cash for meeting emergent expenses.
(ii) Opening of current account in a local bank and getting permission for over draft facilities so that large amount of cash is not required to be carried from far off stations.
(iii) Issue of cheques for making of enhanced ex-gratia payments, if so announced at accident site by Hon'ble MR.

(H) Staff matters:

(i) First problem is of identifying railway personnel.
(ii) They should be supplied with orange-colored armbands to be kept in ARMVs/ARTs.
(iii) Adequate number of armbands, gloves and face masks should also be provided in the ARMVs/ARTs.
(iv) Communicating with railway personnel in the crowd.
(v) Microphones/loud speakers provided in ARMVs/ARTs should be used both for crowd control as also for giving instructions to railway personnel working at accident site.
(vi) Once initial rescue operations have got underway, arrangements have to be made for water and food for railway staff working at site. Contract arrangement should be made for supply of food.
(vii) Spare coaches should be stabled at nearby stations where watering and charging facilities are available for stay of staff.

CHAPTER-22

PASSENGER CARE

1. General:

(i) Assistance to passengers and their relatives is of utmost importance in relieving them of some of their misery.

(ii) Injured passengers and their relatives are to be treated with utmost courtesy, concern and sympathy to alleviate their trauma and discomfort.

(iii) For dealing with relatives arriving from far flung corners of the country, staff fluent in the local language of the place from where the train originated should be used as interpreters.

(iv) Commercial supervisors & WLIs should be assigned to talk to injured passengers to ascertain from them whether they wish to call relatives.

(v) Injured passengers should thereafter be provided with either mobile or BSNL STD phones in order to enable them to speak to their relatives.

2. Hospitalization of the injured:

(i) General policy in case of railway accidents in which casualties occur is that of rapid transportation to railway hospital after rendering immediate and necessary first-aid treatment.

(ii) In case there are no railway hospitals nearby, then they are to be admitted in the nearest Govt. hospitals.

(iii) In following cases, injured may be taken to a Private Hospital.

- When there is no railway or Govt. hospital available within a radius of 8 kms. of the site of accident or,
- When the attending doctor certifies in writing that the treatment in private hospital is necessary in the interest of the patient.
- Except where railway doctor certifies, such injured passenger should normally be eligible to the lowest class of accommodation in private hospitals where different scales are available.
- Where the family of the injured person desires to be provided with a higher class accommodation, the family should give in writing to pay the extra cost involved directly to hospital authorities.

(iv) For this purpose, each division should make out a working arrangement with such private hospitals as may be necessary in areas served by them so that in an emergency injury cases can be referred to hospitals concerned without loss of time.

(v) To facilitate matters and to avoid misunderstandings, PCMD should draw up a list of such private hospitals bearing in mind Railway and non-Railway hospitals in the vicinity.

(vi) CMD should also settle charges to be paid for such cases for each class of accommodation.

(vii) Bills by such private hospitals should be submitted through PCMD who will certify the correctness of charges payable, before passing for payment by PFA.

(viii) Payments to private hospitals under this para can be arranged locally by the Railways and Ministry of Railways approval is not necessary. (Extract of Para 701 (1) & Para 712 of Chapter VII of IRMM and Para 1421 of Indian Railway Establishment Manual and M.O.R's letter No. MH 59/MES/96/Medical dated. 18/12/1959)

(ix) When injured are admitted in non-railway hospitals, railway doctors should be deputed to these hospitals to render necessary assistance, including supply of medicines as required which may not be available in these hospitals.

(x) They should also carefully monitor the condition of injured and maintain an updated list with all details.

(xi) If more than one hospital is involved, apart from deputing doctors to individual hospitals, a railway doctor should also be deputed to coordinate and maintain centralized updated position.

3. Facilities to be made available in hospital:

(i) There should be a separate reception counter manned by commercial supervisor or WLI at the entry to the hospital for dealing with relatives of patients who arrive.

(ii) A chart should be displayed at this reception counter indicating ward nos. where accident patients are admitted along with their names, coach no. wise.

(iii) At the entry to each ward, a second list should display the name of the patient, coach no. and the bed no. inside the ward.

(iv) Commercial staff and WLI on duty at that hospital should carry a list indicating the name, address and telephone no. of relatives as given by the patient, and whether they have been informed or not.

(v) Arrangements should be made to inform the next of kin or a relative or friend of the deceased, in case identity of the person involved in accident becomes known.

(vi) As each relative arrives his name should be marked in the list against the passenger's name.

(vii) Reception counter should be provided with BSNL telephone with STD facility.

(viii) There should be 2 mobile telephones for being taking to patients inside wards for making outgoing calls.

(ix) Complete medical care of all passengers including payment of medical bills till their final discharge should be provided.

4. Communication:

(i) STD telephone should be made available to passengers to communicate with their relatives.
(ii) BSNL/Railway Telephones available at adjoining Stations/Cabins/Gates shall be extended to the accident site.
(iii) PCO telephones and other BSNL phones in nearby localities/villages/towns shall also be extended to the accident site by persuading owners of these phones.
(iv) Payments for such telephone connections will be made from station earnings.
(v) Sr. DSTE should hire few mobile phones to meet the need of stranded passengers, wherever cellular phone connectivity is available. Stranded passengers should be permitted to use these phones free of charge.
(vi) These cell phones should be used to convey information regarding the safety of passengers to their friends and relatives.

6. Arrival of relatives:

(i) After a few hours, next of kin of deceased and relatives of injured passengers start arriving at the accident site.
(ii) Adequate number of display boards should be available on ARMVs/ARTs for being put up at accident site.
(iii) By and large these display boards should indicate the direction towards the CAC.
(iv) These indication boards should be displayed near those areas where incoming relatives arrive and congregate.
(v) Periodic announcements on loud speakers should also be made for guiding them to the CAC.
(vi) CAC should have different counters for various purposes as detailed below in section 8.

6. Taking care of relatives:

(i) At CAC, number of commercial supervisors & WLIs should be available for the purpose of taking arriving relatives to different hospitals etc.
(ii) After relatives arrive, they should first of all go through the reservation charts and locate the name of the passenger.
(iii) Thereafter if details are available as to which hospital passenger has been admitted then commercial supervisor or WLI should accompany him to that hospital.
(iv) A hired vehicle should be provided for carrying them to various hospitals and mortuary.
(v) The commercial supervisor or WLI should stay with the relative until he has been able to either find the injured passenger or identify the dead body.

(vi) Thereafter, they should help him in completing all formalities in the CAC.

7. Single window clearance:

CAC should have provision of single window clearance for all legal formalities & multiplicity of paper work.

Counters provided in CAC should have facilities for following items: -

(a) Reservation chart, for locating the name.
(b) List of dead and injured along with name of hospital. The name of passengers involved should be checked up from the list of dead or injured, if available, and their current status informed.
(c) Counter for providing commercial supervisor or WLI as escort along with a vehicle, for accompanying the relative and going around to various hospitals or mortuary.
(d) Railway doctor for issue of Medical Death Certificate.
(e) Govt. doctor for issue of Post Mortem Clearance, in case the same is necessary.
(f) Municipality official for issue of Official Death Certificate.
(g) Local police for issue of authority for handing over of dead body.
(h) Claims counter-Payment of ex-gratia and issue of Claims Compensation Form.
(i) Counter for helping performance of last rituals in case relatives decide to cremate the body there itself.
(j) Pass counter for issue of return journey pass.
(k) Return journey facilitation counter will make arrangements for return journey.

8. Stay of relatives of dead and injured:

(i) Commercial supervisor or WLI deputed with relatives should also arrange for their stay and accommodation.
(ii) Depending upon the need, accommodation in hotels/dharamshalas would be hired for accommodating passengers.
(iii) Arrangements should be made for their meals etc. Contract should be given for providing cooked food to relatives.

9. Performance of last rites:

(i) In many cases relatives decide to perform last rites at the place of accident itself instead of taking the body back to their native place.

(ii) This is mostly on account of:
- bodies being mutilated,
- bodies being in a state of decomposition,
- native place being far off,
- for overcoming logistic problems of taking the body back.

(iii) In such cases railways should render appropriate assistance to relatives for performing last rites.

(iv) Railways should locate:
- the nearest cremation or burial ground as the case may be.
- Shopkeepers who supply necessary material for funeral rites.
- Priest for performing the ceremony.

(v) The above information would be conveyed to relatives and transport provided for carrying the body.

(vi) Above duties are to be performed by Personnel department.

(vii) Commercial supervisor or WLI who has been deputed for relatives of a particular passenger should help them out in this endeavor.

10. Departure of relatives of dead and injured:

(i) CAC should have counters for helping relatives regarding their return journey.

(ii) Personnel branch staff at the CAC should be available for issuing complementary passes for their return journey.

(iii) Reservation of berths should be provided on trains. Such reservation should be provided only from the accident site onwards.

(iv) Extra coaches should be attached to trains going to these destinations as per requirements. These extra coaches should be brought in locked condition from the originating station.

(v) Reserved space in luggage portion of SLRs for some of them to carry back bodies in coffins etc., in case they so desire.

CHAPTER-23

MEDIA MANAGEMENT PLAN

1. **Objective:**

(i) To post the public with factual information pertaining to the accident.
(ii) To convey certain information which is of use to passengers?
(v) To convey specific information which is of use to relatives of dead and injured passengers?
(vi) To create a positive public opinion.
(vii) To create a healthy relationship with the press and electronic media.

2. Duties of PR Organization:

(i) CPRO and his team will collect whatsoever information is available from Divisional Control Office and first information would be released to the media within 60 minutes of intimation of the accident.
(ii) The information shall include telephone numbers of Helpline Enquiry Booths.
(iii) CPRO, PRO and the entire PR organization should proceed to the accident site in the 1st Special train carrying GM and other hqrs. Officers.
(iv) Number of photographers with digital cameras and video photographers should also be taken along to the accident site.
(v) Both CPRO and PRO will be available in the UCC during the day.
(vi) Responsible PR supervisors should be deputed during night shift for interacting with the media, if necessary.
(vii) CPRO will organize Press briefings at fixed timings as detailed in Section 6 below.
(viii) PR organization shall monitor various important media channels to keep track of media reporting. Suitable corrections/clarifications may also be issued, if required.

