पश्चिम रेलवे
Western Railway

आपदा प्रबंधन योजना
खण्ड - I
DISASTER MANAGEMENT PLAN
(PART - I)

वडोदरा मंडल
VADODARA DIVISION
2025

CERTIFICATE OF REGISTRATION

This is to Certify that
The Quality Management System of

DISASTER MANAGEMENT PLAN
VADODARA DIVISION, WESTERN RAILWAY

OFFICE OF SENIOR DIVISIONAL SAFETY OFFICER/ BRC, DIVISIONAL RAILWAY MANAGER'S OFFICE, PRATAPNAGAR, VADODARA – 390 004, GUJARAT, INDIA

has been assessed and found to be in accordance with the requirements of the system standard

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For the scope of activities described below

PLANNING, MONITORING & MANAGEMENT OF DISASTER MANAGEMENT ACTIVITIES WITH THE SUPPORT OF MEDICAL, MECHANICAL, ELECTRICAL, OPERATING, SIGNAL & TELECOMMUNICATIONS, ENGINEERING, COMMERCIAL, RPF DEPARTMENT INCLUDING STATE & CENTRAL GOVERNMENT AGENCIES & SOCIAL COMMUNITY INVOLVED IN RESCUE & RESTORATION DURING DISASTER AFFECTING RAILWAY

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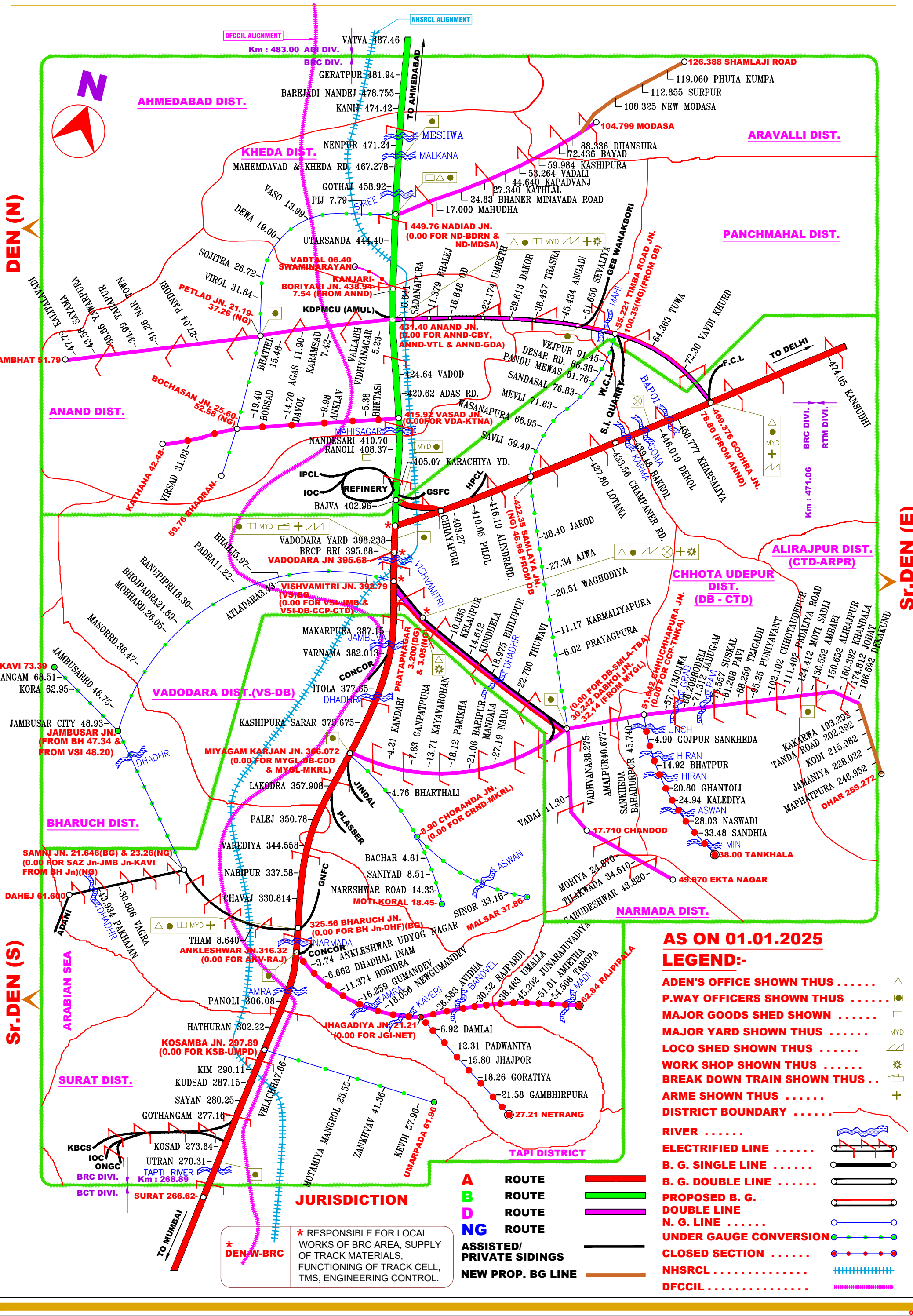
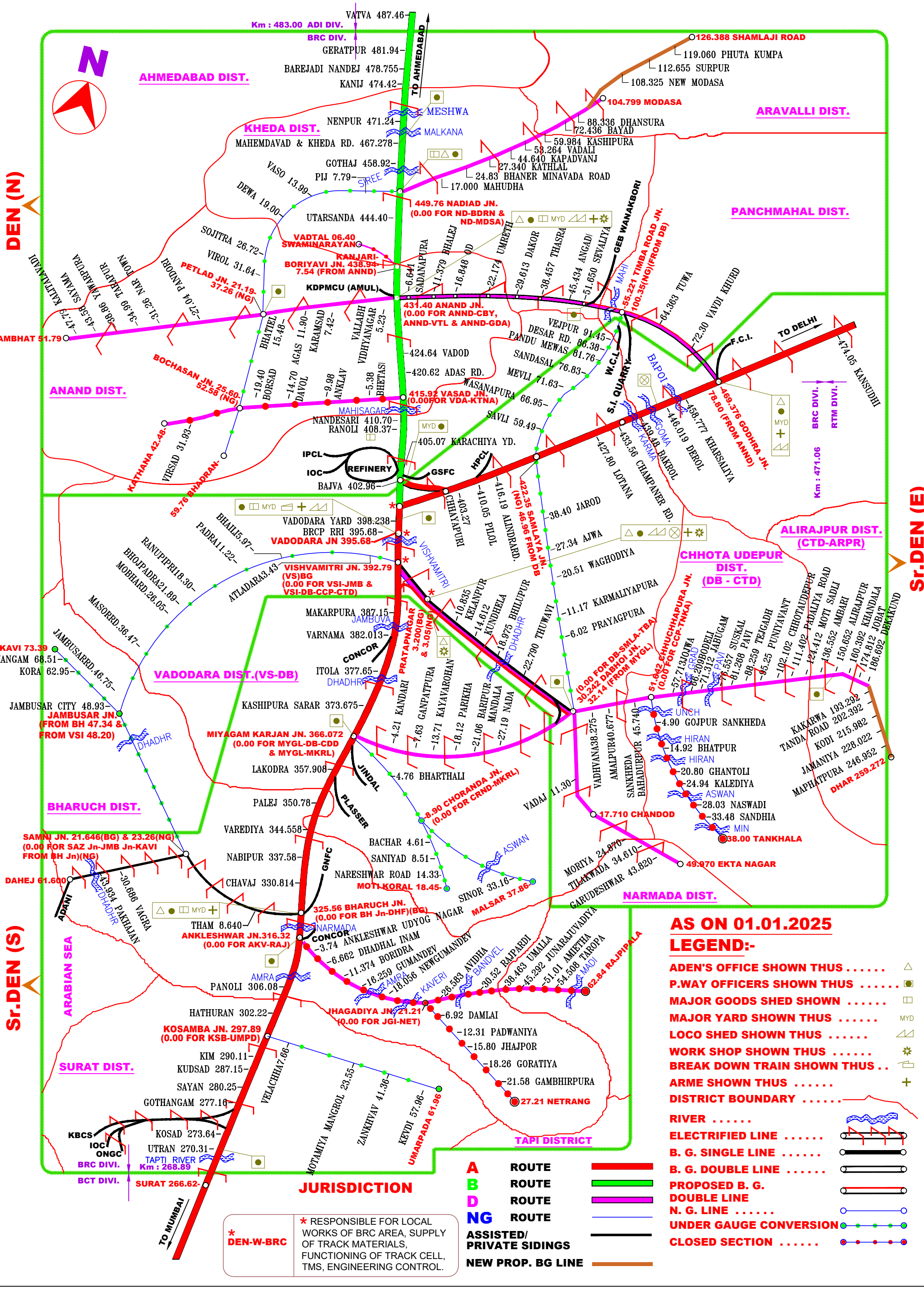
SYSTEM MAP OF VADODARA DIVISION



SYSTEM MAP OF VADODARA DIVISION



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PREAMBLE

Indian Railways is the Life line of the Nation and plays a critical role in facilitating the economic and social development of the country.

A disaster is a grave occurrence which can arise from natural or man-made causes which results in substantial loss of life, human suffering, destruction of property, and degradation of environment. This is beyond the coping capacity of the community of the affected area.

A Disaster in the Railway can be a serious train accident or an untoward event of grave nature, either on the Railway premises or arising out of Railway activity in that area, due to natural or man-made causes. Since prompt response and quick relief, rescue and restoration measures are the ingredients of an effective Disaster Management Plan, it is necessary that this is addressed in a systematic manner.

Due to its spread over a vast geographical area, Railway's vulnerability to natural and man-made disaster can never be completely ruled out. It is our commitment to remain prepared for any disaster at any point of time and face the challenges that arise. The Disaster Management Plan should be the first point of reference for all involved in disaster management.

I Congratulate the Divisional Safety Team for this taking initiative for bringing out this updated edition of Disaster Management Plan (Part-I) - 2025.

(Jeetendra Singh)
Divisional Railway Manager,
Vadodara Division,
Western Railway

Date: 30 January 2025

पश्चिम रेल्वे
Western Railway

PREFACE

Railway Disaster comprises a serious train accident or a grave unforeseen occurrence in or around railway premises or arising out of railway activity due to natural or man-made causes. It may involve loss of life or serious injuries to large number of people, material, economic and environmental impacts that exceed the ability of the Railways to cop using its own resources. Therefore it becomes necessary to seek the help of Govt./Non-Govt. organization to provide immediate relief to mitigate the suffering of people.

Disaster Management Plan is a strategic planning and procedure that is administered & employed to protect critical infrastructures also known as critical assets from severe damages when natural or human made calamities and catastrophic event occur.

Keeping all these things in view, the Vadodara Division has updated its Disaster Management Plan (Part-I) – 2025 based upon the lines of fifth edition of Western Railway Disaster Management Plan. During its updating, past experience of disaster were thoroughly studied and on the basis of them the guidelines for dealing with Earth quake, Cyclone, Flood & Fire etc. have been incorporated in this Disaster Management Plan.

In this Disaster Management Plan, duty of each and every department and individual are thoroughly described. All officers and staff must familiarize themselves with the guidelines in the plan. Though we never wish any disaster to happen but its possibilities can never be ruled out. So we must be fully prepared to meet with any untoward situation.

The Disaster Management Plan of Vadodara Division is a step in this direction. This Disaster Management Plan – 2025 must be carefully read in conjunction with Western Railway Accident Manual 2009 and other guidelines on this subject, which is not supersede or alter in any way.

My sincere thanks to our esteemed DRM Shri Jeetendra Singh and ADRM Shri S C Bairwa for their blessings to complete the updating of Disaster Management Plan (Part-I) - 2025. I, express my heartfelt gratitude to all Branch Officers, ADSO and Safety Counselors who supported in the preparation of Disaster Management Plan (Part-I) - 2025. I appeal to provide valuable suggestions for the improvement of this endeavor.

(Sharad Gautam)
Senior Divisional Safety Officer,
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Executive Summary

The Disaster Management Act, 2005 (DM Act 2005) lays down institutional and coordination mechanism for effective Disaster Management (DM) at the national, state, district and local levels. As mandated by this Act, the Government of India (GoI) created a multi-tiered institutional system consisting of the National disaster Management Authority (NDMA) headed by the Prime Minister, the State Disaster Management Authorities (SDMAs) headed by the respective Chief Ministers and the District Disaster Management Authorities (DDMAs) headed by the District Collectors and co-chaired by Chairpersons of the local bodies. These bodies have been set up to facilitate a paradigm shift from the hitherto relief-centric approach to a more proactive, holistic and integrated approach of strengthening disaster preparedness, mitigation, and emergency response.

The National Disaster Management Plan (NDMP) provides a framework and direction to the government agencies for all phases of disaster management cycle. The NDMP recognises the need to minimize, if not eliminate, any ambiguity in the responsibility framework. It, therefore, specifies who is responsible for what, at different stages of managing disasters. The NDMP is envisaged as ready for activation at all times in response to an emergency in any part of the country. It is designed in such a way that it can be implemented as needed on a flexible and scalable manner in all phases of disaster management: a) mitigation (prevention and risk reduction), b) preparedness, c) response and d) recovery.

The NDMP is consistent with the approaches promoted globally by the United Nations, in particular the Sendai Framework for disaster Risk Reduction 2015-2030. It is a non-binding agreement, which the Signatory nations will attempt to comply with on a voluntary basis. India will make all efforts to contribute to the realization of the global target by improving the entire disaster management cycle in India by following the recommendations in the Sendai Framework and by adopting globally accepted best practices. The four priorities for action under the Sendai Framework are:

1. Understanding disaster risk
2. Strengthening disaster risk governance to manage disaster risk
3. Investing in disaster risk reduction for resilience
4. Enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation and reconstruction

The NDMP incorporates substantively the approach enunciated in the Sendai Framework and will help the country to meet the goals set in the framework. By 2030, the Sendai Framework aims to achieve substantial reduction of disaster risk and losses in lives, livelihoods, and health and in the economic, physical, social, cultural, and environmental assets of persons, businesses, communities, and countries.

Vision of NDMP

Make India disaster resilient, achieve substantial disaster risk reduction, and significantly decrease the losses of life, livelihoods, and assets – economic, physical, social, cultural, and environmental – by maximizing the ability to cope with disasters at all levels of administration as well as among communities.

Multi-Hazard Vulnerability

India, due to its, physiographic and climatic conditions is one of the most disaster prone areas of the world. Vulnerability to disasters/emergencies of Chemical, Biological, Radiological and Nuclear (CBRN) origin also exists. Heightened vulnerabilities to disaster risks can be related to increasing population, urbanization,

industrialization, development within high-risk zones, environment degradation, and climate change. Hazard vulnerability maps for India are annexed to NDMP.

Reducing Risk; Enhancing Resilience

In the domains of DM planning, preparedness, and capacity building, the central agencies will constantly work to upgrade Indian DM systems and practices as per global trends. The planning framework has arranged the actions envisaged for risk reduction under five thematic areas for action with one of the four priorities for action of Sendai Framework as its dominant feature.

For each hazard, the approach used in national plan incorporates the four priorities enunciated in the Sendai Framework the planning framework for Disaster Risk Reduction under the five Thematic Areas 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 thematic area for action, the NDMP has identified a set of major themes for undertaking actions within the broad planning framework. For each hazard, themes for action are presented in a separate responsibility matrix assigning roles of centre and state for each of the thematic areas for action.