3. Spokes person:

(i) Only GM, DRM, CPRO, Chief Emergency officer in Hqrs. Emergency Cell and Divisional Emergency Officer in Divisional Emergency Cell are competent to interact or give interview to press and electronic media.
(ii) Apart from the above, any other officer authorized by GM is competent to interact or give interview to press and electronic media.

(iii) Railway's endeavor shall be to ensure that only factually correct and confirmed information is relayed to the media.
(iv) No inflated or exaggerated version of any fact should be relayed to the media.
(v) Unconfirmed news having no authentic source shall not be relayed to media.
(vi) No railway men shall express or voice any criticism, or express his personal opinion or views about the accident, at any point of time.

4. Information to be relayed to Press and Electronic Media:

Information to be given to media can be broadly segregated into following categories:

(a) Accident:

(i) Nature of the accident-date, time, place, exact location, train no., number of coaches involved etc.
(ii) Details of how the accident most probably occurred.
(iii) Prima-facie cause of the accident will be relayed to Media only with the approval of GM.
(iv) Sabotage, even if suspected, will not be relayed to Media, without approval of Railway Board.
(v) Periodic reports regarding progress of rescue and relief work.
(vi) Expected date and time of restoration.

(b) Uninjured Passengers:

(i) Steps being taken to provide beverages, refreshments and first aid treatment for unaffected passengers.
(ii) Steps being taken by railways for clearance of unaffected passengers.
(iii) Expected time of departure of front portion of accident involved train.
(iv) Its likely time of arrival at the destination.
(v) Expected time of departure of rear portion of accident involved train.
(vi) Its diverted route and likely time of arrival at the destination.
(vii) In case empty coaching rakes have been arranged, then details of the same.
(viii) Road bridging being done, laborers provided for transshipment of luggage.

(c) Dead and Injured passengers:

(i) Steps taken by Railways to render immediate medical attention.
(ii) No. of injured passengers rescued.
(iii) Breakup of their injuries:
- Grievous,
- Simple,
- Trivial.
(iv) Names of hospitals where injured are being treated.
(v) Approximately how many patients have been admitted in each of these hospitals.
(vi) Names of injured passengers.

(vii) Communication facilities like cell phones, STD phones provided at these hospitals.
(viii) Payment of ex-gratia.
(ix) Facilities offered to relatives of victims, including free pass for journeys.
(x) Special trains being run for bringing relatives of dead and injured.
(xi) Number of dead bodies recovered and number of bodies identified.
(xii) Identification of dead bodies takes much longer since either
- they were traveling alone, or
- their companions are injured and are not in a position to identify them, or
- their companions have also perished.
(xiii) Under such circumstances it is possible to identify dead bodies only when relatives come from their home town.
(xiv) This aspect of identification of dead bodies and reasons for delay should be explained to the media.

(d) Helpline Enquiry Booths:

(i) Setting up of Helpline Enquiry Booths.
(ii) Details of Helpline Enquiry Booths as follows:
- Stations where these have been opened.
- Telephone Nos.
- FAX Nos.
-

(e) Train Services:

(i) Details of train operation with regard to:
- Diversion,
- Regulation,
- Rescheduling,
- Short termination,

- Cancellation.

(ii) Running of passenger specials for carrying relatives to the site of accident.

(iii) These trains will be started from the originating and destination stations of the accident involved train and will be given same stoppages as the accident involved train for picking up relatives en-route.

(iv) Expected departure time of relatives special from their originating stations.

(v) Refunds being granted in Helpline Enquiry Booths for passengers whose journey have been interrupted.

7. Casualty figures:

(i) In all accidents, as long as rescue and relief work continue, there is always a difference between casualty figures given by railways and casualty figures quoted by the Media.

(ii) The reason for this difference is that railways give casualty figures based on actual number of dead bodies recovered; whereas Media estimates casualty figures based on the damage visible and likely final tally.

(iii) During Press Briefings, this point should be clarified that at that point of time so many bodies have been recovered.

(iv) However, it should also be made clear that casualty figures are likely to go up since rescue work is still continuing.

(v) Assessment regarding likely number of deaths and injuries may also be made if considered necessary. Such an assessment should be based on:

- Total number of coaches involved.
- Number of coaches searched.
- Number of coaches yet to be dealt with.

(vi) Particular reference should also be made to coaches that are crushed or that have climbed on top, and have not yet been searched.

(vii) For example, the media can be informed that as of 13/- hrs., 2 coaches have been dealt with and----no. Of bodies have been recovered. 8 more coaches are still to be searched and casualties are likely to go up.

8. Press Briefings at accident site:

(i) CPRO on arrival at accident site shall collect factual information from the OC site and relay the same to Media personnel at site and also to Divisional Emergency Officer in the Divisional Emergency Cell. Thus, an on-line communication channel will be established to keep media informed of all important details.

(ii) The first press Briefing will be held within one hour of CPRO's arrival at site. Subsequent briefings will be held according to the schedule given below.

(iii) CPRO or PRO should be available in the UCC during Press Briefings.

(vii) There should be fixed time Press Briefings so that there is no confusion regarding different versions given to separate channels at various points of time.

(viii) Simultaneous Press Briefings should be held at accident site as also at Hqrs. Emergency Cell as per fixed timings given below, so that the same version is given by all concerned.

(ix) Information to be given to the media will be of 30 minutes earlier. For example, the media briefing held at 07.30 hrs. will convey all information as at 7 hrs on that date.

(x) On the first two days, there should be 6 media briefings per day. These should be scheduled at the following timings:

- 07/30 hrs.
- 10/30 hrs.
- 13/30 hrs.
- 16/30 hrs.
- 19/30 hrs.
- 22/30 hrs.

(xi) Thereafter, for the remaining days, there should be 3 media briefings per day. These should be scheduled at the following timings.

- 07/30 hrs.
- 13/30 hrs.
- 19/30 hrs.

(xii) All media releases will be up loaded on the East Central Railway website, and new page opened to give specific information with regard to the accident. The priority of information release to various media will be as under:

- TV channels.
- Agenciers-UNI, PTI, Varta, Bhasha.
- Print Media.

(xiii) Convenience and conveyance of media shall be taken care of by PR personnel with assistance of Commercial representatives at site. Media persons should be conducted to hospitals where injured are being treated.

(xi) Commercial department should ensure that list of passengers who traveled by the accident involved train along with list of dead and injured in the accident reach PR officials at the earliest.

CHAPTER-24

FIRE AND OTHER ACCIDENTS

Fire on a running train is more catastrophic than on a stationary one, since fanning by winds helps spread the fire to other coaches. Moreover, passenger's sometime jump out of a running train on fire resulting in increased casualties.

In case of fire in running train, every railway staff available on the train or at the site shall immediately try and stop the train and plunge into action to save lives and property.

(A) FOLLOWING SOURCES ARE MAIN CAUSES OF FIRE IN TRAINS:

(i) Carrying stoves, sigris, gas cylinders, kerosene oil, petrol, fireworks etc. in passenger compartments.
(ii) Making fire/using fire near paper, wood, petrol or such other inflammable articles.
(iii) Lighted match sticks, cigarette ends carelessly thrown.
(iv) Short circuit in electrical wirings.
(v) Using naked light during authority token delivery to the driver, shunting of inflammable loads, sealing of inflammable wagons.
(vi) Use of open fire, smoking near gas/petrol tank.

All railway staff and passengers should take all possible precautions to avoid any of the above mistakes so that possibility of fire breaking out can be minimized. In general fire originates in a small level. When it is surrounded by burning materials with adequate supply of air, fire spreads.

(B) ACTION TO BE TAKEN IN CASE OF FIRE IN TRAIN:

(i) First and foremost, immediately summon the fire brigade.
(ii) Secondly, if you smell gas or vapour, or even in case of excessive smoke, hold a wet cloth loosely over your nose & mouth and breath through it in as normal a manner as possible.

1. In case of fire in a passenger train:

(i) In case of fire, pull the Alarm Chain and stop the train immediately.
(ii) Try and put out the fire before it becomes a big blaze by using either water or blankets etc.
(iii) More people expire due to suffocation from smoke rather than due to actual burning.

(iv) Advise passengers to take a cloth, wet it in their drinking water and cover their nostrils.
(v) Instruct passengers to go to the other end of the coach which is away from the fire and if possible cross over to the next coach through the vestibule.
(vi) Insist that passengers should save themselves first and not to bother about their luggage which can be retrieved later on.
(vii) Make sure that no passenger lies down on the floor.
(viii) After train has stopped, passengers should come down from the coach immediately.
(ix) Building up confidence of injured passengers by suitable advice is of great importance.

2. In the event of a vehicle on a train being on fire:

(i) Stop the train immediately.
(ii) Don't panic.
(iii) Evacuate passengers from burning coaches.
(iv) Protect property, valuables & mails.
(v) Locate fire extinguisher substances viz, water bucket with water/sand, fire extinguishers etc.,
(vi) Use fire extinguisher if any and put out the fire.
(vii) Use water from the coaches and extinguish the fire.
(viii) Throw Earth or sand, if available, on the fire.
(ix) Ascertain the type of fire viz, dry, oil gaseous, electric and use the right type of extinguishers.
(x) Isolate the burning vehicle from other vehicle by uncoupling.
(xi) Train to be protected by Driver and Guard at both ends according to the provision of G&SR 6.03.
(xii) Report it to the nearest station/control/fire station.
(xiii) Every effort shall be made to extinguish the fire and to save the wagon labels, seals and contents of the vehicle.
(xiv) In case fire is discovered when the train is near a tank or watering station, the Guard and Driver shall use their discretion to proceed there, but no such attempt shall be made until the portion of the train in rear of burning vehicle has been detached.
(xv) Inform all concerned to assist in extinguishing the fire.
(xvi) In case of fire from electrical short circuit switch off the source.

3. In the event of fire on an Electric engine/EMU

(i) Driver shall immediately switch off the circuit and lower the pantograph. The train shall then be brought to stop at once.
(ii) After disconnecting the electric supply to affected circuits, Driver shall take necessary action to put out the fire.
(iii) If fire cannot be extinguished by the above means Driver shall advice TPC through emergency telephone to arrange for OHE of the affected section to be switched off.
(iv) The Guard and any other staff available shall render all possible assistance to the Driver in putting out the fire.
(v) Ordinary fire extinguishers or water from a hose pipe shall on no account be used to extinguish fire on live wire or electrical equipment.
(vi) If services of fire brigade are required, fire brigade shall not be allowed to commence operation until all electrical equipment in the vicinity of the fire have been made dead.

4. In the event of a fire on a Diesel Engine/DMU stock:

(i) The Driver/Motorman shall immediately switch off the circuit breaker and shut down the engine. The train shall be brought to stop at once.
(ii) The Guard shall give all possible assistance to the Driver in putting out the fire.
(iii) Fire extinguishers of approved type shall be provided on each diesel locomotive and motor coach of DMU when these are turned out from the home shed. The Foreman/CWS in charge of the shed shall inspect the fire extinguishers and ensure that these are in good working condition.

5. When a person is on fire:

(i) Approach him holding the nearest available wrap in front of you.
(ii) Wrap it round him.
(iii) Lay him flat and smother the flames.
(iv) He may roll on the floor, smothering the flames.
(v) On no account should he rush out in the open air.
(vi) Call for assistance.

6. Fire caused by Petrol or other inflammable liquids, acids or gases:

(i) Segregate the affected wagon, coach or area involved.
(ii) On opening a wagon do not enter it immediately. You would thus, avoid fumes, which may be dangerous.
(iii) Use foam type fire extinguishers and sand and not water or soda acid type fire extinguishers.

(iv) Do not bring naked lights near the site of fire.
(v) Warn the people living in the surrounding areas within one Km. radius.
(vi) Stay away from ends of tanks, as tanks normally burst from the ends.
(vii) Cool tanks that are exposed to flames with water from the sides only after the fire is put out.
(viii) Withdraw immediately in case of rising sound from venting safety device or any discolouration of tank due to fire.
(ix) Inform the nearest Fire stations intimating that the fire has been caused by Petrol or any other inflammable liquids, acids or gases.

7. In case of fire due to Explosives/Inflammables/Dangerous Goods:

(i) Extinguish by closing the valve or isolating LPG feed to fire by other suitable controls.
(ii) Following steps may be taken if no undue risk is involved:
(a) Move unheated cylinders to a safe place after ensuring closing of valves.
(b) Cool the hot cylinders by spraying water from a safe position. The person directing the spray should take up a position where he would be protected from possible explosion.
(iii) If cylinder containing inflammable/toxic gas develops leak during transportation, remove it to an isolated open place away from any source of ignition and advise the filler or consigner as required.
(iv) Inform the Chief Controller of Explosives by fax/telephone.
(v) Inform officer in charge of nearest police station.
(vi) Inform departmental officers concerned.
(vii) Pending the visit of the Chief Controller of Explosives/his representative, the wreckage and debris shall be left undisturbed except to save lives.
(viii) After getting information from the Chief Controller of Explosives that he does not wish any further investigation, the restoration work may be commenced.

(C) FIRE FIGHTING:

1. Dry Chemical powder type fire extinguisher (DCP):

These types are suitable for tacking petroleum, gas, electrical fire and controlling fires of textile fibers, Sodium based chemical powder is used on a fire which undergo chemical reaction.

2. How to Use:

(i) Carry to the place of fire and keep it up right.
(ii) Remove the safety clip.
(iii) Strike the knob located in the cap.
(iv) Sealing disk of the cartridge gets broken and allows carbon dioxide gas to escape to the main shell and powder is pushed out.
(v) Direct the steam of the powder at the base of the flame.
(vi) For effective result stand at about 1.5 to 2.5 m. near the seat of the fire.
(vii) Move forward with moving the nozzle rapidly from side to side in sweeping motion.
(viii) When using on outdoor fires operate from the up wind side for effective spray.

3. Building Evacuation:

When the building fire alarm sounds:-

(i) Immediately evacuate using building emergency plan procedures.
(ii) Walk to nearest exit/stairwell (close doors behind you)
(iii) Do not use elevators.
(iv) Proceed to the designated gathering area outside the building.
(v) Do not re-enter building until cleared by authorized personnel.
(vi) Assist with evacuation of individuals with special needs.

4. Suspicious substance in Railway premises:

(i) Clear and isolate the contaminated area. Do not touch or disturb anything.
(ii) Call police/fire service/bomb squad.
(iii) Wash your hands with soap and water.
(iv) Identify individuals who may have been exposed to the material.
(v) Do not leave premises until disposed by authorities.

5. Bomb threat/Blast:

Person receiving call regarding bomb threat should: -

(i) Attempt to gain as much information as possible from the caller like type of device, time set, location, reason/purpose of the act, dialect mannerism and identity of the caller.

(ii) Inform and alert the disaster management team (Bomb detection squad).
(iii) Alert police, fire brigade and explosive department.
(iv) Pass on the information to all departments concerned.
(v) Take initiative for evacuation of all persons from premises.
(vi) Person noticing a bomb like object, should bring it to the notice of the nearest available officer.
(vii) Inform GRP, RPF, Bomb detection squad.
(viii) Ensure all persons are away from the spot and avoid unnecessary crowding near the area.
(ix) Inform control to take further steps for regulating train services.
(x) Wait for clearance from the Police department to restore normal working.
(xi) Utilize "Caller ID" facility if provided to trace the caller.

6. Radiation Emergency:

(a) Personal injury involving radioactive material contamination:

(i) Render first aid immediately for serious injuries by trained.
(ii) Call bomb squad, fire station.
iii) If possible, without causing harm to the victim, monitor the injured; remove contaminated clothing and gross personal contamination.

(b) Radioactive contamination of personnel:

(i) Remove and bag all contaminated clothing.
(ii) Call fire station, bomb squad, and police
(iii) Skin contamination should be cleaned using mild soap and tepid water. Use portable survey meter to monitor for remaining contamination. If not free of contamination, re-wash and re-survey.

7. What to do upon receipt of suspicious letter/package:

(i) Handle with care.
(ii) Don't shake or bump.
(iii) Isolate and look for indicators.
(iv) Don't open, smell, or taste.
(v) Treat it as suspect.
(vi) Call Police/Fire service/Bomb squad.

8. If parcel is Open and/or Threat is identified:

(a) For a Bomb:

(i) Evacuate immediately.
(ii) Call police/fire service/Bomb squad.

(b) For Radiological:

(i) Limit exposure-don't handle.
(ii) Evacuate area.
(iii) Shield yourself from the object.
(iv) Call police/fire service/bomb squad.

(c) For Biological or Chemical:

(i) Isolate-don't handle
(ii) Call police/fire service/bomb squad.
(iii) Wash your hands with soap and water.

(D) Other Accidents:

1. Tampering of Railway fittings causing accidents & placing of foreign particles on track to cause disruption to traffic.

(i) A staunch vigil should be kept by introduction of special patrolling over the area as and when warranted.
(ii) Some persons to be trained specially and to be drafted for duty over the area if required.

2. Earthquake:

(i) When first tremors are sensed during an Earthquake, all personnel should evacuate buildings and assemble at safe places away from structures, walls and falling objects.
(ii) Emergency shutdown should be declared.

(iii) Emergency response plan to be activated.
(iv) After status is restored, personnel should inspect all facilities for damage assessment, cleanup, restoration and recovery.

3. Landslide:

(i) Whenever landslide is expected/experienced due to heavy downpour all train services should be regulated.
(ii) Rescue team to be rushed for restoration work.

4. Floods:

Based on the weather forecast warnings regarding impending flood condition, following steps should be taken: -

(i) Bridge watchman to be provided at vulnerable points to inform flow of water.
(ii) Shifting all personnel and movable equipment around the bank.
(iii) If time permits sandbag dykes can be constructed to ensure safe passage of trains.
(iv) Regulate train service till flood recedes.
(v) Evacuate people on train/at station and move them to a safer place.
(vi) Contact Fire brigade, Naval, Army, Air force, Local boat man and arrange divers and boats.
(vii) With the co-ordination of local authorities, the Engineering officer/supervisor or other supervisors at that station shall arrange temporary shelter in nearby schools, marriage hall, community center etc.
(viii) If necessary, arrange coaches to accommodate the affected temporarily.
(ix) Seek assistance from voluntary organization and arrange drinking water, food, medicines etc.
(x) RPF and GRP in co-ordination with local police shall arrange protection.
(xi) Keep communication with Divisional Control office.
(xii) When people are marooned by flood, arrange air dropping of food packets, cloths etc., with the assistance of civil administration.
(xiii) Contact SJAB, local doctors and provide medical care to the affected.
(xiv) Take all necessary action to provide shelter and other assistance to those affected by floods.

5. Cyclone/Storm:

When a train is caught in a cyclonic storm at mid section/station:

(i) Stop the train clear of cuttings, bridges and embankments.
(ii) Guard, Driver and other Railway staff on train shall open all doors and windows of all coaches.
(iii) Station Master shall not start trains when the wind velocity exceeds the permitted level.
(iv) Make announcement frequently to warn the public about the storm/cyclone.

(v) Take all necessary action to provide shelter and other assistance to those affected by cyclone and storm.

STANDARD OPERATION PROCEDURE (SOP) OF FIRE ACCIDENTS

With reference to the subject as cited above, ECR prepared a proper standard operation procedure (SOP) of Fire accidents for better handing of fire accidents in coaches/trains (Freight and passenger) to reduce the possibility of loss of life and property based on CAMTECH, Ministry of Railways guidelines Gwalior.