Response

Response measures are those taken immediately after receiving early warning, anticipating an impending disaster, or post-disaster in cases where an event occurs without 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. The immediate focus will be on search and rescue of those affected and to evacuate those likely to be affected by the disaster or secondary disaster that is likely to happen.

At the national level, the central government has assigned nodal responsibilities to specific ministries for coordinating disaster-specific response. The NDMA will be coordinating with relevant nodal ministry.

Different central ministries and departments will provide emergency support to the response effort as per request from the State Government. It may be noted that the SDMA, Department of Revenue of Commissioner of Relief (as applicable) is the nodal agency for coordination of disaster response. The various agencies whose responsibilities are defined in detailed DM plans for the state and district will be responsible specific response measures. The DDMA is the nodal agency for coordination of response at district level supported by other district level agencies. The department wise specific activities at central ministries and state government are summarized in matrix providing clarity to the roles and responsibilities of various agencies.

Structure of Disaster Management plan of Ministry of Railways

Based on the National Disaster Management Plan, context specific changes were made in the DM plan of Ministry of Railways duly indicating the role and responsibilities at Board, Zonal Head Quarters and Divisional level. Zonal Railway and Divisional Disaster Management plans need to be developed on similar lines.

Disaster management plan also contains detailed guidelines relating to cases of breach/floods, earthquakes, cyclones, manmade disasters like terrorism etc. DM plan at divisional level must include management of rescue and relief operations including care for dead, communication network, restoration operations,

maintenance of ART/ARMV & their equipment, media management, check list for officers and supervisors etc. DM plan should also include details of local resources as indicated in chapter no.6.

Accident Manual contains definitions, classification of accidents, reporting of accidents and other unusual occurrences, duties of officials, relief measures, investigation and inquiries, disposal of inquiry reports etc. in case of a train accident. It is a compendium of all instructions, rules, procedures and guidelines issued from time to time on Railway accidents and for safe working of trains in general. These details are not required to be included in DM plans. Accident Manual of Railways may be referred for details related to train accidents.

Division shall identify vulnerable locations and risks associated with natural disasters and incorporate them in the Divisional DM plan. Information flow chart for communicating alerts issued by early warning agencies to the filed officials shall be clearly specified in the DM plan duly indicating preparedness and response to deal with them.

NDMA has issued guidelines on “Managing Crowd at Events and Venues of Mass Gathering”. Guidelines on crowd management and role of RPF in crowd control is included in the chapter no. 9 and 15. In events of RB Safety Drive Report Labour-converted mass gathering, based on NDMA guidelines, event specific Disaster Management plan for the stations where the crowd is expected needs to be prepared and implemented.

Guidelines issued by NDMA regarding chemical disaster are included in chapter no.14. Rules for carrying Hazardous chemicals is legislated in Railway Red Tariff Rules, 2000. In Red Tariff, general rules governing acceptance, handling, carriage, storage, delivery and the list of commodities along with the DOs and Don’ts in case of leakage of hazardous chemicals is included. Carriage of commodities other than those specified in Red Tariff, shall not be accepted for transport by rail unless specially authorised by the Railway administration. Dos and Don’ts issued by MHA regarding CBRN disasters is also included in the plan.

Capacity development covers strengthening of institutions, mechanisms, and capacities of all stakeholders at all levels. Chapter no. 14 indicates disaster management training methodology and schedule at all levels.

Structure of Divisional Disaster Management plan of Vadodara Division on Western Railways

Based on the Zonal Disaster Management Plan Western Railway, specific changes were made in the Divisional Disaster Management Plan of Vadodara Division. This Disaster Management Plan not only brings out the role and responsibilities at Divisional level but also specifically list out the duties of each staff from “On board” staff to First responders, Non Railway& Railway staff, to the Staff of ART/ARMEs.

Disaster Management Plan of Vadodara Division includes management of rescue and relief operations including care for dead, communication network, restoration operations, maintenance of ART/ARMV & their equipment, media management, check list for officers and supervisors etc. Further, this Disaster Management Plan also includes details of local resources along with Contact Numbers.

According to the guidelines of Railway Board Disaster Management Plan Vadodara Division has identified vulnerable locations and risks associated with natural disasters and incorporate them in the Divisional Disaster Management Plan. Information flow chart for communicating alerts issued by early warning agencies to the filed officials are Specified in Chapter 11 Disaster Management Plan duly indicating preparedness and response to deal with them.

This Divisional Disaster Management Plan also includes:

- Division specific information like road maps, etc.

- Divisional action plan - dealing with all types of Railway disasters
- Detailed inventory of Railway and non-Railway resources as envisaged in High Level Committee's Report on Disaster Management.
- New developments of sharing of resources with all stake holders.
- All 28 Items brought out in 18.3.1 of the Railway Board Disaster Management Plan regarding Role & responsibilities, Details of various actions to be taken in managing the disaster, details off vulnerable locations, details & contact mobile Nos. of various officials & agencies- Government as well as private etc.

DISASTER MANAGEMENT PLAN:

1. Disaster in the railway context is defined as under:-
"Railway Disaster is a serious train accident or an untoward event of grave nature, either on the railway premises or arising out of railway activity in that area, due to natural or man-made causes, that may lead to loss of many lives and/or grievous injuries to a large number of people, and/or severe disruption of traffic, necessitating large scale help from other Government/ Non-government and private Organizations"
(Rly. Bd's letter No. 2003/Safety (DM)/6/2 Pt. dated 06.01.09& based on the definition of the Disaster Management Act 2005, Ministry of Railways has adopted).

2. This compendium of instructions has been prepared for dealing with such disaster, and not for normal train accident. Instruction in G&SR, SWR and Accident Manual are also to be followed.

AIM OF DISASTER MANAGEMENT

This Disaster management plan does not aim at suggesting measures to avoid Disasters but it is clearly lay down various measures, which are to be taken by various Rly. Officers in the post Disaster situation. The aim of Disaster management plan is to effect:

(i) Minimizing Disaster effects
(ii) Saving lives.
(iii) Care and concern form the affected customers.
(iv) Proper and timely dissemination of information to public to the after math of Disaster.

Abbreviations:

1AC	-	1st Air Conditioned Coach
(G)	-	General
2AC	-	2 Tier Air Conditioned Sleeper Coach
3AC	-	3 Tier Air Conditioned Sleeper Coach
AKV	-	Ankleshwar Junction
AC	-	Air Conditioned
ADEN	-	Assistant Divisional Engineer
ADG	-	Additional Director General
ADI	-	Ahmadabad Junction
ADME	-	Assistant Divisional Mechanical Engineer
ADMO		Assistant Divisional Medical Officer
ADRM	-	Additional Divisional Railway Manager
AGM	-	Additional General Manager
ANND	-	Anand Junction
ARME	-	Accident Relief Medical Equipment
ART	-	Accident Relief Train
Asstt.	-	Assistant
ASTE	-	Assistant Signal & Telecommunication Engineer
MMCT	-	Mumbai Central Terminus
BD Spl.	-	Break Down Special
BCN	-	8-Wheel covered vacuum brake wagon
BFR	-	8-wheel open flat vacuum brake wagon
BH	-	Bharuch Junction
BRC	-	Vadodara Junction
BSNL	-	Bharat Sanchar Nigam Limited
C&W	-	Carriage and Wagon
CAC	-	Combined Assistance Centre
CBE	-	Chief Bridge Engineer
CCRS	-	Chief Commissioner of Railway Safety
CFTM	-	Chief Freight Transportation Manager

Chg.	-	Coaching
CMI	-	Commercial Inspector
CMPE (Diesel)	-	Chief Motive Power Engineer (Diesel)
CYI	-	Chhayapuri Station
CPRO	-	Chief Public Relations Officer
CPTM	-	Chief Passenger Transportation Manager
CR	-	Central Railway
CRS	-	Commissioner of Railway Safety
CRSE	-	Chief Rolling Stock Engineer
CSE	-	Chief Signal Engineer
PCSO	-	Principal Chief Safety Officer
CSTE	-	Chief Signal & Telecommunication Engineer
CTE	-	Chief Track Engineer
CTNL	-	Chief Controller
CWE	-	Chief Workshop Engineer
CWI	-	Carriage & Wagon Inspector
DK	-	Dakor station
DGFJ	-	Dahej
DB	-	Dabhoi Junction
DCM	-	Divisional Commercial Manager
DEE	-	Divisional Electrical Engineer
DEN	-	Divisional Engineer
DFM	-	Divisional Finance Manager
DG	-	Director General
DM	-	Disaster Management
DME	-	Divisional Mechanical Engineer
DMM	-	Divisional Material Manager
DMO	-	Divisional Medical Officer
DMT	-	Disaster Manager Team
DMU	-	Diesel Multiple Unit
DOM	-	Divisional Operations Manager
DOT	-	Department of Telecommunication

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.TNL		Deputy Controller
EC	-	Emergency Control
ED	-	Executive Director
E-Mail	-	Electronic Mail
EMU	-	Electric Multiple Unit
Engg.	-	Engineering
ETL	-	Emergency Train Lighting
FA&CAO	-	Financial Advisor and Chief Account Officer
FR	-	First Responders
G&SR	-	General & Subsidiary Rule
GDA	-	Godhra Junction
GM	-	General Manager
GRP	-	Government Railway Police
HLC	-	High Level Committee
HOD	-	Head of Department
HOR	-	High Official Requisition
HPC	-	Hindustan Petroleum Corporation
HQ	-	Head Quarters.
HRD	-	Hydraulic Rescue Device
HRE	-	Hydraulic Re-railing Equipment
IAF	-	Indian Air Force
IAT	-	Instant Action Team
IG	-	Inspector General of Police
IOC	-	Indian Oil Corporation
IR	-	Indian Railways
IRCM	-	Indian Railway Commercial Manual

IRMM	-	Indian Railway Medical Manual
IRPWM	-	Indian Railway Permanent Way Manual
ISD	-	International Subscriber Dialling
IT	-	Information Technology
JA	-	Junior Administrative
JCB	-	Jack-cum-Bulldozer
JE	-	Junior Engineer
Jn.	-	Junction
KKF	-	Kankariya
LC	-	Level Crossing
LCC	-	Local Command Centre
LI	-	Loco Inspector
LPG	-	Liquefied Petroleum Gas
LR	-	Leave Reserve
MOR	-	Ministry of Railways
MOSR	-	Minister of State for Railways
MP	-	Madhya Pradesh
MR	-	Minister for Railways
ND	-	Nadiad Junction
NG	-	Narrow Gauge
NGO	-	Non-Govt. Organisation
OC	-	Officer-in-Charge
OHE	-	Over Head Equipment
Op.	-	Operations
P.W.I	-	Permanent Way Inspector
PA	-	Public Address
PC	-	Personal Computer
PCCM	-	Principal Chief Commercial Manager
PCE	-	Principal Chief Engineer
PCEE	-	Principal Chief Electrical Engineer
PCMD	-	Principal Chief Medical Director
PCME	-	Principal Chief Mechanical Engineer
PCMM		Principal Chief Materials Manager

PCO	-	Public Call Office
PCOM		Principal Chief Operations Manager
PCOS	-	Principal Controller of Stores
PCPO	-	Principal Chief Personnel Officer
PCR	-	Power Controller
PCSC	-	Principal Chief Security Commissioner
PCSO	-	Principal Chief Safety Officer
PHOD	-	Principal Head of Department
POL	-	Petroleum & Oil
PR	-	Public Relations
PRO	-	Public Relations Officer
PSU	-	Public Sector Undertaking
RCT	-	Railway Claims Tribunal
RE	-	Railway Electrification
RG	-	Rest Giver
RMS	-	Railway Mail Service
RPF	-	Railway Protection Force
RTM	-	Ratlam Junction
S&T	-	Signal & Telecommunication
SDGM		Senior Deputy General Manager
SE	-	Section Engineer
Secy.	-	Secretary
SHO	-	Station House Officer
SI	-	Sub-Inspector
SLR	-	Second Class-cum-Luggage-cum-Brake Van
SM	-	Station Manager
SO	-	Staff Officer
SOS	-	International Call for Distress
SP	-	Self-Propelled
SPARME	-	Self-Propelled Accident Relief Medical Equipment
SPART	-	Self-Propelled Accident Relief Train
Sr.	-	Senior
Sr.DCM	-	Senior Divisional Commercial Manager

Sr.DEE	-	Senior Divisional Electrical Engineer
Sr.DME	-	Senior Divisional Mechanical Engineer
Sr.DMO	-	Senior Divisional Medical Officer
Sr.DOM	-	Senior Divisional Operations Manager
Sr.DPO	-	Senior Divisional Personnel Officer
Sr.DSC	-	Senior Divisional Security Commissioner
Sr.DSTE	-	senior Divisional Signal & Telecommunication Engineer
SS	-	Station Superintendent
SSE	-	Senior Section Engineer
ST	-	Surat Station
St.JAB	-	St. John Ambulance Brigade
STD	-	Subscriber Trunk Dialling
STM	-	Senior Transportation Manager
TCI	-	Telecommunication Inspector
TCM	-	Telecommunication Maintainer
TI	-	Traffic Inspector
TRD	-	Traction Distribution
TS	-	Train Superintendent
TTE	-	Travelling Ticket Examiner
TXR	-	Train Examiner
UCC	-	Unified Command Centre
VHF	-	Very High Frequency
VPU	-	Vehicle Parcel Van
WCR	-	West Central Railway
WLI	-	Welfare Inspector
WLL	-	Wireless on Local loop
WTT	-	Working Time Table

CHAPTER -1

INTRODUCTION

1.1 Background :

Indian Railways is the life-line of nation and the fourth largest Railway network in the world by size, with a route length of over 68,584 kilometres and total track length of 1,32,310 kilometres. Indian Railway runs more than 13,523 passenger trains and 8,479 Goods trains daily, from 7,325 stations across India.

Western Railway is one of the 17 zones of Indian Railways, and is among the busiest railway networks in India. The western railway system is divided into six operating divisions: Mumbai, Vadodara, Ratlam, Ahmedabad, Rajkot & Bhavnagar. Western Railway has a route length of over 6284.48 kilometres.

VADODARA Division one of the six Divisions of Western Railway has a route length of over 1166 i.e 867 (BG) + 299 (NG-Closed) kilometres.

As a national common carrier transporting passenger and goods over its vast network, Indian Railways has always played a key role in India's social and economic development. It is a cheap and affordable means of transportation for millions of passengers. As a carrier of bulk freight viz. ores and minerals, iron and steel, cement, mineral oils, food grains and fertilizers, containerized cargo etc., the importance of Indian Railways for agriculture, industry and the common man is well recognized.

Indian Railways, functioning as Ministry of Railways, is headed by the Minister for Railways. The apex body entrusted with the management of this mega enterprise is led by the Chairman/CEO, Railway Board. Members of the Railway Board include Member Infrastructure, Member Traction & Rolling Stock, Member Operation & Business Development, Member Finance, who represent their respective functional domains. Further for administrative convenience, Indian Railways is divided into 17 Zones, each headed by a General Manager (GM). The Zonal Railways are further divided into 69 divisions, each under a Divisional Railway Manager (DRM) where teams of officers, supervisors and staff are directly looking after day to day operational works of the Railways and interacting with rail users. In addition, there are a number of Production Units, Training Establishments, Public Sector Enterprises and other offices working under the control of Railway Board.

Indian Railways came into existence with the running of the first train from Kurla to Thane in 1853. Ever since then handling train accidents has been a priority area for the railways. With the main reason for building up of the rail network by the British Empire being the transportation of the military requirements through the Indian Railways, the railway organization worked hand in hand with the army authorities. Sharing of the Indian Railways and Army Cranes as also their Medical Vans in times of a train accident was an accepted system for handling disasters (rail accidents).