RECOMMENDED ROLE OF ON BOARD STAFF IN CASE OF FIRE ON TRAIN

Introduction

In case fire on train, typical time available for rescue in 2-3 minutes before smoke fill up and passengers start getting disoriented. Smoke (toxic/non-toxic) can cause suffocation and loss of consciousness in two minutes. Five in personal clothing cause suffocation and loss of consciousness in 10-15 minutes and Deaths of incapacitation (followed by death) can happen in five minutes. A fire in train destroys the train carriage (s) completely in a few minutes.

In most of cases, relief reaches the burning train when the carriages are completely burnt and passengers dead or badly burnt. Under such situation, role of on-Board Railway servants becomes vital and they should plunge into action to save the precious lives on priority. In this context, the Railway servants are expected to have a basic knowledge on fire and firefighting.

The fire incidences in trains are among the most serious disasters to human lives and the property of Indian Railways. Indian railway has already taken up various steps for fire Prevention & train fire has become a serious concern for Railways.

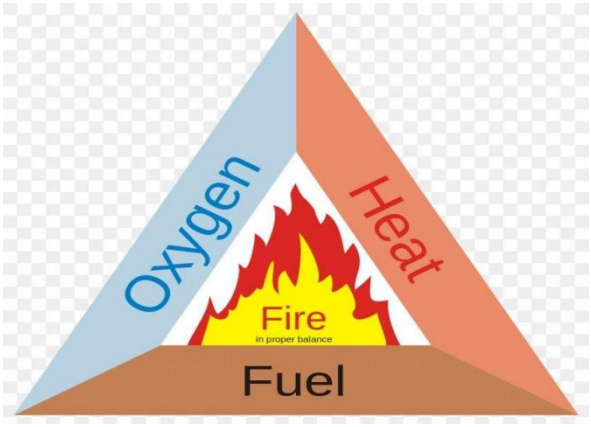
A train fire is different from a fire in other places in the manner in which it breaks out, grows and spreads, and in the method of fighting it. Fire in

a coach on running train is very dangerous because it spreads very quickly in closed space. People died due to Smoking or choked with other coaches.

CHARACTERISTICS OF FIRE

The fire triangle illustrates the three elements a fire needs to ignite: heat, fuel, and an oxidizing agent (usually oxygen). By eliminating any one of the elements, fire can be extinguished.

FUEL (Any Hydrocarbon) + AIR (OXYGEN) $\xrightarrow{\text{Heat}}$ FIRE



PROBABLE CAUSES OF FIRE IN RAILWAYCOACHES

- Carrying inflammable goods like stove, gas cylinder, kerosene oil, petrol, fireworks etc. in passenger coaches.
- Making/using fire near paper, wood, petrol or such other inflammable articles.
- Throwing waste material outside the dust bin, near door, removal of garbage from pantry car/coaches.
- Malpractices like carelessly thrown lighted match sticks, cigarette butts and Bidi butts etc.
- Leakages/Blasts of pantry gas cylinders.
- Careless, storage of inflammable materials like newspapers, edible oil etc. in pantry cars.
- Insertion of cigarette butts, Bidi buts, Gutka wrapper etc. in

fan base, fuse distribution board, roof openings and ventilators etc.

- Sabotage.
- Mishandling/Careless use of pantry equipment by pantry car staff.
- Gas regulator, flame arrester and pressure gauge in pantry car are not in working order
- Poor maintenance of electrical equipment's and short circuits.
- Loose or temporary connection, hanging wires/exposed joints etc.
- Defects in locomotive causing fire.

NECESSITY FOR IMMEDIATE ACTION

In most of the cases, relief reaches a burning train after the carriages are completely burnt and passengers dead or badly burnt. Under such situation, role of on-board Railway servants becomes vital and they should plunge into action to save the precious lives on priority.

The role of on-board staff who accompanying trains shall react immediately to put-off / extinguish fire and rescue passengers / safe the railway property

IN THE EVENT OF A VEHICLE ON A TRAIN CAUGHT FIRE, ON RUN.

a) The train shall be stopped, immediately.

b) Efforts shall be made to save the lives and RMS first.

c) Information should be given to the nearest SM/control quickly.

d) The burning vehicle shall be isolated a distance of not less than 45 meters being left between it and the other vehicle of the train.

e) The train shall be protected in accordance with GR. 6.03, if not protected by fixed signals.

f) Every effort shall be made to extinguish the fire and to save the wagon labels, seals and the contents of the vehicle.

g) Earth or sand, if available shall also be used to extinguish fire in addition to fire Extinguisher and water bucket as per training imparted to the staff.

h) Ordinary Fire extinguisher or water from a hose pipe shall on no account be used to extinguish fire on live wire or electrical equipment. If the services of the Fire Brigades are required, the brigade shall not be allowed to commence operation until all electrical equipment in the vicinity of the fire has been made dead and earthed.

i) If the fire is suspected to be due to electrical short circuit, the electric couplers at both the ends shall be disconnected &fuses from the battery from boxes shall be removed.

j) In case the fire is near a tank, the Guard and Driver shall use their discretion to proceed there, but no such attempt shall be made until the portion of the train in rear of the vehicle has been detached.

k) All available help should be mobilized to extinguish the fire.

In this context, the Railway servants the on-board staff need to have basic knowledge on fire and firefighting methods. They have to be imparted the methods of rescue through various training programs.

1.0 INSTANT ACTION TEAM AGAINST FIRE.

An instant action team comprising the following available on the train may be formed:

- Loco pilot, Asst. loco pilot, Guard.
- All TTEs, AC Coach Attendants, AC Mechanics.
- Pantry car staff (railway and/or contractor)
- OBHS On board Housing keeping Staff railway and/or contractor.
- TXR staff (as provided on some trains)
- RPF/GRP staffs.
- Railway employees either on duty or on leave as passengers travelling in the fire affected train.
- Doctors travelling by train.
- Passengers travelling on the train who volunteer for rescue and relief work.
- Railway staff working at site or available nears the site of the fire incident.

Further, Role of following officials is also important in case of fire.

- Station Master at station or nearby station of Fire Incident
- Section Controllers
- Traction Power Controllers
- BD Staff

ROLE OF INSTANT ACTION TEAM.

i. Don't panic.

ii. Pull the Alarm chain and stop the train immediately.

iii. Evacuate the passengers to the adjacent coaches which are away from the fire through the vestibules, if the fire is not extinguished. After complete evacuation the rolling shutters of coaches on fire to be closed to contain the spread of fire.

iv. More people expire due to suffocation from smoke rather than due to actual burning. Advice passengers to take a cloth wet it in their drinking water and cover their nostrils. This reduces the smoke inhalation & subsequently its bad effects.

v. Insist that passengers should save themselves first and not to bother about their luggage which can be retrieved later on.

vi. Isolate the affected coaches from other coaches by decoupling both Mechanical & Electrical couplers.

vii. Located the fire extinguishing substances viz, fire extinguisher, water bucket with water/sand, etc. Use water from the coaches.

viii. Try and put out the sources of the fire before it becomes a big blaze.

ix. Turn off Electrical Appliances. In case of fire from Electricity, switch off the sources.

x. Report it to the nearest station/control/fire station. (Fire services: 101, it can be dialed by mobile also).

When a person is on fire:

- Approach him holding the nearest available wrap in front of you
- Wrap it round him.
- Lay him flat and smother the flames.
- He may roll on the floor, smothering the flames.
- On no account should be rush into the open air.
- Call for assistance.

Handling of injured passengers:

i. Building up confidence of injured passengers by suitable advice is of great importance.
ii. First aid should be rendered to the injured passengers.
iii. Ordinarily given nothing ORALLY to injured one, but if medical treatment is delayed more than4 hours give ORS drinks preferably bio-carbonated soda.
iv. In serious case remove the patient quickly to hospital as the injured may require an anesthetize, medical soothing.

ROLE OF AC COACH MAINTENANCE STAFF:

i. Immediately isolate the affected coach/coaches electrically.
ii. Use fire extinguisher to extinguish fire to the extent possible.
iii. Immediate check lights in the coaches and provide light in dark coaches.
iv. Provide light at accident site.
v. Take necessary action as a man of common prudence will take not only to help stranded passenger but also to arrange such helps as would be demanded by circumstances.
vi. Help in extricating the trapped passenger/bodies.

ROLE OF CREW (LOCO PILOT/CO-PILOT, GUARD)

i. Stop the train immediately.
ii. Arrange the stretcher and first-aid box for the injured passengers.
iii. Arrange for isolating the affected coaches from other coaches by decoupling both Mechanical & Electrical couplers.
iv. Report it to the nearest station/control/fire station.
v. Provide anti rolling arrangement on the isolated coaches and train as well.
vi. Render first aid to injured passengers, obtaining assistance of the railway staff, doctors and/or volunteers on the help of Ambulance service, means available.

ROLE OF TRAIN SUPERINTENDENT/TTEs

i. Don't panic.
ii. Pull the Alarm chain and stop the train immediately.
iii. Evacuate the passengers to the adjacent coaches which are away from the fire through the vestibules, if the fire is not extinguished. After complete evacuation the rolling shutters of coaches on fire to be closed to contain the spread of fire.
iv. Advice passengers to take a cloth wet it in their drinking water and cover their nostrils. This reduces the smoke inhalation & subsequently its bad effects.
v. Arrange the stretcher and first-aid box for the injured passengers
vi. Insist that passengers should save themselves first and not to bother about their valuables luggage which can be retrieved later on.
vii. Locate the fire extinguishing substances viz, fire extinguisher, water bucket with water/sand, etc. Use water from the coaches.
viii. Report it to the nearest station/control/fire station. (fire services; 101 it can be dialed by mobile also).
ix. Take assistance of volunteers from passengers, Railway employees travelling, Doctors on trains, on board contractor staff etc. to rescue operation.

ROLE OF PANTRY CAR STAFF

i. Protect the inflammable available to pantry car.
ii. Extinguish the fire by using fire extinguisher available at pantry.
iii. Provide necessary assistance to TTE as directed.