Vadodara division was formed on August 1, 1956 & its headquarter is located at Vadodara in the state of Gujarat of India.

With the gradual growth of Indian Railways and its transition to transportation of passengers and other goods including raw material for industries etc. the railway gradually built up its own infrastructure of Cranes, Accident Relief Trains (ARTs), Accident Relief Medical Equipment Van (ARMVs). Till the beginning of the year 2005, a disaster on the railway in effect meant a serious train accident, other items of disaster viz. Floods, Earthquakes etc. and were handled in an uncoordinated manner. Disaster preparedness of the Railways, mainly pertaining to handling train accidents, had been gone into by a High Level Committee (HLC) in the year 2002/03 whose recommendations, where relevant, have been kept in view in the preparation of Railways Disaster Management Plan.

The situation has now changed with the promulgation of the Disaster Management (DM) Act in 2005. A disaster no longer means only a train accident, but its scope has become much wider to include other incidents, terrorism related activity and natural calamities etc. The Indian Railways Disaster Management Plan has been prepared on the principles now incorporated in the Disaster Management Act, National Disaster Management Plan and also Guidelines issued by NDMA. The basic philosophy is now to be followed is of sharing resources of all Government Departments along with Railways own resources available to handle serious train accidents, other mishaps, terrorism related crisis, natural calamities etc.

1.2 CONCEPT OF DISASTER ON RAILWAYS:

1.2.1 Disaster Risks in India:

India is vulnerable, in varying degrees, to a large number of natural as well as man-made disasters. 58.6% of the landmass is prone to earthquakes of moderate to very high intensity;over40 million hectares(12% of land)is prone tofloods and river erosion; of the 7516 km long coastline, close to 5700 km is prone to cyclones and tsunamis; 68% of the cultivable area is vulnerable to drought and hilly areas are at risk from landslides and avalanches. Vulnerability to disasters/emergencies of Chemical, Biological, Radiological and Nuclear (CBRN) origin also exists. Heightened vulnerabilities to disaster risks can be related to expanding population, urbanization and industrialization, development within high-risk zones, environmental degradation and climate change.

1.2.2 Disaster defined in Railways context:

The concept of a Disaster was, till the year 2005, not adequately and comprehensively defined on Indian Railways. It was understood that a Disaster situation implies, on the railways, to cover only cases of serious rail/train accidents. It was, perhaps, due to this anomaly as late as the year 2008, even CAG's report on DM on Indian Railways has broadly adopted this fact in the concept of disaster and has gone to examine the relief/rescue/mitigation and preparedness of Indian Railways based on the earlier concepts and has reviewed the facilities for handling disasters available with the Railways only on the report/recommendations of the HLC on DM.

The definition of DM as given by the Government of India was legislated for the first time in the Disaster Management Act, 2005. The broad principles of disaster for any department of the government changed to the concept of any incident, which could not be handled by the department singularly i.e. if it was beyond the coping capacity of a particular department, the incident could be termed as a disaster. With this came the concept of the departments of Government of India as also the State governments joining hands to extend whatever facilities were available with them to provide relief/rescue and mitigation on the occurrence of a disaster.

In the Disaster Management Plan Plan of Western Railway, this concept of disaster, which has now evolved, has been adopted. All efforts are being made by this railway to ensure that, down the line, this concept is understood.

While this Disaster Management Plan is a comprehensive document, more detailed guidelines where required will be laid down by Railway Board on specific topics under the overall philosophy of Disaster Management laid down in this document. For instance, this has been done in the Guidelines on Management of Chemical Disasters and the Hospital DM Plan.

1.2.3 Strengths of the Railways to handle a Disaster: -

In handling disasters, Indian Railways is in a unique position as it has a number of strengths not available with many other departments of Government of India. These include:

- Railways' own Communication Network.
- Operating Control on each Division linked with each Station.
- Territorial Army Units.
- Uniformed force of RPF/RPSF
- Railways' own Medical Infrastructure
- Civil Defence Organization
- An army of gang men spread out all over the Indian Railways.
- Scouts and Guides
- Dedicated Rescue/Restoration and Medical Equipment on Rails.

1.2.4 Types of Disasters:

Disaster in the Railway context was traditionally a serious train accident, caused by human/equipment failure, which may affect normal movement of train services with loss of human life or property or both. This is now extended to include natural and other manmade disasters. Different types of disasters are described along with a few examples, below:

(a) Natural Disasters:

Earthquakes, Floods, Cyclones, Land Slides, Snow Avalanches, Tsunami etc.

(b) Train Accident related Disaster:

Collisions (with a huge number of casualties), Train marooned (flash floods), derailments on a bridge over a water body/gorge and coaches fallen down, train washed away in cyclone, derailment of a train carrying explosives or highly inflammable material, collapse of tunnel/deep cutting on a train, fire or explosion in trains, and other miscellaneous cases.

(c) Man made Disasters:

Acts of Terrorism and Sabotage, i.e. causing deliberate loss of life and/or damage to property, which includes:-Setting a Train on fire, Railway installations etc., bomb blast at Railway Station/Train, Chemical (Terrorism) Disaster, Biological, Radiological and Nuclear (CBRN) Disaster.

1.2.5 Changed Philosophy of Disaster Management in the Railways

With the enactment of the Disaster Management Act, 2005 and other developments on the national level, DM philosophy has also changed to adopt the latest concepts.

NEW PHILOSOPHY:

- Serious train accidents, not the only events termed as disasters.
- Other events, e.g. Internal security related events like terrorist attack at station/train, marooning of train due to flash flood, disruption to traffic due to natural factors like earth-quake, cyclone, floods etc.
- No more Relief and Rescue Centric.
- Holistic Approach adopted to incorporate :
  - Understanding Disaster
  - Risk Reduction
  - Risk Prevention
  - Mitigation
  - Preparedness
  - Rescue, Relief
  - Rehabilitation

New Philosophy gives more Emphasis on Understanding disaster risk, risk reduction, Prevention and Mitigation as under:

- Understanding Risks
- Risk reduction
- Prevent and mitigate disasters.
- Audit Existing Systems for Disaster Resistance, Disaster Prevention and Mitigation on the basis of NDMA's and self-prepared guidelines.
- Disaster Management in Developmental Planning – New activities should be disaster resistant.
- Preparedness, Rescue, Relief and Rehabilitation - Dimensions of DM.
- Expertise based response from all stake holders.
  Pooling of resources of all agencies, e.g. local administration, community, defence, hospitals and other Govt. Organizations.

1.2.6 Sendai Framework

The NDMP is consistent with the approaches promoted globally by the United Nations, in particular the Sendai Framework for Disaster Risk Reduction 2015-2030 (hereafter "Sendai Framework") adopted at the Third UN World Conference in Sendai, Japan, on March 18, 2015 (UNISDR 2015a) as the successor instrument to the Hyogo Framework for Action 2005-2015. It is a non-binding agreement, which the signatory nations, including India, will attempt to comply with on a voluntary basis. However, India will make all efforts to contribute to the realization of the global targets by improving the entire disaster management cycle in India by following the recommendations in the Sendai Framework and by adopting globally accepted best practices.

The Sendai Framework was the first international agreement adopted within the context of the post-2015 development agenda. Two other major international agreements followed it in the same year: the Sustainable Development Goals 2015 – 2030 in September, and the UNCOP21 Climate Change agreement to combat human-induced climate change in December. DRR is a common theme in these three global agreements. The Paris Agreement on global climate change points to the importance of averting, minimizing, and addressing loss and damage associated with the adverse effects of climate change, including extreme weather events and slow onset events, and the role of sustainable development in reducing the risk of loss and damage. These three agreements recognize the desired outcomes in DRR as a product of complex and interconnected social and economic processes, which overlap across the agendas of the three agreements. Intrinsic to

sustainable development is DRR and the building of resilience to disasters. Further, effective disaster risk management contributes to sustainable development.

In the domain of disaster management, the Sendai Framework provides the way forward for the period ending in 2030. There are some major departures in the Sendai Framework:

- For the first time the goals are defined in terms of outcome-based targets instead of focusing on sets of activities and actions.
- It places governments at the centre of disaster risk reduction with the framework emphasizing the need to strengthen the disaster risk governance.
- There is significant shift from earlier emphasis on disaster management to addressing disaster risk management itself by focusing on the underlying drivers of risk.
- It places almost equal importance on all kinds of disasters and not only on those arising from natural hazards.
- In addition to social vulnerability, it pays considerable attention to environmental aspects through a strong recognition that the implementation of integrated environmental and natural resource management approaches is needed for disaster reduction
- Disaster risk reduction, more than before, is seen as a policy concern that cuts across many sectors, including health and education

As per the Sendai Framework, in order to reduce disaster risk, there is a need to address existing challenges and prepare for future ones by focusing on monitoring, assessing, and understanding disaster risk and sharing such information. The Sendai Framework notes that it is “urgent and critical to anticipate, plan for and reduce disaster risk” to cope with disaster. It requires the strengthening of disaster risk governance and coordination across various institutions and sectors. It requires the full and meaningful participation of relevant stakeholders at different levels. It is necessary to invest in the economic, social, health, cultural and educational resilience at all levels. It requires investments in research and the use of technology to enhance multi-hazard Early Warning Systems (EWS), preparedness, response, recovery, rehabilitation, and reconstruction.

The four priorities for action under the Sendai Framework are:

1. Understanding disaster risk
2. Strengthening disaster risk governance to manage disaster risk
3. Investing in disaster risk reduction for resilience
4. Enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation and reconstruction

India is a signatory to the Sendai Framework for a 15-year, voluntary, non-binding agreement which recognizes that the State has the primary role to reduce disaster risk but that responsibility should be shared with other stakeholders including local government, the private sector and other stakeholders. It aims for the “substantial reduction of disaster risk and losses in lives, livelihoods, and health and in the economic, physical, social, cultural, and environmental assets of persons, businesses, communities, and countries.” India will make its contribution in achieving **the seven global targets set by the Sendai Framework:**

1. Substantially reduce global disaster mortality by 2030, aiming to lower the average per 100,000 global mortality rate in the decade 2020–2030 compared to the period 2005– 2015;
2. Substantially reduce the number of affected people globally by 2030, aiming to lower the average global figure per 100,000 in the decade 2020–2030 compared to the period 2005-2015;

3. Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030;
4. Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030;
5. Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020;
6. Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of the present Framework by 2030;
7. Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people by 2030.

The four priorities for action under the Sendai Framework have been incorporated into the DM plan of Railways is summarised below for quick reference:

Sendai Framework for DRR (2015-2030) Priority	Chapters with the priority as its dominant theme
1. Understanding disaster risk	Chapters 3, 12,13, 14, 16
2. Strengthening disaster risk governance to manage disaster risk	Chapters 3, 4, 5,6
3. Investing in disaster risk reduction for resilience	Chapters 3, 4, 5, 6, 7, 8, 9, 15
4. Enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation and reconstruction	Chapters 4, 7, 15, 16,17,18

1.2.7 Definition of a Disaster on Railways:

Based on the definition of the Disaster Management Act 2005, Ministry of Railways has adopted the following definition of Railway Disaster:

“Railway Disaster is a serious train accident or an untoward event of grave nature, either on railway premises or arising out of railway activity, due to natural or man-made causes, that may lead to loss of many lives and/or grievous injuries to a large number of people, and/or severe disruption of traffic etc. necessitating large scale help from other Government/Non-government and Private Organizations.”

1.2.8 Nodal department for Policy Formulation on DM on Indian Railways:

The preparation of the Disaster Management Plans on Indian Railways and on the Zonal Railways in co-ordination with the different Departments of the Railway, other Central/State Govt. agencies, NGOs, Private agencies, etc. has to be done by the Safety department in the Railway Board, on the Zonal Railways and Divisions.

The Hospital DM plans and the Security arrangements (drills etc.) shall be prepared and coordinated by the Medical and the Security department respectively.

The Management of Floods, Cyclones, Earthquakes, Landslides, etc. and preventive action/mitigation shall be coordinated by the Civil Engineering Department.

The Rescue and Restoration centric DM including preparation of plans and procurement of specialized equipment and rescue centric training of personnel has to be coordinated by the Mechanical Department.

1.2.9 Authority to declare a Disaster on Railways:

Railway Board has nominated GM, AGM or PCSO (when GM/AGM are not available) of a Zonal Railway for declaring an untoward incident as Railway Disaster with the adoption of the above definition of Railway disaster as envisaged in para 1.2.6, it needs to be appreciated that apart from serious train accidents, there may be many more Railway related events which may not even involve human lives, if not handled and managed properly for which necessary prevention and mitigation measures are to be taken by the Railways beforehand.

Vadodara Division through this Disaster Management Plan has tried to address risk assessment, risk reduction, prevention, mitigation, preparedness, rescue and relief related issues covering all types of disasters affecting railway system in detail.

CHAPTER - 2

INSTITUTIONAL FRAMEWORK FOR DISASTER MANAGEMENT

2.0 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. Figure 2-1 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 Table 2-1.

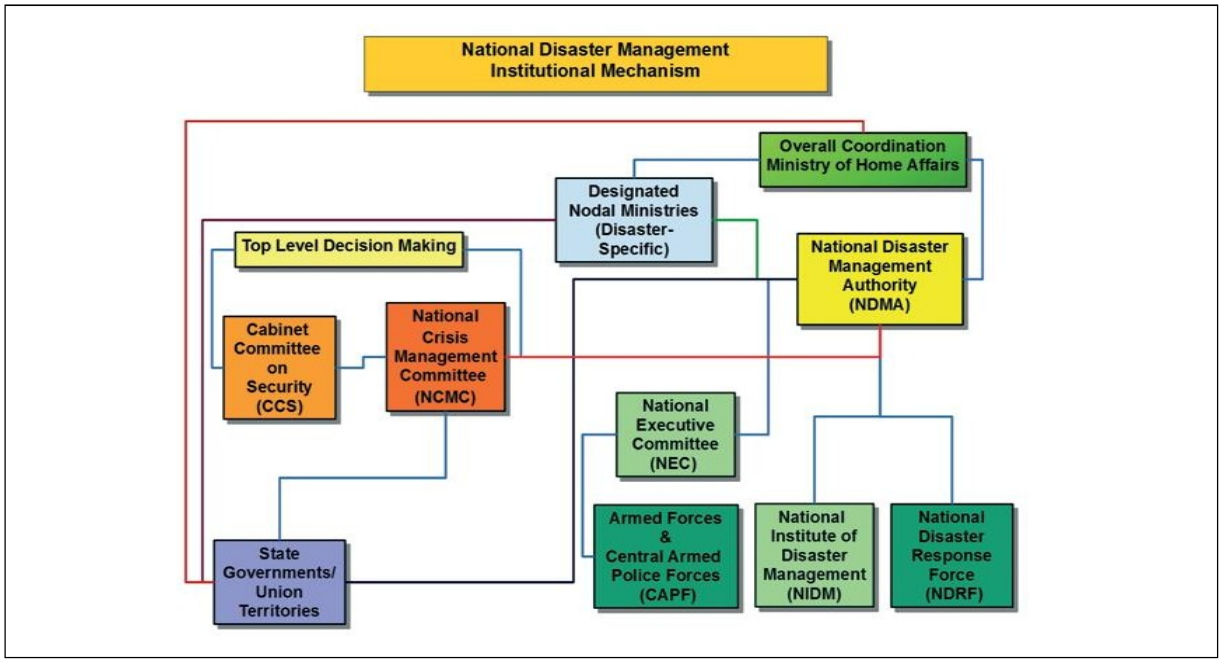

Figure 2-1: National-level disaster management - basic institutional framework.