ROLE OF BOARD HOUSKEEPING STAFF & TXR:

i. Open the doors of both sides of coaches.
ii. Evacuate the passengers to the adjacent coaches which are away from the fire through the vestibules, if the fire is not extinguished. After complete evacuation the rolling shutters of coaches on fire to be closed to contain the spread of fire.
iii. Open Emergency window for Evacuation of the passengers.
iv. Provide necessary assistance to TTE as directed.

ROLE OF RPF/GRP :

i. Separate the area of incident by establishing temporary barriers and ensure that the on lookers and spectators do not enter the affected area to disturb the scene or hamper the rescue operations.
ii. Baggage of passengers should be isolated and should be taken care of till they are handed over to claimants or taken over by Railway authorities.
iii. RPF personnel should respond to any call for assistance to rescue victims and transport them to the nearest hospital.
iv. Check, save and record the evidences/clues/of the fire.

STATION MASTER AT STATION OR NEARBY STATION OF FIRE INCIDENT

i. Station Master shall advice the section controller / TPC on the fire incident of trains in the section duly exchanging private numbers with the section controller indicating the affected section for OHE isolation.
ii. Station master shall not allow to any train to enter even in the healthy line of the affected section
iii. Station master shall issue caution order to GDR of train on the healthy line of unaffected section to proceed at 60 kmph in day when a clear view ahead and 30 kmph in night to observe any other obstructions
iv. After clearance of affected train from the section advice section controller
v. On receipt of advice from section controller allow the train service on the section on releasing the emergency power block and OHE power is switched on in the section.

SECTION CONTROLLERS

i. Section controller, on receipt of fire incident, shall advice adjacent stations /station masters to regulate the train services in the affected section.

ii. Advice traction power controller to switch off OHE power supply in the affected section duly exchanging private number with the traction Controller.

iii. On receipt of advice in writing from TPC, advice the station masters of all stations in the affected section to treat the DEAD SECTION as if the same is under emergency power block and to ensure that no train is allowed to enter in the affected section.

iv. Shall ensure no train is allowed to enter even in the healthy line of the affected section.

v. Shall advice station master to issue caution order to GDR of train on the healthy line of unaffected section to proceed at 60 kmph in day when a clear view ahead and 30 kmph in night to observe any other obstructions.

vi. On release of affected train /coach / goods train from the section advice traction power controller to switch-on OHE power supply and cancel the emergency power block.

vii. Train services shall be re-stored accordingly.

TRACTION POWER CONTROLLERS

i. The Traction power controller shall switch off the OHE power supply of both the lines of relevant affected section.

ii. Advice section controller in writing that OHE power supply has been switched-off in the affected section.

iii. Shall advice the section controller to have emergency power block in the section to treat as DEAD section.

iv. After release of affected train /coach /goods train in the affected section shall advice section controller to cancel emergency power block.

v. On acknowledge from section controller TPC shall switch-on the OHE power supply in the affected section.

BD STAFF

i. Before entering the coach, ART staff shall wear proper fire suite with equipment's.

ii. Cold cutters are only to be used to rescue the entrapped passengers.

iii. Arc welding / Gas welding, ARC cutting / GAS cutting shall not be used

iv. ART staff shall ensure no passenger is entrapped inside the coach before lifting coach for restoration work.

v. ART supervisor shall ensure reaching of ARME/SPART before golden hours.

vi. Staff shall be familiar with location of emergency widows/exit for different type of coaches.

vii. Fire blankets shall be kept ready before reaching spot.

DO's AND DONT's

DO's	DONT's
• Keep the fire extinguishers in clean condition. • Ensure availability of fire extinguishers at easily visible and accessible places. • Emergency window should be free in operation • Emergency window position should be displayed properly. On-Board staff should be conversant. • Do not throw waste material outside dustbin.	• There should be no sharp bend in rubber pipe of Fire Extinguisher. • Fire extinguishers should not be locked **in cupboards.** • Emergency window should not be rusted or deformed preventing opening of window • Emergency window position should not be displayed in random places for every coach.
• Pantry staff should keep the Pantry stove platform clean and no foreign material shall be left on it. • Ensure the isolating cock of LPG line is in OFF condition when not in use in pantry car. • Vestibule area shall be free. • Use proper connectors with rated capacity for charging in mobile phone/lap top socket. • Ensure availability of hammer	• Insertion of cigarette butts, Bidi butts, Gutaka wrapper etc. in fan base, fuse distribution board, roof openings etc. • Do not keep inflammable materials like edible oil tin/can etc., near gas burner/stove. • Do not use defective isolation cock or by-pass isolation cock or handle obstruction to handle

in hammer box provided with window glass that could slide up for easy removal.	preventing closing of the isolation cock. • Do not keep bed rolls, etc. in the vestibule area. • Do not plug extra load/ loose wire on mobile phone/ lap top socket. Do not allow over charging of mobile phones especially during nights which may cause fire explosion inside coach. • Do not fix hammer in a container that will take time and require screw driver to remove in case of emergency. • Do not allow smoking in the train. • Do not allow any un-authorized vendors in train.

CHAPTER-25

TRAINING AND MOCK DRILL

Trained manpower is an essential ingredient of any DM system. Mere provision of sophisticated equipment without trained manpower is futile. For handling an unforeseen situation like managing a Disaster, training of all railway personnel concerned is an inevitable input. To acquire necessary knowledge and skill, all relevant officials should be given periodic training regarding their duties and that of their department.

1. Training:

Training should be conducted at the following three levels:

- **Individual Training:**

  (i) For enhancing the skill of staff attached to ARMVs, ARTs, etc., supervisors and staff shall be given general training in Disaster Management.
  (ii) Special training may be arranged in Extrication, Rescue, Medical relief, Rolling stock restoration technique and Civil Defense by departments concerned.

- **Seminars/Workshops**: Seminars should be periodically conducted on Disaster preparedness, and the DM Plan.

- **Joint Exercises**: Full scale Disaster Management Mock Drill to be conducted as detailed below.

2. Full Scale Mock Drill:

Disaster Management essentially necessitates a state of preparedness under all circumstances and the efficacy of arrangements there in can be assessed only by conducting periodical full scale mock drills.

(i) Objective of the full-scale mock drill would be to:
- Gauge the preparedness of DM system including detailed planning and keeping of all equipment in good fettle.
- Integrate the operational response to measure overall performance of the exercise.
- Measure performance with regard to accident restoration.

(ii) In general, mock drills have to be conducted ones every quarter for ever location of ARTs /ARMVs during either day or night.

(iii) In a division were class 'A' ARTs /class 'B' ARTs and ARMVs are stationed more than three location, mock drill may be carried out for all such ARTs/ARMVs in that division at list ones in six months evenly spaced out over the period.

(iv) ARTs/ARMVs turn out on account of accident will qualify as mock drill.

(v) Thereafter, full scale mock drills shall be conducted once every year.

(vi) 6 hrs. Traffic block shall be taken and the ARMV/ART runs out to the accident site.

(vii) UCC and CAC should be set up and each department will post their functionaries in the Control Office as also in UCC and CAC.

(viii) All facilities should be provided in UCC and CAC by departments concerned.

(ix) During these full-scale mock drills, following aspects shall be closely watched:

- Turning out of ARMV/ART within the prescribed time.
- Speed of the specials.
- Assembly of staff.
- Handling of ART, HRDs, HREs and other rescue equipment.
- Logging of events.
- Functioning of field telephones and communication network.
- Functioning of generator sets, lighting equipment.
- Preparedness of first-aiders and availability of medical equipment.
- Preparedness of commercial department to mobilize adequate manpower.

(x) On completion of the drill, a detailed report shall be prepared detailing deficiencies noticed, corrective measures initiated and improvements required.

CHAPTER-26

COVID-19 PANDEMIC

SPECIAL GUIDELINES

1 In case the Road ART/MFD Van is to be sent, the number of staff sent should be kept to minimum with unskilled/skilled helping hands arranged from the location of accident (with prior decision before sending MFD), if feasible, to avoid crowding in the Road Truck.

2 For ART the complement of staff is stipulated but exception can be made by Sr. DME/DME to reduce the number depending on the nature and magnitude of accident/incident till the issue of Covid-19 is present.

(i) In A class ARTs additional GS/SLR/GSCN may be provided to ensure "**SOCIAL DISTANCING"**

(ii) Develop/procure the hands-free **"SANITIZATION**" arrangement in the ART/ARME, which can be used in depot/at site.

GENERAL GUIDELINES

1. Download 'Aarogya-Setu'

i. This App is an important step in fight against Covid-19. By leveraging the technology, it provides information of nearest Covid +ve person. As more and more people use it, its effectiveness will increase.
ii. Install the app in your smart phone as well as in your family members' smart phone
iii. Switch on blue tooth and location. Set location sharing to 'Always'.
iv. Update your status in 'Aarogya-Setu' Mobile App, whenever your condition changes.
v. Take a dose of Homeopathic / Ayurveda Medicine prescribed by Ministry of Ayush for yourself and give it to your family members.

2. If you are feeling fatigued for no reason, having dry cough or sneezing or difficulty in breathing, report to your supervisor about health status over telephone and seeks medical advice.
3. If you are in containment zone, inform your reporting official at the first opportunity.

4. Always wear **"FACE MASK"** once you step out of your home.
5. Wash hands frequently using soap and water or use alcohol-based hand sanitizer.
6. Avoid touching things and surface unnecessarily. Be aware about habit of touching as we often do these unconsciously. Sanitize the surfaces you are required to compulsorily touch.
7. Don't share the things like pen, mobile, water bottle, earphone and other objects and sanitize before use, if unavoidable.
8. Do regular exercise/Yoga or other health enhancing practices.
9. Avoid crowds and maintain social distancing.
10. Avoid spitting in public and use either a dustbin or washbasin if you have to.
11. Smoking/Chewing Tobacco is dangerous for you and others. Quit if you consume it or at least don't do it in public places and offices.
12. Use the approved/acceptable/proven disinfectants etc. for sanitization.
13. Reduce the use of cash and switch over toe-payments.
14. Read the guidelines issued by Ministry of health and other ministries on this subject from time to time apart from being updated on the guide lines issued by Railway Board, HQ and the division.