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

	Name	Composition	Vital Role
1.	**Cabinet Committee**	Prime Minister, Minister of Defence,	• Evaluation from a national security perspective, if an incident has

	on Security (CCS)	Minister of Finance, Minister of Home Affairs, and Minister of External Affairs	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, Control and Coordination of the disaster response • 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 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 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.	• 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 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 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 • specialised 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**	Specially trained	Provide assistance to the relevant State

	Disaster Response Force (NDRF)	force headed by a Director General Structured and like paramilitary forces for rapid deployment	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 thebroad 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	Dept. of Atomic Energy (DAE)

	Emergencies	
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)

2.1 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 authorise 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**) is 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.

2.2 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 specialised areas of risk management – flood, earthquake, cyclone, drought, landslides, and industrial disasters.

2.3 National Disaster Response Force (NDRF):

The NDRF has been constituted as per the Chapter-VIII 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.

2.3.1 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.

2.3.2 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 staff is on deputation in NDRF. The **Details of NDRF organization, 12 battalions &Locations of Regional Response Centres (RRC) of NDRF are brought out in Divisional Disaster Management Plan Part-2.**

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.

2.3.3 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 Head quarter 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.

2.4 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. Each state shall prepare its own State Disaster Management Plan.

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.

2.5 State Disaster Management Authority (SDMA):

As per provisions in Chapter-III 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 implementation of the National Policy, the National Plan, and the State Plan. The SEC will also provide information to the NDMA relating to different aspects of DM.

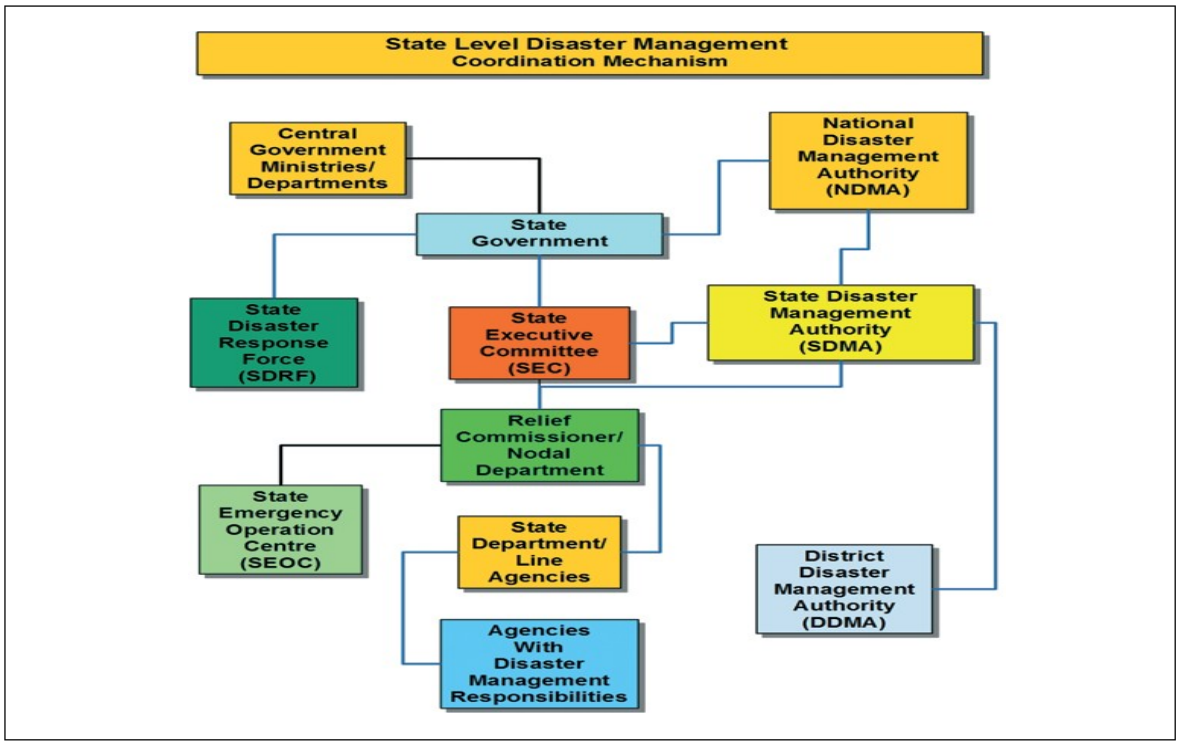

Figure 2.2 : State level Disaster Management – Basic Institutional framework

2.6 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.

2.7 Plan Implementation

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 are 11, 23, and 31. The Chapters V and VI of the DM Act spell 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 a span 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 are expected to make sincere efforts for the implementation of the DM plans. The NDMA has prepared and published hazard-specific guidelines and reports covering various aspects of disaster 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	2007
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

Table 2.4 : 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 and sister Organisations (part-I)
16. Hand Book for Training and Capacity Building of Civil Defence and 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 - 3

REDUCING RISK AND ENHANCING RESILIENCE

3.1 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 becoming 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 analyse and manage the causal 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 integrates the global targets into 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 into the planning framework for Disaster Risk Reduction under the five thematic areas 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.

3.1.1 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 carry out 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.

3.1.2 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.

3.1.3 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.

3.1.4 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 set up necessary institutional support for enforcement, monitoring, and compliance.

3.1.5 Capacity Development:

Capacity development is a theme in all the thematic areas for action. The Sendai Priority-2.(Strengthening DRR governance to manage DR) and Priority-3 (Investing in DRR for resilience) are central to capacity development. The capacity development includes training programs, curriculum development, large-scale awareness creation efforts, and carrying out regular mock drills and disaster response exercises. The capabilities to implement, enforce, and monitor various disaster mitigation measures has to be improved at all levels from the local to the higher levels of governance. It is also strengthening the DRR governance at all levels to better manage risk and to make the governance systems more responsive.

3.1.6 Hazard-wise Responsibility Matrices for Disaster Risk Mitigation:

For the DM plans to succeed, it is necessary to identify various stakeholders/agencies and clearly specify their roles and responsibilities. At all levels - from local to the centre - the relevant authorities must institutionalise programmes and activities at the ministry/department levels, and increase inter-ministerial and inter-agency coordination and networking. They must also rationalise and augment the existing regulatory framework and infrastructure. For each hazard, in the subsections that follow, themes for action are presented in a separate responsibility matrix for each of the five thematic areas for action. It must be noted that the role of the central agencies is to support the disaster-affected State or the UT in response to requests for assistance. However, the central agencies will play a pro-active role in disaster situations. In the domains of DM planning, preparedness, and capacity building, the central agencies will constantly work to upgrade Indian DM systems and practices as per global trends. This section covers the 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

CHAPTER - 4

PREPAREDNESS AND RESPONSE

4.1 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 ot her 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 GoI, 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 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 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, 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.

4.2 Institutional Framework

Chapter-2 provided an overview of the institutional arrangements covering all aspects of disaster management. There are specific tasks, roles and 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 guidelines. 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:

a) Nodal Central Ministries with disaster-specific responsibilities for national-level coordination of the response and mobilization of all the necessary resources.
b) Central agencies with disaster-specific responsibilities for Early Warning Systems and alerts.
c) National Disaster Response Force (NDRF).
d) 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

4.3 National Early Warning System:

4.3.1 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 is 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.

4.3.2 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 mobilise 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.

4.4 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 organisations 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 standardisation 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 publicise 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 organisation 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.

4.5 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 12thschedule 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. Apart 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.

4.6 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.

4.7 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 in to 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.

4.8 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 disasters and 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, response intrinsically follows a multi-hazard approach. Therefore, all the response activities have been summarized in a single matrix applicable to all types of disasters. The response responsibility matrix specifies the major theme of response. It specifies the agencies from the Central and State Government responsible for the major theme of response. All agencies responsible for response should follow the NDMA's IRS 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, CoR, or the Dept. of Revenue 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 response given in the responsibility matrix is:

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

4.9 Responsibility Matrix for Preparedness and Response

Preparedness and Response								
S.No.	**Major Theme**	**Central/State Agencies and their Responsibilities**						
		Centre	**ResponsibilityCentre**	**State**	**Responsibility-State**	**R.B.**	**Zonal HQ**	**Divisional HQ**
1.	**Early Warning, Maps, Satellite inputs, Information Dissemination**	**Lead Agencies:** IMD, CWC, INCOIS, SASE, GSI,BRO, MoIB, MoES, MoWR, MoAFW, **Support Agencies:** SoI, NRSC, DoT, MHA, NDMA, MoCIT, hazard specific nodal ministries	• Issue forecasts, alerts, warnings • Provide early warnings (where ever possible) to reduce loss of life and property. • Disseminating warnings and information to all Central Ministries/ Departments/Agencies and State Government • Use of satellite imageries and other scientific methods for risk assessment and forecasting	State/UT, SDMA, Revenue Dept., CoR, SEOC, DDMA, all other relevant Department/ Agencies	• To disseminate early warning signals to the district administration, local authorities, and the public at large in the areas likely to be affected by a disaster so as to reduce loss of life and property • Dissemination of warnings and information up to the last mile • Ensure appropriate compilation/analysis of received data • Use of satellite imageries and other scientific methods for risk assessment and forecasting	CE Directorate - Co-ordination with the Ministries and Railway Zones.	Engineering Department – To Coordinate with state Authorities and to disseminate early warning signals to Divisional Authorities.	Engineering Department– To Coordinate with Local Authorities and to disseminate early warning signals/ Information to last mile.

Preparedness and Response								
S.No.	**Major Theme**	**Central/State Agencies and their Responsibilities**						
		Centre	**ResponsibilityCentre**	**State**	**Responsibility-State**	**R.B.**	**Zonal HQ**	**Divisional HQ**
2.	**Evacuation of People and Animals**	**Lead Agency:** MHA **Support Agencies:** MoD, CAPF, MoRTH, MoR, MoCA, ministries/ depts. with hazard specific responsibilities, NDRF, Civil Defence	• On request, support the affected state government in evacuation of people and animals from areas likely to be affected by major disaster. **Special situations:** • Evacuation of large numbers of people from far flung areas and islands (e.g., Andaman and Nicobar Islands, Lakshadweep Islands, etc. in cases of cyclone) • Evacuation of visitors/ pilgrims stranded in remote Himalayan regions on account of inclement weather, landslides, flash floods &avalanches • Evacuation of fishermen from the high seas in case of a cyclone	State/UT, SDMA, Revenue Dept., CoR, SEOC, FES, DDMA, all other relevant Departments /Agencies, SDRF, Civil Defence	• Quick assessment of evacuation needs such as the number of people and animals to be evacuated and mode of evacuation • Mobilize transport and resources for evacuation • Identify and prepare sites for temporary relocation of affected people and animals • Identify requirements of resources for evacuation such as helicopters, aircrafts, high-speed boats and ships to be provided to the affected state government. • Request for central resources, if needed • Coordinate with central agencies to mobilise required resources • Monitor the situation Earmark resources/ units/ battalions of SDRF for	TT Directorate - Co-ordination with the Ministries and Railway Zones	Operating Department – Coordinate with RB andState Authorities	Operating Department – Coordinate with HQs and Local Authorities

					quick deployment • Prepare handbook/manuals and SOP for evacuation of people and animals • Undertake review and revise DMPs and SOPs after each major incident • Prepare evacuation plan taking into account local conditions and periodically update it • Undertake mock/simulation drills • Prepare operational checklists • Prepare list of agencies/ organizations who could assist in evacuation • Web-based resource inventory and its regular updates			

Preparedness and Response								
S.No	**Major Theme**	**Central/State Agencies and their Responsibilities**						
		Centre	**Responsibility Centre**	**State**	**Responsibility-State**	**R.B.**	**Zonal HQ**	**Divisional HQ**
3.	**Search and Rescue of People and Animals**	**Lead Agencies:** MHA, NDMA, NDRF **Support Agencies:** MoD, CAPF, MoHFW, MHA, MoRTH, MoCA, MoR, ministries/ departments with hazard specific responsibilities, Civil Defence	• Fail safe communication between early warning agencies and EOC of Central and State/ District, Central Min. • Adequate NDRF support in a state of readiness to move at a short notice • MoU with suppliers for blankets, tarpaulins, tents, boats, inflatable lights, torches, ropes, etc. with a condition that they will be supplied at short notice (usually within 24hours) from the placement of order • SOPs for sending rescue/ relief material from other adjoining States to the affected state immediately • Support of Armed Forces and CAPF as per requirement	State/UT, SDMA, Revenue Dept., CoR, SEOC, SDRF, FES, DDMA, all other relevant Departments /Agencies, Civil Defence	• Various positions of IRTs (State, District, Sub-division &Tehsil) are trained and active for response at their respective administrative jurisdiction • SDRF teams are trained, equipped & ready to move at a short notice. • Strategic stationing of state-of-the-art equipment for search rescue& response with dedicated trained manpower MoU with suppliers for blankets, tarpaulins, tents, boats, inflatable lights, torches, ropes, etc. with a condition that they will be supplied quickly (usually within 24 hours) • Nodal officer selected for coordination is in touch with MHA/NDMA for additional requirements	Safety Directorate - Coordination with NDRF/ NDMA Mechanical directorate – Policy/ Planning of rescue centric equipment and training of staff. Establishment – Developing and conducting training modules.	Safety Department – Coordination with NDRF/ SDRF Mechanical Department – Upgrading/ Maintenance of ARTs/ ARMVs rescue equipment, training of ART/ARM V staff in rescue operations. Personnel Department – Organising and monitoring rescue centric training to ART/ARMV staff.	Safety Department – Coordination with NDRF/SDRF Mechanical Department – Rescue of passengers, Maintenance of ARTs/ARMVs rescue equipment and training of ART/ARMV staff in rescue operations. Personnel Department – Organising and monitoring rescue centric training to ART/ARMV staff.

Preparedness and Response								
S.No.	**Major Theme**	**Central/State Agencies and their Responsibilities**						
		Centre	**Responsibility Centre**	**State**	**Responsibility-State**	**R.B.**	**Zonal HQ**	**Divisional HQ**

4.	**Medical Care**	**Lead Agencies:** MoHFW **Support Agencies:** MoD, CAPF, MoR	• Medical assistance to the affected state in response to its request for postdisaster emergency medical care. • Mobile Field Hospitals similar to the military field units that have trauma-care for the disaster-affected and serve as a temporary substitute for the collapsed local generalmedical and surgical facilities in the disaster zone. • Gradualimprovement of the field hospital to conform to global standards. • Mobile medical care units with OT facility, power sources, dedicated trained staff of doctors, and paramedics who could be immediately summoned at the time of emergency • Mobile medical support units stocked with medicines usually needed such as those for BP, diabetics, heart problems, common ailments, etc. as well as provisions such as: bleaching powder,	State/UT, SDMA, Revenue Dept., CoR, SEOC, SDRF, FES, DDMA, Health Dept., all other relevant departments, Civil Defence	• Health & Family Welfare Dept. works with the logistic section of the state. • IRT to provide effective services (Medical Unit) to the field level IRTs for response. • District repository of hospitals (both Government and Private), availability of beds, doctors, paramedics & other trained staff available along with other infrastructure details & update it on a regular basis Include the hospital wise information in the DM Plans at local levels • Tie-up with the companies for easy availability of common medicines during the emergency situations • Hygienic conditions are prevalent at all times in various facilities established as well as hospitals to curb the spread of diseases • Establishment of sound protocols for coordination between state's health Dept. and the central	**Health Directorate –** Policy/ Planningof medical equipment in ARMVs and Hospital for trauma care in disasters, Coordination with MOHFW, Monitoring of hospital Disaster Management plans and training of staff. Establishment Directorate – Establishment – Developing and organising training modules for Doctors and Paramedics in Trauma Care.	Medical Department – Upkeep of Hospitals and ARMVs, Implementation of Hospital disaster Management plans and training of Doctors and paramedics. Personnel Department- Organising training modules for Doctors and Paramedics in Trauma Care.	Medical Department – Rescue and relief of effected passengers, Upkeep of Hospitals and ARMVs, Preparation and Implementation of Hospital disaster Management plans and training of Doctors and paramedics. Personnel Department - Organising training modules for Doctors and Paramedics in Trauma Care.

			chlorine tablets; nutritional supplements catering to specialized groups such as lactating mothers, elders, and children below 6. • Timely technical support to the State Governments for restoration of damaged hospitals as well as infrastructure • Ensure strict compliance with minimum standards of relief as per Section 12 of DM Act 2005		agencies • Ensure strict compliance with minimum standards of relief as per Section 12 of DM Act 2005.			

Preparedness and Response								
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5.	**Food and essential supplies**	**Lead Agencies:** MoCAFPD, MoFPI **Supporting Agencies**: MoRTH, MoCA, MoR, MoSJE, MHA, FCI	• Ensure availability of adequate and appropriate food supplies to the disaster affected areas • Immediate availability of ready-to-eat/ precooked food/meals • Deploying transport with essential supplies at strategic locations • MoU with suppliers to provide required quantities of family packs of essential food provisions • Special provisions to address the needs of infants/small children (baby food) • FCI godowns are able to supply required food grains as per requirement of disaster-affected areas.	State/UT, SDMA, Revenue Dept., CoR, SEOC, DDMA, Food and Civil. Supply Dept., all other relevant Departments, Civil Defence	• Dept. of Food & Civil Supply works with the logistic section of the state level IRT to provide effective services to the field level IRTs for response • Agreements/MoUs with trusts, firms& organisations setting up community kitchens in the affected areas • Depending upon the requirement, coordinate with the relevant Central Ministry to make sure that supplies reach the site on time. Deploy a dedicated team at the local level to receivethe supplies, maintain log, and distribute them at required locations • Food godowns have sufficient food materials and not situated at vulnerable locations	TC Coordination with Zonal Railways and issue policy guidelines. TT Directorate - Coordination with the Ministries and Railway Zones for movement of supplies.	Commercial department – Coordinate with Divisional authorities. Operating Department – Coordinate with RB and State Authorities for movement of supplies.	Commercial department – Arrangement of food and water to the passengers. Operating Department – Coordinate with HQs and Local Authorities for movement of supplies.

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6.	**Communication**	**Lead Agencies:** MoCIT, DoT **Support Agencies:** MoR, MoCA, MoD, Telecom Providers	• Detailed plans for fail safe communication with all the early warning agencies (such as IMD, CWC, etc.) and Control Rooms (Central/State) for getting accurate information at regular intervals. Restoration of emergencyCommunication in disaster affected areas Emergency response teams to be in place with detailed technical plans to restore Communication after the occurrence of a disaster • Provide a dedicated radio frequency for disaster communications	State/UT, SDMA, Revenue Dept., COR, SEOC, DDMA, Information Dept., all other relevant departments	• Failsafe communication plan is prepared with all early warning agencies • Logistic section of the state level IRT coordinates with central agencies to provide effective communication support to the field level IRTs for response. • State and district EOCs are equipped with satellite phones/ VHF/ HF as a backup to the landline. All communication equipment, especially the satellite phones are in good working condition 24 X 7 on all days through regular testing.	Telecommunication Directorate – Coordination with Zonal Railways and Policy guidelines effective communication at disaster site.	Signalling & Telecommunication department – coordination with division and implementation of RB policy guidelines.	Signalling& Telecommunication department – Provide effective communication, Provide and maintain communication equipment in ARTs/ARMVs

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7.	Transportation	**Lead Agencies:** MoRTH, MoR, MoCA **Support Agencies:** MHA, MoD, NHAI, IWAI, NDRF, MoHFW	• Adequately address the post-disaster transport-tation needs to ensure that the emergency response and recovery efforts are carried out in a timely manner; restore the public transport; resumption of the movement of essential goods. • Pool heavy-duty earth moving machineries, tree cutters, fork lifters and other required equipment either at strategic locations or centralized. Quick deployment of resources and equipment for quick repairs/restoration of rescue and relief teams with their supplies. • Operational plans are in place to transport heavy machinery (like dewatering pumps, boats, etc.) through road in close coordination with the relevant Ministries. • Operational plans are in place for quick restoration or train services, providing additional railway wagons, containers and passenger coaches for movement of relief supplies/rescue equipment and personnel and shifting affected population	State/UT, SDMA, Revenue Dept., CoR, SEOC, DDMA, Transport Dept., Forest/ Environment Dept., PWD, Railways, Airport officer, all other relevant departments	• Requirement of transport for the sending the relief material, responders are arranged • Need of the transport of various activated section of the IRT as per Incident Action Plan is fulfilled • Indian Railway works with the logistic section of the state level IRT to provide effective services (Ground Support Unit) Restoration of railway tracks and functioning of railway at the earliest • Coordinate with Central Govt. for transportation of relief materials • Within and near Airports: AAI works with the logistic section of the state level IRT to provide effective services (Ground Support Unit) and also provide Nodal Officer for coordination of the relief operations • Restoration of Airport at the earliest	TT Directorate - Coordination with Railway Zone for quick restoration of train services and planning for relief trains for stranded passengers.	Operating Department – Coordinate with RB for regulation/ diversion and cancellation of trains, coordinate with division for quick restoration of train services and planning for relief trains for stranded passengers.	Operating Department – Movement of relief trains to Disaster site quickly, Coordinate with HQs for regulation/ diversion and cancellation of trains.

			to safer places/shifting stranded passengers in consultation with State Government. Availability of diesel locomotives and drivers in disaster affected areas where power is disrupted/shut as a preventive measure; maintain a live roster of such emergency support systems which can be mobilized at very short notice by periodic review of readiness. • Establishment of emergency services group within the railways with staff having experience of working in disaster situations. • Contingency plan is in place to deploy rail coaches as makeshift shelters if required. Activation of railway hospitals/ mobile rail ambulances to shift/ treat injured patients in consultation with the Health Ministry. • Easy availability of heavy equipment available with the Railways for search and rescue. • Plan is in place for quick restoration of airport runway and restoration of air traffic for facilitation of transport or relief teams/supply/ equipment, stranded		involving specialised response force of the central government • Coordination with state and district administration to provide air support • Cater to the needs of transporting affected people if required.			

			passengers, etc. • Control room gets activated for smooth coordination in receiving and dispatching resources and equipment in close coordination with the State Government. Availability of trained manpower for making night landing during emergencies. • Availability of Air Ambulances at strategic locations with trained manpower and equipment in close coordination with the Health Dept.					

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8.	**Relief Logistics and Supply Chain Management**	**Lead Agencies:** MHA, ministries with hazard specific responsibilities, NDMA **Support Agencies:** MoD, MoR, MoRTH, MoCA, MoCAFP D, MoFPI, MoAFW	• Coordinate transportation (air, rail, road, water) for other Central ministries/ departments/ agencies • Locate, procure and issue resources to Central agencies involved in disaster response, and supply to the affected state	State/UT, SDMA, Revenue Dept., CoR, SEOC, DDMA, all other relevant department/ Agencies	• Establish mobilization centre at the airport/railway station for the movement of relief supplies within the state • Deploy special transport mechanism for the movement of relief supplies within the state • Make arrangements to receive and distribute relief and emergency supplies received from different parts of the country Coordinate transportation (air, rail, road, water) with Central Ministries/depts./ agencies • Arrange alternative means of transportation to send relief supplies to the affected locations if normal transport cannot reach.	TT Directorate - Coordination with the Ministries and Railway Zones	Operating Department – Coordinate with RB and State Authorities	Operating Department – Coordinate with HQs and Local Authorities

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9.	**Rehabilitation and Ensuring Safety of Livestock and Other Animals, Veterinary Care**	Lead Agency: MoAFW, DoAHDF Support Agencies: MoRTH, MoR	• Support the setting up of livestock camps/ shelters for animals in distress due to disasters, including drought • Provide assistance for care of animals in the camps/ shelters • Assist State/UT in the proper management, and running of livestock camps/ shelters • Assist in proper rehabilitation of animals • Supplement the needs of State/UT to provide veterinary care to disasteraffected livestock, including drought-hit areas	State/UT, SDMA, Revenue Dept., CoR, SEOC, DDMA, Forest/ Environment Dept., Agriculture Dept., AHD, Animal Welfare Organizations	• Include provisions for evacuation, safety, and rehabilitation of animals in SDMP • Set up of livestock camps/ shelters for animals in distress due to disasters, including drought • Organize proper care of animals in the camps/ shelters • Ensure proper management and running of livestock camps/ shelters Proper rehabilitation of animals • Provide veterinary care to disaster affected livestock, including in drought areas	TT Directorate – Coordination with other Ministries and Railway Zones.	Operating Department – Coordinate with RB and State Authorities	Operating Department – Coordinate with HQs and Local Authorities

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10.	**Data Collection and Management**	**Lead Agencies:** MHA, NDMA **Support Agencies:** NIDM, MoIB, MoCIT, MoST, MoES, MoWR, MoEFCC, ministries/ departments with hazard specific responsibilities	• Maintain proper records of all the essential services needed for rescue, response and relief phases, both by the State Governments and by the Central Ministries/ Departments • Establish a sound reporting mechanism to meet the information needs of both Central and State Governments about the disaster response	State/UT, Revenue Dept./ SEOC/ CoR, SDMA, DDMA, Bureau of Economics and Statistics, all other relevant Departments	• Representative of SDMA works with the planning section at state level for making of IAP and dissemination of information. • Creation of a cell at the District level (preferably as part of DEOC) and place dedicated resources to collect/ update data on all essential services (as per the template given in the IRS guidelines) which will help during the response phase for effective reporting and compilation.	Safety Directorate - Coordination with Mechanical and TT directorate – for maintaining record of Accidents and essential services needed for rescue, response and relief.	Safety Department – Coordination with Mechanical and operating Department – for maintaining record of Accidents and essential services needed for rescue, response and relief.	Safety Department – Coordination with Mechanical and operating Department– for maintaining record of Accidents and essential services needed for rescue, response and relief.

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11.	**Media Relations**	**Lead Agencies:** MoIB, MHA, NDMA **Support Agencies:** MoCIT, MoST, MoES, MoWR, MoEFCC, ministries/ departments with hazard specific responsibilities	• Collect, process and disseminate information about an actual or potential disaster situation to all stakeholders so as to facilitate response and relief operations; update information on disaster and disaster victims; maintain contacts with mass media; inform public regarding the impact of disaster and the measures taken for the welfare of the affected people • Ethical guidelines for disaster coverage by media as per accepted global standards respecting dignity and privacy of the affected communities and individuals and work with media to adopt the guidelines through self-regulation as well as oversight by relevant regulatory institutions • Mechanisms for broadcasting warnings, do's and don'ts etc. to media and public before (if applicable), during and after the disasters. • Proper schedule for media briefing(once/twice/thrice daily depending on the severity of the disaster) and designate a nodal officer for interacting with media on behalf of the Government.	State/UT, SDMA, Revenue Dept., CoR, SEOC, DDMA, Information Dept., all other relevant Departments	• Dept. of Information and Public Relations works with the Command staff as Information and media officer of the state level IRT to provideeffective services • Ethical guidelines for coverage of disaster is prepared and shared with all media agencies • Plan is prepared for providing/ broadcasting warnings, do's and don'ts etc. to media and ensure its dissemination	Director Public Relations (DPR) and Director Information and publicity (DIP) - for information to the representative of media.	Chief Public Relation Officer (CPRO) - for to the representative of media.	Public Relation Officer (PRO) -for information to the representative of media.

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12.	**Fodder for livestock in scarcity-hit areas**	**Lead Agency:** MoAFW, DoAHDF **Support**	• When required, mobilize fodder and cattle feed to meet shortages, as in drought or scarcity conditions	State/UT, SDMA, Revenue Dept., CoR, SEOC, DDMA, Forest/	• Mobilize fodder and cattle feed to meet shortages, as in drought or scarcity conditions	Traffic Commercial dte - Coordination with Zonal Railways and	Commercial department – Coordinate with Divisional authorities. Operating	Commercial department – Arrangement of food and water to the passengers.

		Agencies: MoRTH, MoR	• Transport fodder from storage facilities or distant areas to the scarcity hit areas Organize fodder resource and mobilizationcentres • Enlist PSUs and private agencies for	Environment Dept., Agriculture Dept., AHD, Animal Welfare Organizations	• Transport fodder from storage facilities or collection centres to the scarcity-hit areas • Organize collection centres for fodder and cattle feed	issue policy guidelines. TT Directorate - Co-ordination with the Ministries and Railway Zones for movement of supplies.	Department – Coordinate with RB and State Authorities for movement of supplies.	Operating Department – Coordinate with HQs and Local Authorities for movement of supplies.

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13.	**Fuel**	**Lead Agencies:** MoPNG **Support Agencies:** MoD, MoR, MoRTH, MoCA	• Petrol pumps are functional and adequate petrol, oil and diesel are available to Government for relief, rescue and general public • Adequate supply of petrol, diesel, kerosene and LPG Gas in the affected areas in close coordination with the State Government for general public as well as emergency responders/equipment • Quick mobilization of fuel in hilly areas to avoid delays caused by complex supply chain to such areas	State/UT, SDMA, Revenue Dept., CoR, SEOC, DDMA, Civil Supply Dept.,all other relevant Departments	• Logistic section of the state level IRT to coordinate with the relevant departments/ agencies to provide effective services (Ground Support Unit) to the field level IRTs for response • Assess and indicate clear requirement of fuel to the Central Ministry and coordinate the delivery of fuel through local arrangements. • Ensure sufficient availability of tankers/ other vehicles for local transportation through the relevant Dept. • Establish mechanism for stocking the fuel at strategic locations with relevant agencies.	Traffic Commercial dte - Coordination with Zonal Railways and issuepolicy guidelines. TT Directorate - Co-ordination with the Ministries and Railway Zones for movement of supplies.	Commercial department – Coordinate with Divisional authorities. Operating Department – Coordinate with RB and State Authorities for movement of supplies.	Commercial department – Arrangement of Fuel. Operating Department – Coordinate with HQs and Local Authorities for movement of supplies.

4.10 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. 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.

4.10.1 Resources: Resources imply both railway and non-railway men and material including medical, personnel,transport, volunteers, police and fire services.

Resources available in case of a major accident have 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:

- Resource Unit I – Railway and non-railway resources available on the train, and at nearby surroundings.
- Resource Unit II – Railway resources available at SPARMV/ART depots and elsewhere within the division.
- Resource Unit III – Railway resources available at SPARMV/ART depots and elsewhere on adjoining Zones and Divisions.
- Resource Unit IV– Non-railway resources available within or Outside the division.

4.10.2 Resource Unit – I:

(i) 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.
(iii) Portable Telephones.
(iv) Portable Telephones in Locomotives.
(v) Fire Extinguishers in Brake Van,AC/ SleeperCoaches, & 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 MedicalPractitioners 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 (RPF,C&W,Electrical etc.) or on leave as passengers.
(xi) Passengers travelling on the train who volunteer their help for rescue and relief work.