BEFORE STARTING FROM HOME

- Start for workplace only if you feel well.
- Before leaving home for office, please ensure that you wear face-mask, and have soap & sanitizer with you. Please don't share these items with anyone else. Keep one or two extra face-masks with you.
- Keep a torch fully charged/with good and strong cells as you may be stuck up/leave at night
- Supervisors to permit working from home depending on requirement-
    a. To personnel having morbidities causing severity in caseofCOVID-19.
    b. Pregnant Women employees.

TRAVEL FROM HOME TO WORKPLACE

1. Continue wearing mask. Avoid touching it. Do not put it down.
2. Use your personal vehicle to commute between home and office, as far as possible.
3. Using common transport, follow MHA guidelines, which presently are: One driver and two passengers in four-wheeler. Only driver in two-wheeler.

4. Avoid crowding the boarding door of the vehicle.

5. Maintain social distancing of **6 feet (do Gaz ki doori**) from fellow travelers or any human being by staggered seating etc.
6. Do not accept anything from others and share anything with fellow travelers. Not even water bottle, mobile, earphones, pens and cigarettes.
7. Avoid touching any surface unnecessarily (use hand gloves, if you have to). Sanitize the handlebars and handles if you have to hold on to it in the vehicle. Don't venture into crowded. areas.

ON ARRIVAL AT ART/ARME/SPART

1. No handshakes, only 'Namaste' greetings or 'aankho hi ankhon mein dua salaam'.
2. Body temperature taken using remote thermometer at the entrance of ART/ARME/SPART. If temperature > 98.6°F/37°C, leave the workplace immediately and seek medical advice.
3. No staff will be allowed to enter into ART/ARME/SPART without face-mask.
4. Declare health status in prescribed format as requested.
5. Wash hands thoroughly with soap immediately after entering, without touching any surfaces unnecessarily. It is preferable to have a hands-free washbasin/sanitization arrangement installed.
6. Maintain social distancing of 6 feet from human beings at all times. No hugging/touching/patting the back of colleagues on meeting and during work.
7. Maintain queue wherever one has to wait or pass through narrow areas like doors/corridor etc. to follow social distancing.
8. Staff shall continue to wear face-mask all the time at the ART/ARME/SPART.
9. Silence is Golden. Talk only when essential. Practice this for the duration you are out of home. And silence at home is equally helpful.

WHILE DEPARTING IN ART/ARME/SPART TRAINS TO SITE OF ACCIDENT

1. Disinfect the coach surfaces to be used/touched, before start/during run, using prescribed chemical solutions.
2. Sufficient quantity of hand wash soap in bathroom & alcohol-based sanitizer should be available at prominent locations.
3. Maintain social distancing of 6 feet, while sitting in the coach. Avoid more than 2 occupants per seat as far as feasible.
4. Use your arm/elbow/foot, not your hand to open washroom's door.
5. Flush commode before and after use.
6. Don't spit or spoil the basin at drinking water place.
7. Don't share Glass bottle/utensils for drinking water. Disposable type cups should be made available.

8. Use the washroom, if you feel the urge to spit. Wash the wash basin after spitting.
9. Don't use used linen (bed sheet, blanket, pillows). Use only freshly washed& packed
linen.

WHILE WORKING AT ACCIDENT SITE

1. Disinfect the equipment and work area likely to be touched using prescribed chemical solutions and at regular interval thereafter, when using these; such as handles of equipment/tools, shutters, machine levers etc. Take care to clean the electrical switch board so that the liquid cleans the surface only and does not go inside.
2. Personal protective clothing like Helmets, Jackets, Welding Apron, and Welding Hand Gloves etc. should be available for individuals and should not be shared between staff. For this it is advisable that these items have name/notation of individual marked on it. In case this leads to shortfall, additional should be procured.
3. Provide isolated hooks (with mini social distance) for hanging dresses in change room/area.
4. Commonly used equipment like walkie-talkie, torch, bucket, etc. to be sanitized after use by each person – the person picking up for use shall sanitize it – that way he will be sure.
5. Staff to keep separate water bottles/flask for drinking water.
6. Each ART/ARME should have adequate stock of sanitizer, disinfectant liquid, face-masks & hand gloves for staff as well as passengers.
7. Operation theatre table, other medical equipment, stretcher etc. of ARME should be sanitized frequently.
8. No lunch in groups and no sharing of food. Organize staggered lunch break.
9. Maintain social distance of at least 6 feet for all kind of activities including loading/unloading equipment/Jacks, packing material like wooden sleeper etc. Handling of heavy items is likely to cause infringement of social distances. Please take care to avoid physical contact and ensure the duration of infringement is as little as possible. The corollary to this is that such works should be, as far as possible, be done by younger staff and those not having morbidities.
10. Use trolley for transporting these materials from coach to site.
11. Staff should continue to wear face-mask all the time.
12. Maintain queue to have social distance wherever one has to wait for use of facilities like water cooler, locker, having food.
13. Do not touch the machines or any objects unnecessarily.
12. Wash hands at regular intervals.

15. After the work is over, wash the hands and exposed parts of the body with soap and water.
16. Observe the above precautions while going back to the HQ station and then to your home.

AFTER REACHING HOME

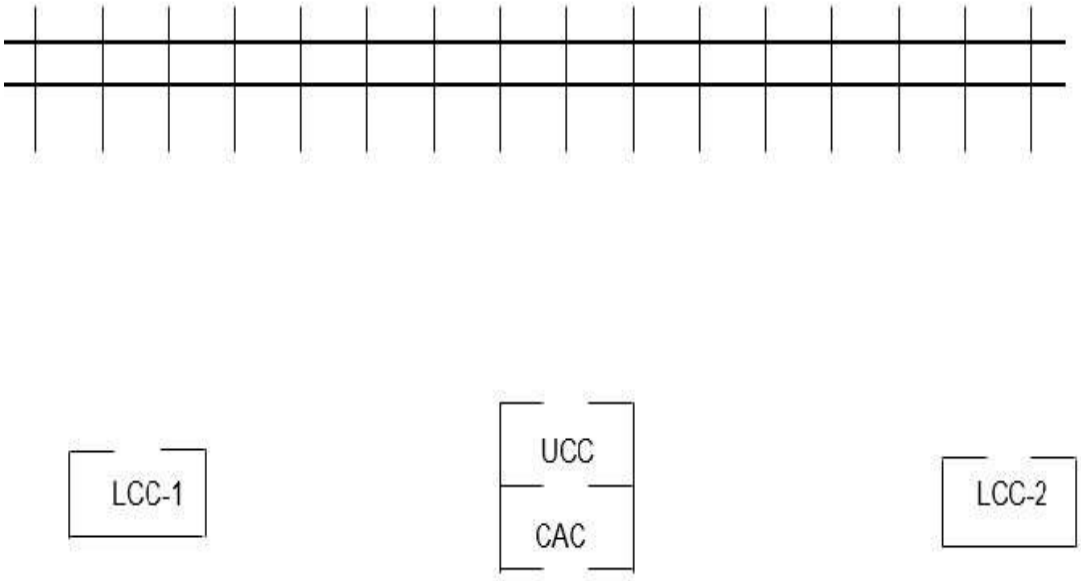
1. *Leave your shoes/umbrella outside and do not touch any object/person/surface.*
2. Dispose the mask in closed dustbin (if disposable) or put in your pocket and wash it while you take bath.
3. Try to go to the bathroom for a wash of exposed parts of your body or take bath (preferable).
4. Sanitize/wash with soap and water the keys, key ring, spectacles, pen etc. you use. Sanitize the items which can't be washed. Clean the currency notes collected on making purchases, if any, with soap and water (or hot iron them).
5. Drop your clothes for laundry or wash them as you take bath.
6. Preferably do not eat anything till you wash/take bath.
7. Follow guidelines issued by Ministry of health and other ministries on this subject from time to time apart from being updated on the guidelines issued by Railway. Board, HQ and the division.

HOW TO USE FACE-MASK

1. Before wearing a mask, wash your hands with an alcohol based (more than60% alcohol content) sanitizer or with soap and water.
2. *Cover your mouth and nose with the mask and make sure the mask is firmly pressed against your face. Do not share face mask & hand loves with anyone, even with other family members.*
3. Don't touch front portion of face-mask while wearing/taking out.
4. Take off mask by pulling straps and wash your hand immediately.
5. Replace the mask as soon as it gets wet.
6. Do not reuse disposable masks. Discard a disposable mask in closed dust bin and then wash your hands.
7. Put reusable face-mask in boiling water or soap solution pot. After washing thoroughly, dry face-mask in sun or iron it for05minutes.
8. Keep at least two face-masks at home per person. Use one while another is in washing/drying.
9. While sneezing always cover mouth with handkerchief or cough in to the arm.