(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, PMC's in the vicinity
(vii) Police and other agencies of state Governments
(viii) Army or paramilitary establishments near by
(ix) Coolies and vendors of nearby stations
(x) Station staff and local Railway administration should requisition help from non-railway resourcesbefore railway own rescue team arrives
(xi) Such local networks are most effective in rushing assistance immediately, especially with regard to:

- Medical succour,
- Additional manpower,
- Rescue equipment,
- Lighting arrangements,
- Transport services,
- Fire fighting 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.

4.10.3 Resource Unit – II:

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

4.10.4 Resource Unit –III:

(i) AMREs, ARTs with 140T crane based on adjoining Zones/Divisions.
(ii) Resources of men and material available on adjoining Zones/Divisions.

4.10.5 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.

4.11 DISASTER PREPAREDNESS: DIFFERENT DEPARTMENTS:

Natural disaster in general like floods, cyclones can be forecast whereas other natural disasters like earthquakes, landslides are difficult in nature to forecast. But preparedness for floods & cyclone will help in tackling situation for other natural disasters also.

4.11.1 Engineering Department:

- Shall identify Risk zones prone for natural disasters like floods, cyclones or earthquakes with the help of meteorological department.
- Shall identify detailed inventory of major infrastructures like tracks, bridges should be kept readily available and analysis of its strength to withstand such disasters.
- The action plan for Weather and Cyclone warnings shall be followed according to the Joint Engineering/ Operating Circular No. W.556/1/Vol.V 2007.
- Shall ensure arrangement of essential items like empty bags, sand, dust, cinders etc. ready to be moved to vulnerable location of needs. Intensified patrolling at vulnerable location.

(i) The yardstick for engineering materials:

The details of the yardstick for engineering materials to be kept in Accident Relief trains are given below:

(ii) Track Material:

Track materials sufficient to lay 500 m of track should be kept loaded on to the BFRs. These BFRs (BRNHS) should be kept stabled at a suitable central place in the division so that the same can be moved anywhere in the division in the shortest possible time.
In addition to the track materials loaded in the BFRs, the following track material should be kept as a reserve stock. These materials should preferably be stacked close to a siding, so that they can be loaded easily for dispatch:

(a) Track materials for laying 500m of track.
(b) Switches Left Hand and Right Hand, one set each, 1 in 12 as well as 1 in 8.5 turnouts, along with crossing and lead rails etc.
(c) One set of fan shaped turnout concrete sleepers for 1 in 12 as well as 1 in 8.5 turnouts.
(d) One set of SEJ along with the concrete sleepers.
(e) One set of concrete sleepers for level crossings including check rails & corresponding fittings etc.
(f) Adequate number of bridge timbers depending upon the type, number and span of the existing bridges in the division.

(iii) Labour:

- Details in respect of P.Way labour, their addresses and how to contact them –The details to be kept with ADEN/SSE (P.Way) & SE (P.Way).
- The details in respect of temporary labour - availability and how to get them –The details to be kept with ADEN/SSE (P.Way) & SE (P.Way).
- The details in respect of contractors labour working in the Division with the numbers at each side - The details to be available with each Sr.DEN/DEN/ADEN for the whole division.

(iv) Mobility:

The Divisions have been authorized to hire trucks on regular basis for use of SSE (P.Way) & SSE (Bridges). The contract agreement for hiring such trucks should have a provision for hiring additional number of trucks at short notice in the event of an emergency.

- Each SSE (P.Way) should have a plan for movement of labours and materials to the site of restoration with various alternatives like movement of the same by rail/road. For this, a complete road map should be prepared showing connections to the track through level crossings or canal roads or the nearest points to track where the truck can reach.

(v) Equipment and Miscellaneous:

The details in respect of heavy earth moving machinery available in the nearby areas, their contact persons, the telephone numbers etc. must be kept with ADEN/DEN /Sr.DEN.

- The details of availability of tentage in the nearby areas, the contact numbers etc. should be kept handy. This is in addition to the availability of the tentage in the relief train as per prescribed scale.
- Suitable arrangements need to be made for supply of drinking water for the labour working at site. Therefore, the addresses and contact numbers of the agencies who could supply drinking water may be kept handy with ADEN/SSE (Works) of the sub-division.
- Needless to mention, that the small track machines like rail cutting, drilling welding equipment etc. are already forming part of the equipment of each relief train in adequate numbers.
- All SSE (P.Way) should have an arrangement of portable generators for lighting so that the dependence of Electrical Department even for small magnitude emergencies can be avoided.

4.11.2 Mechanical Department:

- Shall ensure that ART, ARME/ SPART are equipped with sufficient tools to handle cutting of trees etc. and availability of portable generator set, gas lamps etc.

4.11.3 Medical Department:

- Shall ensure availability of adequate medicines in first aid box, POMKA's and materials or disinfectants etc. at health unit/hospitals near the forecast warned places.
- Shall take enough measures to prevent epidemics in co-ordination with engineering department for sanitation and drainage and disinfection.

4.11.4 Electrical Department:

- Shall ensure availability of stand-bye power (generator) and strategic locations.
- Tower wagons with quick mast erection facilities, sufficient spares should be kept ready at Tower wagon shed.

4.11.5 Telecommunication Department:

- Shall ensure proper communication with adequate facilities like wireless communication, satellite phones V-Sat and arrangement for drone recording etc.

4.11.6 Transportation Department:

- Requirement of essential staff and then deployment shall be assessed by Sr.DOM of respective division.
- SMs of the warned area station shall ensure all station equipment are in good condition in co-ordination with respective department like Generator, Emergency light, VHF sets, First Aid equipment etc.
- SMs will also ensure proper securing of stabled coaches/wagons as per extant instructions. This should be informed to control.
- PCOM of the Railway will issue instructions regarding regulation, diversion or cancellation of trains in the warned/affected section with information to CPRO.

(i) Ensuring full complements of Brake van equipment:

(a) At the originating and interchanging points of all passenger carrying trains, it must be ensured that these trains run with full equipment of brake van as prescribed by G&SR and other special instructions.

(b) The Officers and Senior Subordinates of the Traffic, Mechanical, S&T, Electrical, and Civil Engineering Departments must examine these equipment regularly and take necessary action to ensure that they arein good working condition.

(c) The first Aid Box and the stretchers should also be examined for this purpose by the concerned Medical Officers.

(d) The Guards of the passenger carrying trains while taking over the charge of this equipment should also ensure that they are in good working condition.

4.11.7Commercial Department:

- Shall alert arrangements to open enquiry offices at areas likely to be affected.
- Shall ensure arrangement for food, water and other requirement at vulnerable places.

4.11.8 Security Department:

- To ensure alertness of security personnel to accompany relief material trains
- To help vulnerable station in handling public enquiries to move to location vulnerable.

(i) Disaster Management Team of RPF:

There should be a Disaster Management Team of RPF on each Division of IR composing about 15men in different ranks. This team shall be specially trained in providing necessary support for disaster management over the Division/neighbouring Division. RPF should play an active role in managing law and order at site.

(ii) Equipment for RPF:

This Disaster Management team of RPF should have the following equipment available with them:

(a) Torches and other lighting arrangements.
(b) Nylon ropes and poles for segregating the affected area from unwanted visitors and spectators.
(c) Loud-hailer for making announcements.
(d) Stretchers and first aid equipment
(e) Wireless sets for inter-communication.
(f) Cameras for photographing the scenes.

4.11.9 Helicopter Requirements:

Zonal Railways have been delegated powers to requisition helicopter/ airplane for expeditious action in the event of serious accidents vide Railway Board's letter No. 86/Safety-1/24/47 dated 13.03.87 & 19.07.89. The subject matter has been reviewed by the Board and the following revised powers are delegated to the Zonal Railways.

(i) GMs have been delegated the powers to requisition helicopter/airplane to reach the site of serious accident for rescue operation expeditiously. In addition, powers are also delegated to requisition air support to dispatch the rescue teams to the site of the accident.
It is difficult to stipulate exactly the circumstances under which they may exercise these powers. It has been decided to leave thisto the discretion of GMs. However, broadly these may cover the following type of cases:

(a) Where more than 10 casualties (deaths-cum-serious injuries) are feared and it is difficult to these officers to reach the site within reasonable time;

(b) Where heavy damage is caused to railway installations in sensitive and tension filled areas (e.g. wreckage of track, bridges, etc. through bomb blast, other means of sabotage, etc.);

(c) Where public reaction in case of late arrival of senior officers at site is likely to be highly adverse.
Normally, in case of an accident only one helicopter should be requisitioned by a Zonal Railway, except when there is a serious passenger train accident involving several casualties when it is

essential for both the General Manager and the Divisional Railway Manager to reach the site at once to satisfy the public and the Press. However, for dispatching the rescue teams to the site of the accident, separate helicopter/airplane may be requisitioned, if so needed.

The GMs may exercise the above powers personally and may not delegate these powers.

(ii) Zonal Railways are further empowered to requisition helicopter/airplane to evacuate injured and dead in the event of serious accident. GMs may personally exercise these powers and may not delegate these further.

The above instructions on the subject supersede all the previous instructions issued vide above referred letters.

This issues with the concurrence of the Finance Directorate of the Ministry of Railways. (Railway Board's letter No. 2002/ Safety-1/1/6/6 dated 13.06.2004)

4.11.10 Railway Hospitals

Each Railway Hospital/Hospital Units should similarly maintain a display containing information about other Govt./ Private Hospitals nearby, Govt./Pvt. Doctors, Social Organizations having ambulance facilities, details of voluntary organizations in the nearby locality, Blood bank and blood donor details. All these details must be available in the respective stations also.

4.11.11 General:

- Apart from the above, DRM shall nominate an officer to monitor warned location and order arrangement.
- A monitoring cell shall be formed by all departments concerned at Divisional level to ensure proper co-ordination and planning.

4.12 DISASTER PREPAREDNESS – ARMEs/ARTs:

4.12.1 ARME Scale I- Equipment stored in Special Medical Relief Vans stabled in separate sidings:

The target time for turning out of ARME & SPART (SPARME) is 20" and 30" inclusive of dispatch time for Double exit and Single exit sidings respectively from the time of sounding siren.

(i) One key of the van is available with the Loco Foreman or the Station Master in a glass fronted case.
(ii) Other key is with the doctor in charge of the ARME
(iii) Medicines and equipment are provided as per Railway Board norms.
(iv) Keys of all locks inside the ARME are also in duplicate. One set of keys are with the Medical officer in charge of the ARME and the other set of keys are kept in a glass-fronted case inside the ARME.

4.12.2 Location of ARME scale- I:

(i)SPARME/SPART- Vadodara Station (BG).

4.12.3 Section wise chart for requisitioning of ARMEs from adjoining Zones/Divisions from both ends:

ST – BRC	**SPARMV / ARME**	**BRC / UDN**
BRC – GDA	**SPARMV /ARME**	**BRC / RTM**
BRC – ADI	**ARME / SPARMV**	**ADI / BRC**

4.12.4 ARME Scale-II: Equipment stored in boxes in special room on platform at station:

(i) The medical equipment are sealed without any lock.
(ii) The scale-II room have duplicate keys.
(iii) One is with Medical Officer and the other is in Station Master's Office.
(iv) These are to be taken out and rushed to the site of an accident by any train or available road vehicle.

4.12.5 Location of ARME scale-II:

(i)Chhuchhapura (BG) (ii) Samlaya (BG) (iii) Godhra (BG) (iv) Petlad (BG) & (MG)(v) Kosamba (BG)(vi) Champaner Road (BG)(vii) Nadiad (BG)(viii) Ankleshwar (BG)(ix) Anand (BG) (x) Dabhoi (NG) (xi) Choranda (NG)

4.12.6 ACCIDENT RELIEF TRAIN:

(i) The target time for tuning out of ART is 45" by day and 60" by night & for SPART is 20" and 30" inclusive of dispatch time for Double exit and Single exit sidings respectively irrespective of day and night from the time of sounding siren.
(ii) ART formation is stabled complete on separate siding at BRCY having double exit for faster movement in both directions.
(iii) Rescue/Restoration equipment are kept as per Railway Board's instructions.
(iv) Brake Down special keys are with the following Officials:
- Engineering Tool Van – SSE/SE/JE/Permanent Way.
- Mechanical Tool Van – SSE/SE/JE/Mechanical.
- O.H.E. Tool Van - SSE/SE/JE/OHE-TRD

(v) In case of road approach is faster, prevailing equipment may be moved by road as required.

4.12.7 Location of ARTs:

Vadodara yard (BG) – A-class. (ii) MYG (NG) C-class. – Section Closed.

4.12.8 Section wise chart for requisitioning of ARTs with 140T crane from adjoining Zones/Divisions fromother end.

ST – BRC	**ART with 140 T Diesel Crane**	**UDN / KKF**
BRC – GDA	**ART with 140 T Diesel Crane**	**KKF / RTM**
BRC – ADI	**ART with 140 T Diesel Crane**	**KKF / UDN**

4.12.9 Use of Accident Alarm signals- sounding of hooter :

Following codes are prescribed for sounding the accident alarm / siren / hooter:

S.No	CODE	CIRCUMSTANCES
(i)	2 long blasts each of 45 seconds duration with 5 seconds break in between.	Accidents in loco sheds / Traffic yards at Home Station requiring only ART.

(ii)	3 long blasts each of 45 seconds duration with 5 seconds break in between.	Accidents outside requiring only ART the Home Station
(iii)	4 long blasts each of 45 seconds duration with 5 seconds break in between.	Accidents requiring both ARME/SPART and ART.
(iv)	1 long blast of 90 seconds duration.	Cancellation of ARME/SPART / ART.

Note:

(i) The alarm signals / sirens / hooter requiring ARME/SPART / ART shall be sounded as prescribed above and shall be repeated once more after interval of 5 minutes.

(ii) In case of non-availability of electrical supply at station for sounding hooter following options may be chosen:
   (a) Continuous sounding of bell.
   (b) Emergency hooter available in ART.
   (c) Whistle blowing of available locomotive at the station in prescribed code (5 long whistles with 5 seconds interval.

(iii) The Loco Shed, Foreman, Train Examiner and all other supervisory staff concerned must ensure that the relief train gangs, break down gangs and other staff who is required to go to the accident site in the ARME/SPART or ART, thoroughly understand alarm signal / siren / hooter and that their names and addresses with their phone numbers are displayed at conspicuous place.

4.12.10 Authority to order movement of ARME & ART to site:

(i) On receipt of information about serious accident involving casualties, ARMEs and ARTs shall be ordered immediately.

(ii) This decision for ordering would be taken by the PCR/Mech. Officer and Dy. CTNL on duty

(iii) After sounding of siren the ARME/SPARME and ART/SPART should be turned out within the stipulated target time.

4.12.11 Provision of one minute halt for SPARMV/BRCP

One minute halt is to be provided to SPARMV/BRCP at VS & PRTN whenever ordered towards Surat(ST) & Dabhoi(DB) side respectively for attending site of accident so that Medical team, officers & staff may board in SPARMV

4.13 DISASTER PREPAREDNESS – ON BOARD RESOURCES:

4.13.1 PORTABLE TELEPHONE:

(i) Types of Portable Telephones:

(a) Portable Telephones are available in Brake van of Passenger carrying Trains.

(b) Telephones presently in use are of the 4-wire/2-wire type, which can be used in RE area and in overhead communication territory.

(c) There are two types of Portable Telephones

4.13.1.i.c.1Land line type (Overhead Telephone line transmission)

4.13.1.i.c.2Socket Type (Underground cable transmission)

(d) In overhead territory additional poles are to be carried by Guards for connecting phones to the overhead lines.

(ii) Use of 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. (In non-electrified section it goes directly to section controller).

4.13.2 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.

4.13.3 USE OF BSNL/CELL PHONE/MOBILE PHONES:

(i) BSNL phone numbers with STD code for Railway Stations in a Division are given in WTT which is available with Guard, Driver, Assistant Guard.

(ii) Refer WTT for nearest Station contact number.

(iii) BSNL Phone Numbers of Important stations are available in Public Time Table & DMP Part II.

(iv) CUG mobile Phones have been provided to Loco Pilots and Guards.

4.13.4 EMERGENCY TRAIN LIGHTING 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.

4.14 DISASTER RESPONSE –OVERVIEW:

4.14.1 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 this Golden Hour period every effort should be made to:

(i) Render definite medical care to the extent possible by qualified medical practitioners.
(ii) Stop bleeding and restore Blood Pressure.
(iii) Persons under shock should be immediately relieved of shock.
(iv) Transport casualties to the nearest hospital
(v) 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.

4.14.2 Disaster Syndrome:

A victim's initial response following a Disaster is in three stages. These initial reasons are called Disaster Syndrome.

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

4.14.3 Different phases of Disaster Response:

Disaster Response in case of a railway accident consists of 3 phases. These 3 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 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 also with the departure of most relatives and next of kin from the accident site and disposal of all bodies. Few of the grievously injured that continue to be hospitalised 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 who 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).

4.14.4 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, and 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 thetongue comes forward and the airway is cleared. To clear the other objectsin the mouth press the Jaw, open the mouth put your fingers or a clean cloth in the mouth and clears the things. Now the air passage is clear.

(vi) **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 and 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 life saving 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 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 2:5. 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).

(vi) 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 turn the casualty to Recovery Position, to save many precious lives.

4.15 DISASTER RESPONSE – INSTANT ACTION TEAM:

4.15.1 Instant Action Team comprises:

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

4.15.2 Duties of Instant Action Team:

4.15.2.1 Guard:

(i) Switch on the Flashing Tail Lamp if provided, in, in the rear of brake van.
(ii) Secure the train and prevent escaping of vehicles.
(iii) Protect line of accident and adjacent line/lines if required as per GR 6.03
(iv) Note the time of the accident and the location.Inform Loco pilot/ Station Master on Walkie-talkie set if possible.
(v) Make a quick survey of accident magnitude and roughly assess casualty, damage and assistance required.
(vi) Send information through quickest means to Control Office and SMs on either side of the block section by CUG Mobiles / Walkie-talkie/ field telephone/ other line train crew/ Assistant driver or Assistant guard may be sent to the next station to convey information/ one of the railway staff on duty on the train should be sent on foot to the nearest station.
(vii) Utilize Emergency Train Lighting box to facilitate medical aid.
(viii) Render First Aid and save lives.
(ix) Call for Doctors and seek their assistance.
(x) Seek assistance of railway staff and other volunteers from train to rescue injured or entrapped passengers.
(xi) Direct railway staff and other volunteers from train for attending to injured.
(xii) Ensure that railway staff constantly man field telephone.
(xiii) Arrange protection of passengers' belongings and railway property with the help of railway staff, volunteers on train, RPF and GRP.
(xiv) Stop running trains on adjacent line and utilize resources on that train.
(xv) In electrified section if OHE is affected, take steps to switch off OHE supply.
(xvi) Arrange for transportation of injured to hospital.
(xvii) Record evidence or statements, if any, given by passengers.
(xviii) Preserve all clues and evidences regarding probable cause of the accident and ensure that these do not get disturbed.
(xix) Log your activities. Do not leave the spot unless a competent authority relieves you.

4.15.2.2 Loco Pilot:

i) Note the time of the accident and location.
ii) Switch ON the 'Flasher Light' and give 4 short whistles.
iii) Inform Guard on walkie-talkie set.
iv) Inform Station Master on CUG mobile phone / walkie-talkie set, if possible.
v) Protect the obstructed/adjacent line as per GR 6.03.
vi) Take necessary action to prevent Loco/Vehicles/Wagons from rolling down.
vii) Make a quick survey of accident magnitude 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 by Walkie-talkie/ Field telephone / train crew on the other line/Assistant driver or Assistant guard may be sent to the next station to convey information/ one of the railway staff on duty on the train should be sent on foot to the nearest station.
x) Render all possible assistance to the guard.
xi) Preserve all clues and evidence regarding probable cause of the accident .
xii) Log your activities; Do not leave the spot unless you are relieved by a competent authority.
xiii) If necessary detach Loco and take it to inform SM.

4.15.2.3 Assistant Loco Pilot:

i) Assistant Loco Pilot should work under the control of the Loco Pilot with the same duty list of the Loco Pilot. Loco Pilot and Assistant Loco Pilot should divide the work so that the duties are carried out in the shortest possible time.
ii) To provide First Aid to injured. First Aid box is available with Guard.
iii) If necessary use fire extinguishers of Ac coaches/brake van/loco.
iv) In case if the Loco Pilot is dead or injured, Asst. Loco Pilot will perform all the duties of Loco Pilot.

4.15.2.4 Train Superintendent / Travelling Ticket Examiners:

i) Preserve reservation charts of each coach containing names of passengers who actually travelled and in which berth no.
ii) Avail services of Doctors travelling by the train and render Medical Aid.
iii) Render First Aid to injure.
iv) Collect particulars of injured passengers and prepare a list showing their position coach wise from Train Engine to Brake Van and handed over to railway doctors when ARME 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) Record Evidences or statement given by passengers / other at site.

4.15.2.5 AC Mechanic / Attendant:

i) Switch off the power supply to avoid short-circuiting.
ii) Assist the TS/TTEs in their duties at the accident site.
iii) Report to the guard of the train for assistance.
iv) In case of fire assist the operations by using fire extinguishers provided in the AC coaches.
v) Assist in providing lighting in affected coaches.

vi) Blankets and linen of the AC coaches is to be made available for use by grievously injured/dead. The record of the same should be kept.

4.15.2.6 RPF/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.

4.15.2.7 Railway staff travelling on the accident affected train:

i) Whenever a train is involved in a serious accident with casualties/injuries to passengers, all railway staff travelling on the train either on duty or on leave is deemed to be on duty with immediate effect.
ii) Under no circumstances 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 officers travelling on the train will assume charge as Officer-in-Charge Site (OC Site).
v) Normally the senior most officers will be travelling in either the 1AC or in 2AC coach, and most probably in the Emergency Quota section of the coach. The Emergency Quota section of 2AC is invariably in the centre of the coach (berth nos. 19-22). In any case the TS/TTE would know whom are the railway officers travelling in 1AC or 2AC.
vi) Similarly, other railway staff will be travelling in 3AC coach, and most probably in the Emergency Quota section of the coach. The Emergency Quota section of 3AC is also in the centre of the coach (berth nos. 25-30).
vii) Similarly, some Group 'D' railway staff may be travelling in Sleeper coach, and probably in the Emergency Quota section of the coach. The Emergency Quota section of a Sleeper coach is located in the centre of the coach (berth nos. 33-40).
viii) In the absence of any officer, the TS or senior most TTE/Guard will discharge duties listed out for OC site.

4.15.3 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.
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 and 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.
- From here onwards, the DRM of the accident involved division takes over Charge as OC site.

4.15.4 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 travelling by the same train that volunteer for rescue and relief work should also be drafted into these groups.
iii) Passengers from accident-involved coaches should be directed toward their own coach.
iv) Passengers from coaches, which are not affected, can be distributed amongst other 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 travelling by the accident-involved train should be nominated as in-charge of each group to co-ordinate it's 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 it's working.
xii) Each group should rescue injured, entrapped passengers.

4.15.5 Duties of on board railway staff:

i) Don't panic.
ii) Inform the divisional control office immediately about the accident.
iii) Observe the position of coach standing upright/ turned upside down/ lying on its side/stopped on bridge/on level ground.
iv) In case the coach is on a bridge or very high embankment or in case it is raining heavily, then wait for some time.
vi) Search your coach with your torch and try to determine the general position.
vii) See that passengers don't panic either. Try to calm them and build up their confidence.
viii) Ascertain whether passengers are injured/ trapped/ pinned down inside the debris.
ix) Call out aloud to find out for any doctors present& any railway staff present
x) Ask Doctors if available to attend and help injured passengers.
xi) Ask the Railway staff if available to attend and help other passengers.
xiii) Form a core team comprising of railway staff available, doctors and 3 or 4 uninjured passengers and take the lead in helping remaining passengers.

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

i) If a person is bleeding and loosing blood, or if he is unconscious, then in that case you have to act quickly send him to nearest hospital with in golden hour.

ii) If not possible to send hospital when in golden hour immediately administer First Aid to the injured passenger and try and stop further loss of blood and them as early as possible to nearest hospital.

iii) Persons trained in first aid may do 'Cardio Pulmonary Resuscitation."

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 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.

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) Firstly, passengers both injured and uninjured should get preference in this evacuation process.

xii) After passengers have been evacuated from coach, cross cheek with the reservation chart and note down injury list.

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 one coach go over to the other/unreserved coaches and provide similar help to passengers.

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

xvii) Grievously injured passengers who are bleeding or those who are unconscious require immediate hospitalisation. 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 any passengers of your coach injured, then you should go to the unreserved coaches and carry out the duties as listed above.

4.15.7 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 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.
xi) Building up confidence of injured passengers by suitable advice is of great importance.

4.15.8 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) Look for 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) 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.
(iv) Location of nearby villages with their general direction will be available in the Divisional DM Plans.
(v) 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 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) The gateman will be able to give location of nearby villages.
(iv) The messenger can take help of a passing vehicles to inform villagers and seek their assistance

(c) Organizing assistance from local people 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 accidents.
(ii) Everybody should be asked to rush to the accident site with following:
- Tractor trolleys (both for transportation as also for general lighting).
- Cutting implements, hammers, chisels Ropes, Ladders, etc. as are available.

(iii) Ask doctors or Para-medical staff of village to reach 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.

4.16 DISASTER RESPONSE – FIRST RESPONDERS:

4.16.1 Role of First Responders – Local people:

4.16.1.1 At accident site:

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

(b) 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.

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

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

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

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

(g) 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.

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

(i) 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 injury,

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

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

(l) Tagging of dead bodies should indicate the coach number and also the cabin number, ifpossible, (For example NCR 98127, cabin number containing berths 9-16).

4.16.1.2 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.

4.16.2 Duties of First Responders – Railway Staff:

The First responders from Railways will normally include the staff present at the vicinity/ Station. However, all other Staff available/ posted at the station are to report to the Station master at the earliest. Detailed duties of each of the staff are brought out in the Divisional Disaster Management Plans. Some Staff available include the below:

1. Gang Staff
2. Gatemen
3. Cabin man/Panel Station Master
4. Pointsman
5. Station Superintendent in charge
6. Station Master / Assistant Station Master
7. Safaiwalla
8. Station Master at adjoining station: SM of adjoining Station plays an important role at the time of Disasters. They duties Include:
9. Duties of TI/PWI/SI/CWI/LI:

4.16.2.1 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.

4.16.2.2 Gate man:

(i) Keep gate closed if the train has not cleared the gate.

(ii) Arrange to inform SM immediately under exchange of private number regarding the nature of the accident.

(iii) Collect men and material available nearby and direct them to site.

(iv) In case the gate is involved in an accident, which obstructs and fouls the track and the gate is provided with the gate signals, then the signals shall be put to ' ON' position immediately.

(v) If the Boom / Wing is broken he shall close the gate with Safety Chain. Keep gates closed if the train has not cleared the gate.

(vi) *Immediately fix Red Banner Flag in Daytime and Red Lamp in Night time on* wooden staff *at both ends of the gate 5 meters away from the obstruction on either side.*

(vii) On Double / Multiple line section he shall stop any train approaching the accident area by showing Danger Hand Signals.

(viii) Rush with Detonators and Red Flag by Day and Red Hand Signal by night in the direction of the approaching train and place one detonator at a distance of 400 Mts. on MG & 600 Mts. on BG line. Thereafter he shall proceed to a distance of 800 Mts. on MG & 12000 Mts. on BG section and place three detonators on the track 10 Mts. apart. After that he shall return to the level crossing gate picking up the intermediate detonator on his way back. Thereafter he shall proceed towards the other direction and place the detonators similarly.

(ix) On returning to the gate he shall not meddle with the clues and evidences of accident & also not tamper with the interlock system.

(x) Avail services of road vehicles waiting or passing through LC Gate.

(xi) Send message to nearby village, informing them regarding the accident.

(xii) On double/multiple line section stop any other train approaching the accident area by showing hand danger signal.

(xiii) Parting of Trains: If a gateman notices that a train has parted he shall not show a stop hand signal to the pilot, but shall endeavour to attract the attention of the pilot and guard by shouting gesticulating and displaying a Green Flag by Day and white light by night in Up & Down Vertically as High & Low as possible.

(xiv) Gateman shall not leave his gate unless other gateman has taken charge of it. If it is necessary to leave his gate in an emergency, before doing so, he should close and lock the gates against the public road and must inform and get permission to do so.

4.16.2.3 Cabin man/Panel Station Master:

(i) In case of an accident first he shall put back the related signals to ' ON' position immediately and put stop collars on the relevant points.

(ii) Reverse the points against the train involved in the accident.

(iii) Not tamper with the interlocking system.

(iv) Preserve clues and evidences.

(v) Keep readily available all the cabin records and do not tamper the entries made in Train passing records.

(vi) Be in close contact with SM/ ASM on duty and strictly obey the orders / instructions.

(vii) Not leave the cabin without his reliever and without the permission of the competent authority.

4.16.2.4 Pointsman:

(i) In case of an accident he shall be in close contact to follow the instructions of In charge SS or On duty SMs / ASMs.

(ii) Help / assist the passengers in every rescue & relief operation.

(iii) Report promptly / quickly if any defects is noticed in points, track, S&T gear, rolling stocks involved in the accident which may endanger safety.

(iv) Pilot the first train while dispatching on accident as per the instructions given by on duty SS / SM / ASM.