Annexure – 1

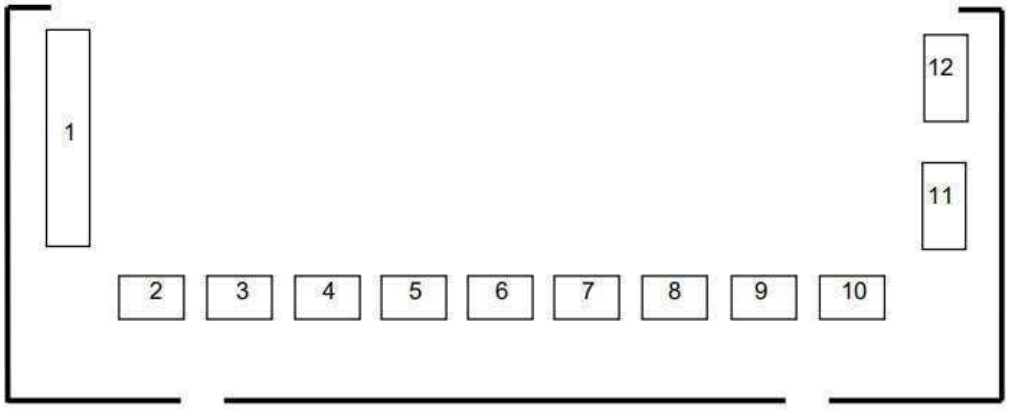
OUTLINE SCHEMATIC PLAN OF UCC/CAC/LCCs



UCC	:	Unified Command Centre
CAC	:	Combined Assistance Centre
LCC-1	:	Local Command Centre-1
LCC-2	:	Local Command Centre-2

Annexure – 2

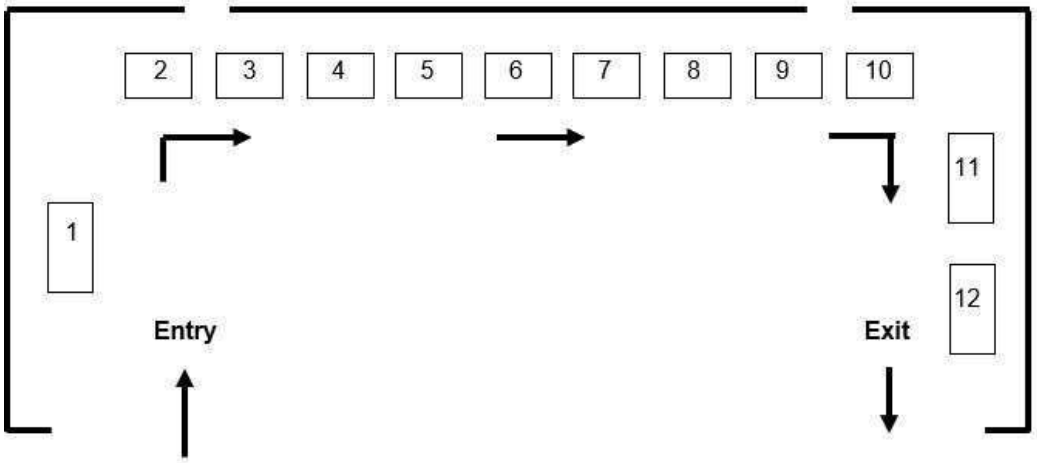
DETAIL SCHEMATIC PLAN OF UCC



1.	Medical	7.	OC Site and Officers
2.	Commercial	8.	Mechanical
3.	Operating	9.	Electrical
4.	Safety	10.	S & T
5.	Security	11.	Civil
6.	Public Relations	12.	Spare

Annexure – 3

DETAIL SCHEMATIC PLAN OF CAC



1. Commercial – Reservation Chart Official
2. Medical – List of dead and injured. Authority for handing over dead body.
3. Commercial – Provision of escort and vehicle.
4. Railway Doctor – Issue of Medical Death Certificate.
5. Govt. Doctor – Issue of Post Mortem Report.
6. CAC in-Charge and Officers.
7. Municipality Official – Issue of Death Certificate.
8. RPF/Local Police – Issue of
9. Commercial – Payment of Ex-gratia, Issue of Claims Forms.
10. Commercial – Assistance for Performing of last rites.
11. Personnel – Issue of Return Journey pass.
12. Operating–Arrangement for Return Journey.

Annexure - 4

HON'BLE PRIME MINISTER'S 10 POINT AGENDA

1 All development sectors must imbibe the principals of disaster risk management.

NDMA various Guideline as stated in NDMP 2019 towards mitigation of disaster risk and proper management is being followed in EC.RLY.

2 Risk coverage must include all, starting from poor households to SMEs to multi-national corporations to nation states.

Necessary coverage as per Guideline of NDMP fordifferent type of disasters like Derailment, Fire, Chemical hazard, earth quake, landslides etc. has been incorporated in preparing of DMP -2021 of ECR.

3 Women's leadership and greater involvement should be central to disaster risk management.

In ECR, the participation of women has been ensured to handle different type of the rail accidents. They are specifically assigned management of Medical and Security.

4 Invest in risk mapping globally to improve global understanding of nature and disaster risks.

The mapping of risk particularly natural calamities like flood, land slide, earth quake, Cold and hot weather, Thunder storm etc. has been done and action has been taken accordingly e.g., preparation of hand book for monsoon patrolling, arrangement of Ash loaded wagons, availability of lightning arrester, Fog safe device etc.

5 Leverage technology to enhance the efficiency of disaster risk management efforts.

In Railways, various technological inputs have been made to reduce the risk of disaster like provision of vigilance control device, Fire alarm system, Fog safe device, Anti- collision device, use of LHB coaches, RRI System etc.

6 Develop a network of universities to work on disaster related issues.

In Railways, RDSO/LKO, NAIR/ BRC, IRISET/SC, ZRTI/ Bhuli, IRITM/ LKO, IRIMEE/JMP etc., are the institutions for safe design of Rolling stock, Track, Signal etc. and technical training to the officers and staff.

7 Utilise the opportunities provided by social media and mobile technologies for disaster risk reduction.

Utilization of social media and mobile technology is being done for mitigation of disaster risk. Safety awareness campaign through Group messages and videos depicting lesson learnt from previous incidences are also shown to the concerned staff for further prevention of accidents in future.

8 Build on local capacity and initiative to enhance disaster risk reduction.

Involvement of people surrounding the railway premises including Railway tracks buildings and other installations is being ensured through public awareness campaign, Pamphlet distribution, Nukkad Natak, counseling and awarding such person who played role in detecting abnormality, informing in time to the railway authority thus reducing the risk of disaster and saving accident.

9 Make use of every opportunity to learn from disaster and to achieve that, there must be studies on the lesson after every disaster.

Detailed analysis and lesson learnt from previous incidences are being regularly discussed in departmental seminars and counseling to the field staff stating them about incidences happened in past, its causes and recommendations for preventing repetition of such faults.

10 Bring about greater cohesion in international response to disaster.

Efforts are made to maintain cohesion with other agencies like NDRF etc. for getting better exposure about different types of disasters and way to handle. In this regard annual joint mock drills are also organized involving all stake holders.

Annexure - 5

VULNERABILITY ATLAS

The vulnerability Atlas created by building materials and technology promotion council (BMTPC) and updated in 2019 depicts details about different types of hazard like earthquake, Flood, Land slide, Thunder storm, Wind etc.

DDU Division

DDU Division of E.C Rly has been covered in three states:-

A) Chandauli District in Uttar Pradesh
B) Kaimur, Rohtas, Bhojpur, Aurngabad and Gaya Districts in Bihar
C) Palamu District in Jharkhand.

In reference of BMTPC the risk of different types of hazards is given as below:-

SL	State	District	Hazard Risk			Remarks
			Flood	Earth Quake	Land slide	
1	Uttar Pradesh	Chandauli	Yes	Moderate	--	
	Bihar	Kaimur	-	Moderate	--	
		Rohtas	Yes	Moderate	--	
		Bhojpur	-	Moderate	---	
		Aurangabad	-	Moderate	---	
		Gaya	-	Moderate	---	
	Jharkhand	Palamu	--	Moderate	---	

Danapur Division

DNR division is full of rivers & bridges and any accident over these bridges will be disastrous consequences due to submerging/sinking of coaches in river water.

Group of such village Divers/Swimmers/Fishermen who may be available nearby, 1st available railway person including engineering staff/Supervisor shall motivate for volunteering for rescuing of persons and extracting of dead bodies if any.

LIST OF VULNERABLE LOCATIONS OF DNR DIVISION:

SN	Sub Divn	Block Section	Location (Km)	System of patrolling	Bank/ Cutting	No of Patrolle rs	Remarks
M/L							
1	AEN/KIUL	CUX-JMU	390/15-391/1	Static	Br No 745	3	History of washout of river
2		MKB-BRYA	427/5-435/6	Mobile	Bank	8	Very high bank. Bad bank area.
3	AEN/MKA	TAL LINK	0/0-3/5	Mobile	Bank	4	DO
4		RDUM LINK	0/0-3/7	Mobile	Bank	4	DO
5		HTZ-RJO	4/2-6/2	Static	Br no 7DB	4	Very high bank at approach.
6	AEN/L/PNBE	FUT-BKG	523/9-15	Static (A)	Br no 73	2	Sudden flow.
7	AEN/L/DNR	BTA-KWR	577/10-579/1	Static	Br no 200A	2	Important bridge.
8		KWR-KUA	579/1-582/1	Mobile	Bank	4	High bank sleeping records.
9		ARA-KRS	599/9-11	Static	Br no 236	2	Bad bank and rever as flowing along the track in 300 mtrs.
10		KRS-BEA	611/25-612/0	Mobile	Br no 260,261	2	Patrolling. Bad bank in approaches and irregular river alignment.
11	AEN/BXR	DURE-BXR	651/1-661/1	Mobile (B)	Bank	4	Bad bank.
12		CSA-GMR	675/1-11	Static	Br no 371	2	Dacoit prone/bad law and order area.

PATNA – GAYA							
13	AEN/L /PNBE	PRBZ-PPN	011/9-10	Static (C)	Br no 21	2	Sudden flow.
KIUL – GAYA							
14	AEN/NWD	LKR-SRY	012/8-9	Static	Br no 26	2	History of washout.
15		LKR-SRY	014/1-5	Static	Br no 29	2	DO
16		WRS-NWD	62/6-9	Static	Br no 146	3	Sudden flow.
17		TIA-WZJ	98/5-9	Static	Br no 268	3	Sudden flow and History of washout.
BKP – TIA							
18	AEN/MKA	WENA-BEHS	17/4-21/2	Mobile		2	History of flash flood.
19	AEN/NWD	RGD-NES	17/0-19/10	Mobile		2	New bank and bridge.

Sonpur Division

Flood/Waterlog in Area within Division are as under :-

Sn	Area prone to be affected due to Flood/Waterlog in.
1	Pasraha & Narayanpur Station Area
2	Kursela, Karagola & Semapur Station Area

Dhanbad Division

MISCREANT ACTIVITY PRONE AREA WHERE BOMB BLAST TAKEN PLACE AND TRAIN ACCIDENT OCCURRED

Date	Section	Km.
11.08.2005	Bendi-Kumandi	228/05
26.01.2006	MMLM-MGME	171/24-171/6
25.06.2007	RCGT-CTQ	196/14
10.11.2007	RCGT-CTQ	197/36
13.10.2009	MMLN-MGME	172/40-32
20.06.2011	DMBR-DNEA	62/21
23.06.2015	CPDR-BRWD	252/5

Rail fracture prone area	
TORI-PTRU SECTION	TORI, KOLE, PTRU, RAY, KLRE
CHOPAN AREA	MPF, PPKD, MHDA, KRLR, MCQ, CPU, OBRA, WDM, KRSL, SGRL, RNQ.
Wild life protection area	CPDR-HHGR SECTION (**Speed Restriction 25 Kmph**)

SN	**Section**	**Block Section**	**Location**	**Cause/Reason**
1.	BRKA-GHD	TORI-CTQ	190/19-23	Land slide prone
2.	GAP-GJD	GAP-GJD	405/15-422/7	Ghat section with three tunnels
3.	KRLR-SKTN	KRLR-KRSL	0/18 TO 18/02	Sharp curve of 6^{o} with cutting

Samastipur Division

DETAILS OF VULNERABLE BRIDGES AND THEIR LOCATION

SN	Section	Bridge No.	Name of river	Span in (M)	Type of super structure	KM/Ch	Between Stn.
1	2	3	4	5	6	7	8
1	SPJ-DBG	1 DN	BUDI GANDAK	45.7x4	OWG	.1/6-7	SPJ-MKPR
2	SPJ-DBG	16	BAGMATI (Tribtutary)	13X12.20	PG	22/6-8.	HYT-TLWA
3	SPJ-DBG	17	BAGMATI	4X12.20+3X 30.48	OWG /PG	23/7-8.	HYT-TLWA
4	DBG-SMI	18	KHIROHI	4X18.30	PG	63/2-4	KML- JGA
5	SMI-RXL	89	BAGHMATI	7x61+2x30. 5	OWG	128/3-7	DAG-BGU
6	SMI-	91B	Balancing	2X20	SERV ICE	133/2-4	DAG-BGU

	RXL		Calvert		GIRDER		
7	SPJ-KGG	7	CRAY RIVER	8x12.20	PG	21/5-8.	SLNA-IML

8	SPJ-KGG	16A	BUDIGANDAK	5X45.70	OWG	58/0-2	ROA-NRN
9	MNE-SHC	44	KOSHI (Tributary)	3X30.50	OWG	18/0-2	KFA-DHT
10	MNE-SHC	45	KOSHI (Tributary)	3X30.50	OWG	17-01-2002	KFA-DHT
11	MNE-SHC	47	KOSHI	5X61.00	OWG	13/2-6.	KFA-DHT
12	MNE-SHC	48	KOSHI (Tributary)	7X30.50	PSC/ Girder box	11/8-12/1	KFA-DHT
13	MNE-SHC	50	BAGHMATI (Tributary)	6X30.50+2X45.70	OWG	9/5-9.	BHB-DHT
14	MNE-SHC	51	BAGMATI	2X18.30+1X24.4+5X30.5+2X45.7	PG/OWG	08/4- 8.	BHB-DHT
15	MNE-SHC	52	BAGMATI (Tributary)	4x30.50	OWG	4/7-5/0	MNE-BHB
16	MNE-SHC	53	BAGMATI (Tributary)	4x30.50	OWG	4/0-3	MNE-BHB
17	NKE-BUG	322	MASAN	8X18.30	PG	265/0-2	HIR-BRU
18	NKE-VkNR	347	HARDHAS	3X6.10	PG	182/2-3	KPB-BRU
19	NKE-VKNR	303	HARDHAS	7X12.2	PG	247/3-4	NKE-HIR

20	SGL-RXL	25	SIKRANA	9X24.40	PG	25/1-5	SGL-RXL
21	SGL-NKE	285	SIKRANA	6X30.5	OWG	228/9-229/0	CAI-SAHI
22	SMI-CAO	2	LALBAKYA	5X18.3	PG	136/5-6	BGU-KWC
23	SMI-CAO	33	PASAHAN	4X12.20	PG	172/6-7	ADX-CAO
24	RXL-NKE	61	ORIYA	2x18.30	PG	204/8-9	STF-MRJD
25	RXL-NKE	52	GUDAH	4x18.30	PG	196/1-2	BLV-STF
26	SKI-JJP	88	KAMLA BALAN	6X30.5+2X14.2	OWG	37/7-38/0	LNO-JJP

VULNERABLE BRIDGES

l.No.	**Bridge No.**	**At K.M.**	**Between stns.**	**Stationary Watchman**
1	47	13/4-5	DHT-KFA	02
2	53	04/3-4	MNE-BHB	02
3	51	05-08-06	BHB-MNE	02
4	16	22/9-12	HYT-TLWA	02
5	01	01/12-13	SPJ-MKPR	02
6	322	265/0-3	HIR-BRU	02
7	89	128/5-14	BGU-DAG	02

8	303	247/3-4	NKE-HIR	02
9	08	24/0-1	GAH-BKF	02
10	88	37/10-38/1	LNO-JJP	02
11	18	63/2-4	KML-JGA	02
12	285	228/9-11	CAI-SAHI	02
13	25	25/1-5	RGH-SGL	02
14	17	23/10-13	HYT-TLWA	02
15	16A	58/0-6	ROA-NRN	02
16	63	105/11-13	SMI-RGA	01
17	09	23/5-6	SLNA-IML	02
18	07	21/6-7	SLNA-IML	02
19	133	62/3-4	GGH-NMA	02
20	12	9/4-8	MFP-JUBS	02
21	62	54/600-700	SKI-Biraul	02
22	138A	65/11-12	GGH-NMA	02
23	12	9.61	MFP-JUBS	02
24	31	32/6-32/7	Paramjiwar-Tarajiwar-Runisaidpur	04
25	37	39/9-40/0	Paramjiwar-Tarajiwar-Runisaidpur	02
26	80	32/9-10	MGI-LNO	02
27	347	282/2-3	KPB-BUG	02
28	50	04-09-10	BHB-DHT	02
29	52	14-04-15	BHB-MNE	02

30	317	261/1-2	NKE-HIR	02
31	329	269/7-8	HIR-BRU	02
32	349	283/5-6	KPB-BUG	02
33	352	285/2-3	KPB-BUG	02
34	Gandak river	6/0-11/0	MHP-JUBS	02
35	Bagmati river	25/0-39/0	PATR-RUSD	02
36	Due to flood in 2017	63/1-2	KML-JGA	02
37	Due to flood in 2017	64/1-2	KML-JGA	02
38	Due to flood in 2017	91/0-93/0	BJT-PSZ	02
39	Due to flood in 2017	85/0-86/4-5	JNR-BJT	02
40	48	07-11-10	DHT-KFA	02
41	29	20.76	JUBS-KGG	02
42	47	32.863	Benigram-Runnisaidpur	02
43	29	20/7-8	JUBS-PTAR	02
44	47	32/6-33/3	PTAR-NRUSD	02
45	96	57/14-15	MRIJ-BDMA	02
46	100	61/11-12	MRIJ-BDMA	02
47	108	68/14-15	MRIJ-BDMA	02

48	110	72/6-7	MRIJ-BDMA	02
49	114	76/4-5	MRIJ-BDMA	02
50	115	76/14-15	MRIJ-BDMA	02
51	117	79/5-6	DMH-BYP	02
52	119	83/4-5	DMH-BYP	02
53	120	83/9-10	DMH-BYP	02
54	130	93/7-8	BYP-SHC	02
55	131	94/12-13	DMH-BYP	02
56	91B	133/2-4	DAG-BUG	02

VULNERABLE SECTIONS FOR NIGHT PATROLLING (MISCREANTS)

Sl. No.	**Block Section**	**K.M.to K.M.**	**Approx. distance in K.M.**	**Jurisdiction**	
				SE (P.Way)	**ADEN**
1	DHT-KFA	13/7-18/0	4.500	KGG AT SHC	SPJ
2	RBZ-HYT	21/0-22/6	1.600	DBG	(DBG
3	HYT-TLWA	25/9-28/7	3.250	DBG	DBG
4	LNO-JJP	34/10-39/1	3.600	JJP	DBG
5	JJP-MHRL	0/0-4/0	3.000	JJP	DBG
6	JNR-BJT	80/0-91/9	1.900	JNR	DBG
7	BJT-PSZ	91/9-97/6	5.700	JNR	DBG
8	PSZ-SMI	97/6-105/5	7.900	JNR	DBG
9	HIR-BRU	264/11-265/6	0.420	NKE(West)	NKE
10	DAG-BGU	126/0-131/0	5.000	RXL	NKE

11	RGH-RXL	03/03-15/2	13.400	SGL	BMKI
12	SGL-RGH	15/2-28/8	15.400	SGL	BMKI
13	CAI-SAHI	231/5-6	0.100	SGL	BMKI
14	JJP-TMA	48/0-52/0	1.500	JJP	DBG
15	MKPR-KSP	7/7-9/7	2.000	DBG	DBG
16	KSP-RBZ	13/9-16/4	2.500	DBG	DBG
17	IML-SLNA	19/0-21/6	2.300	HPO	SPJ
18	KGG-OLP	1/4 -10/0	8.700	HPO	SPJ
19	MNE-BHB	2/0-7/0	5.000	KGG at SHC	SPJ
20	OLP-IML	10/3-15/4	4.100	HPO	SPJ
21	Paramjiwar-tarajiwar-Runisaidpur	25/0-39/0	10.000	JNR	DBG
22	MFP-Jabbasahni	6/0-11/0	2.000	JNR	DBG

END OF PART – I

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