(v) *Report the position of the adjacent line whether it is fouled or not and also ensure clearance of fouling mark or not.*

(vi) *If the train involved in an accident caught fire, he shall first ring the bell continuously to inform 'ON' & 'OFF" duty staff and then use Fire Extinguishers, water buckets, sand buckets provided at the station to extinguish the fire.*

4.16.2.5 Station Superintendent in charge:

(i) *Quickly& promptly convey all type of information to adjoining stations and section control.*

(ii) *Arrange protection of traffic by keeping relative signals at 'ON' position and also arrange to preserve the clues/evidences of accident.*

(iii) *Call for the 'On' duty & 'OFF' duty staff at the site of all departments including RPF & GRP staff.*

(iv) *Communication with civil authorities, Village, Town, Cities, NGO Representatives/Volunteers for possible relief assistance.*

(v) *Call for assistances for medical aspects from civil/private doctors and Army medical hospitals. Mobilise local medical team and injured passengers to hospitals. Quickly transport of ARME Scale II equipment.*

(vi) *Passenger assistance: Arrange drinking water beverages and refreshment free of cost either from refreshment room and local resources. Open emergency counter and display necessary information regarding dead/injured passengers and convey it. Make frequent announcement about diversion, cancellation and regulation of train services and arrange for refund of fares as per extent rules.*

(vii) *Transport assistance: Arrange transporting injured passengers to nearest hospitals apart from tractors, trolleys, Trucks, Buses passing on the Highways/nearby can be utilised or by hiring road vehicles.*

(viii) *Security assistance: Arrange RPF/GRP/State police to provide security to passengers there belongings and RLY. Properties. They should also be asked to assist in rescue and relief work.*

(ix) *Communication Assistance: Direct passengers to PCO booths available nearby and issue free telegram and make available STD phone to relatives of dead/injured.*

(x) *Sending manpower: Proceed to site of the accident by quickest means with trolleys, coolies, lamps, vendors and any other equipment that is considered necessary.*

(xi) *Preservation of clues and evidences: Secure records related to accident in the Station/Cabin. Seal slides, levers, knobs and Relay room, if accident takes place within the Station limit.*

(xii) *Protection: Protect adjacent lines then protect the same line on either side. Note the position of points etc., and clamp the points against the line on which the train is affected. Put "Line Blocked" lever collar in cabin / SM's slide control from where the lever is operated.*

(xiii) *He shall not relive the site of accident till the Traffic Inspector or Divisional Officers relieves him.*

4.16.2.6 Station Master / Assistant Station Master:

(i) *Quickly& promptly convey information to adjoining stations and section control.*

(i) *Arrange protection of traffic by keeping relative signals at 'ON' position and preserve the clues/evidences of accident.*

(ii) *Prepare the relevant Authority to send the first train on occupied section and nominate one Pointsman to pilot the train / vehicle.*

(iii) *Call for the 'ON' duty & 'OFF' duty staff at the site of all departments including RPF & GRP.*

(iv) *Communicate with civil authorities, Village, Town, Cities, NGO Representatives/Volunteers for possible relief assistance.*

(v) *Call for assistances from civil/private doctors and Army medical hospitals. Mobilise local medical team and injured passengers to hospitals. Quickly transport of ARME Scale II equipment.*

(vi) *Passenger assistance: Arrange drinking water beverages and refreshment free of cost either from refreshment room and local resources. Open emergency counter and display necessary information regarding dead/injured passengers and convey it. Make frequent announcement about diversion, cancellation and regulation of train services and arrange for refund of fares as per extent rules.*

(vii) *Transport assistance: Arrange transport to injured passengers to nearest hospitals by available means, passing on the Highways/nearby or by hiring road vehicles.*

(viii) *Security assistance: Arrange RPF/GRP/State police to provide security to passengers their belongings and Railway property. They should also be asked to assist in rescue and relief work.*

(ix) *Communication Assistance: Direct passengers to PCO booths available nearby and issue free telegram and make available STD phone to relatives of dead/injured.*

(x) *Sending manpower: Proceed to site of the accident by quickest means with trolleys, coolies, lamps, vendors and any other equipment that is considered necessary.*

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(xiii) *Protection: Protect adjacent lines then protect the same line on either side. Note the position of points etc., and clamp the points against the line on which the train is affected. Put "Line Blocked" lever collar in cabin / SM's slide control from where the lever is operated.*

(xiv) *Not leave the site of accident till the Traffic Inspector or Divisional Officers relieves him.*

(xv) *Obey the orders of higher authorities from time to time.*

(xvi) *Work as per the instructions laid down in G&SR, Accident Manual and SWR during accident.*

4.16.2.7 Safaiwalla:

(i) *Follow the instructions of the Team leader of the Rescue operations.*

(ii) *Preserve Dead bodies under the instructions of the team leader & Doctors.*

(iii) *Do all sanitation work at the site.*

4.16.2.8 Station Master at adjoining station:

4.16.2.8.1 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 position.*
- *Damage to rolling stock/ Track/OHE/Signal & Telephone installation.*
- *Approximate number of dead and injured (grievous, simple) 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.*

(vi) Nearest Fire Station. 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.

4.16.2.8.2 Medical assistance:

(i) Call for assistance from local Doctors, St.JAB, Civil and Army Hospitals, Civil defence, Scouts and guides or any such organisation.

(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.

4.16.2.8.3 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 emergency counter and display necessary information.

(iv) Obtain reservation charts and display it.

(v) Collect information of dead/injured and convey it whenever asked for.

(vi) Make frequent announcements about diversion, cancellation, and regulation of train services.

(vii) Arrange for refund of fares as per extant rules.

4.16.2.8.4 Transport assistance:

(i) Arrange for transport from local resources, for transporting injured passengers to nearest hospitals by fastest possible means.

(ii) Apart from tractor trolleys, even trucks passing on the highway can be utilised.

(iii) Stranded passengers to be transported from the accident site by train/hiring road vehicles.

4.16.2.8.5 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.

4.16.2.8.6 Communication Assistance:

(i) Direct passengers to PCO booths available nearby.

(ii) Issue free telegrams and make available STD phone to relatives of dead/injured.

4.16.2.8.7 Sending manpower for site:

(i) Proceed to the accident site 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.

4.16.2.8.8 Preservation of clues and evidences:

(i) 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.

4.16.3 Duties of TI/PWI/SI/CWI/LI:

4.16.3.1 Rescue and relief:

(i) Organise maximum number of men to go to the accident site along with their equipment & proceed by quickest available means to the accident site.

(i) Ensure that the obstructed line is protected.

(ii) Direct all staff to assist in rescue and relief work.

(iii) Work as per directions of OC Site.

(iv) Assess casualties and arrange to render First Aid.

(v) Shift injured to nearest hospital.

4.16.3.2 Joint measurements and preservation of clues/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, point 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.
- 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 logbook of the locomotive.

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

(vii) Joint measurements of Rolling stock, 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 the 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) CWS/DCWI shall prepare a sketch showing position of Rolling stock.

(xii) PWI shall prepare a final sketch indicating the position of track, w.r.t 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.

4.17 DISASTER RESPONSE – OFFICERS AT DIVISION :

4.17.1 GENERAL:

4.17.1.1 Intimation of Accident – Divisional Control Office:

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

(ii) In most cases, the First Information Report also intimates the approximate number ofcoaches 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) PCR will undertake the following action in the given order of priority:

(i) Give orders to Loco Foreman/SSE Loco for sounding the siren for ARMEs and ARTs.

(ii) Order movement of ARME and ART (with 140T crane) from adjoining divisions for approaching the accident site from the other end

(iii) Thereafter he will inform his departmental officers and supervisors.

(ix) Dy. CTNL (Punctuality.) 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. CTNL (Op.)	Operating & Safety. Stores, Personal & Accounts
• Dy. CTNL (Punctuality)	Hospital Casualty, DRM, ADRM, Medical
• TPC /CTLC	Electrical,
• S&T Control	S&T
• Engineering Control	Engineering
• PCR/CCR	Mechanical
• Commercial Control	Commercial, Public Relations
• Security Control	RPF

(xi) 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. CTNL (Punctuality) has informed Hospital Casualty, DRM, ADRM and Medical Doctors, he will then inform Dy. CTNL(Punctuality) or Dy. CTNL(Op) in Headquarters, Emergency Control regarding the accident.

4.17.1.2 Intimation of Accident – Railway Doctors:

Dy. CTNL (Punctuality) 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, and other Doctors & Para medical staff and instruct them to reach theARME immediately.

(iii) Collect necessary Medical team in the hospital.

(iv) Alert blood donors, St.JAB, Civil defence, Scouts and guides or any other such organisation.

(v) Bare minimum medical team should remain in the hospital; rest of the doctors should berushed to the accident site.

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

4.17.1.3 Informing Non-Railway Officials by the Division:

The portion having details relating to Disaster management plan i.e. relevant information such as details of civil authorities to be contacted whenever required or assistance during serious accidents (disasters) shall be dealt with by Operating Department (Chief Operations Manager) of the Railway concerned. (Rly. Bd's Letter No. 2002/Safety (A&R)/19/29 Dated 31.12.08).

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

(ii) ADRM will inform the following regarding the accident:

- IG/GRP
- ADG/GRP,
- Divisional Commissioner.
- Home Secretary.

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

(iv) In case Mailbags of RMS are involved, then postal officials should also be informed.

(v) Telephone numbers of all DM, SPs, CMSs on Divisional Commissioners & IOC, BPC andHPC officials are available in Divisional DM Plans.

4.17.1.4 Divisional Officers required to go to site:

(i) All concerned divisional officers should proceed to the accident site by the ARME.

(ii) Road vehicles should also be sent to accident site from Divisional Head Quarters.

(iii) Target time for turning out of SPARME CUM SPART- from the siding and their dispatch fromthe stations.

(i) <u>In case of double exit siding-</u>

- Time for turning out - 10"
- Time for despatch - 10"
- Time from ordering to dispatch - 20"

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

(v) All Branch Officers should proceed to the accident site. Officers heading different branches within the same department are referred as Branch Officers.

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

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

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

4.17.1.5 Supervisors required going to Accident Site:

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

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

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

4.17.1.6 Deployment of Officers and Supervisors during Disaster/Accident

Department	Control Office	Accompanying ART/ARME & reaching site	
Operating	Sr.DOM,DOM, AOM (M)	Sr.DOM(G),AOM (G)	Sectional TIs
Safety	SC/HQ	Sr. DSO /ADSO	All SCs
Commercial	DCM, DCMI	Sr. DCM, ACM	Sectional CMI/ DCMI (Marketing) CLG, HTG & TCs, Licensed Porters
Mechanical	DME	Sr. DME, ADME	CWS/BRC, DCWI, CWS / Break Down
S&T	DSTE (I)	Sr.DSTE, ADSTE, Staff - ART	Sectional SSE(T), SE/J E, TCM (Test Room)
Electric TRD	DEE	Sr. DEE/ ADEE	Nominated SSE, Technician
Engineering	Sr. DEN(Co) ADEN/W, BRC or DEN(E), ADEN (N) BRC or DEN /ADEN (W), ADEN (N) BRC	Sectional Sr. DEN /DEN, ADEN	SSE, JE & nominated P. Way Staff of ART.
Personnel	DPO	Sr. DPO	Sr. WLI/CWLI

Security	RPF Control, ASC, DSCR	Sr.DSC/ DSC	IPF, IPF/HQ, Res. Coy
Electric TRO	ADEE/TRO	Sr. DEE (TRO)	CLI/LI
Electric Power	ADEE(P)	Sr. DEE (P)	SSE (P) BRCY, JEE (I)BRCY
Medical	Sr. DMO	CMS Sr. DMO/BRC	DMO/BRC, Sr.PHR /BRC, Staff Nurse Sr.HA, Dresser BRCP, HI BRCP, Dispensary Peon BRCY.

4.17.1.7 Disaster Management Team:

Nominated officials from various departments arriving at site by ARMEs 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.

4.17.1.7.1 Members of the Disaster Management Team:

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 ARMEs, ARTs or move by road as quickly as possible.

(vi) Identifying railway personnel and they should be supplied with orange coloured armbands to be kept in ARMEs/ARTs. Adequate number of armbands, gloves and facemasks should also be provided in the ARMEs/ARTs.

(vii) Communicating with railway personnel in the crowd through Microphones/loud speakers provided in ARMEs/ARTs. These should be used both for crowd control as also for giving instructions to railway personnel working at accident site.

(viii) Once initial rescue operations have got underway, arrangements have to be made for waterand food for railway staff working at site. Contract arrangement should be made for supply offood.

(ix) Spare coaches should be stabled at nearby stations where watering and charging facilities are available for stay of staff.

4.17.1.7.2 Rescue, Relief and Restoration Operation:

DM Team on arrival by ARMEs 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.

4.17.1.7.3 Formation of two teams at accident site for round the clock working:

i) At the accident site, departmental officers available from both Head Quarters and division shall be formed into two teams for round the clock working in 2 shifts, preferably 8 hrs. to 20 hrs. and from 20 hrs. to 8 hrs.
ii) PHODs shall be available on duty during the daytime.
iii) PHODs 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 3-4 day stay at the accident site.
iv) Branch Officers shall be available on duty during the daytime.
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 3-4 day stay at the accident site.
vi) Similarly, the supervisors available from both Head Quarters and divisions shall also be put in two teams.

4.17.1.7.4 Officer-in-charge of Site (OC Site):

On arrival of ARME 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 headquarter Officers, GM shall be OC site. In the absence of GM the senior most officers shall be OC Site. He will be responsible for forming Core Groups as required and direct them to carryout efficient rescue, relief and restoration operations.

4.17.1.7.5 Photography:

Prior to starting restoration work of 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: (a) Severity of the accident.(b) 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 is suspected.
iii) Victims and unidentified bodies should also be extensively photographed.

4.17.1.7.6 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 WR,
- 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 WR'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.

4.17.1.7.7 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.
- Waving off of post Mortem formalities.
- Positioning of Municipal Officials in the CAC for issuing of Official Death Certificate.

iv) Ensure that proper assistance is rendered by each department.
v) Ensure that in addition to one vehicle available in Control Office round the clock, sufficient numbers of vehicles are available along with particulars of the Drivers.
vi) Immediately decide which officer should go by road/ART/ARME.
vii) Nominate the officer to man Control Office.
viii) Depute ADRM as in charge in Control Office if proceeding to the site.
ix) Arrange to advise the Home Secretary / Chief Secretary or other Officers of the state in case of sabotage for prompt attendance of the S. P.
x) Function as the senior most officer and as "Accident Manager'.
xi) Arrange a preliminary enquiry by Divisional Officers, in cases where an enquiry by the CRS/SAG Officers is to be held but immediate investigation of certain matters is necessary.
xii) Appoint two officers as reporters of serious accidents.
xiii) Arrange for taking joint observation/ reading by supervisors.

4.17.1.7.8 Duties& Responsibilities of Various departments:

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:

4.17.2 OPERATING DEPARTMENT:

4.17.2.1 **General (on Receipt of Information):**

Immediately after getting the information:

i) All sectional TI s 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 closest to site of accident by sending it in pushing condition.
vii) Ensure prompt clearance of standard 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 give requirement from site.

4.17.2.2 **Duties of Sr. DOM(At the site):**

1) Ensure that ARME and ART reach the site without delay.
2) Plan for trains for the prompt transport of stranded passenger at site and clearance of passenger held up at other stations.
3) Plan for regulation of Passenger, Mail/Express trains, cancellation, diversion, and termination short of destination in consultation with Headquarters.
4) Check that information regarding passengers, dead, injured (grievous and simple) is verified by Railway Doctor and approved by senior most officer at the site.
5) Details of the dead, injured (grievous or simple) their originating and destination station, ticket No. Hospitals to which sent for treatment and also particulars of next kith and kin to be obtained from the site and relayed to Emergency Control, CSO etc.
6) See that chronological log of all items of information and action taken connected directly or indirectly with accident is maintained properly.
7) Keep liaison with adjacent Divisions, Site and Headquarters.

4.17.3 SAFETY DEPARTMENT:

4.17.3.1 **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 Performa 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 staff; 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.

4.17.3.2 ***Duties of Sr.DSO (At the site):***

1) Proceed to the site of accident by first available means.
2) Inform to CSO and NDRF/SDRF after assessment of Requirement.
3) Ensure marshalling of the crane before the ART reaches site.
4) Ensure joint measurements etc. in prescribed Performa.
5) The required affected vehicles are kept for enquiry as per rules.
6) Plan for efficient movement of ART, engine, tower wagon, etc. between site and station for quicker restoration.
7) Ensure that the log diary at the site is maintained properly with details and that the Field telephone is manned.

8) *Produce public witnesses and advise S.P. and DM in time, issue press notification in local press when advised by CSO, in case of CRS Enquiry.*

4.17.3.3 ***Duties of ADSO***

1) He will reach at site by ARME/ ART/ Fastest mode of transport.
2) He will ensure that the photograph/video graph of the site is taken.
3) He will ensure that the measurement in the standard format is taken at the accident site.
4) He will ensure that proper log diaries are maintained at accident site and field telephone is manned.
5) He will keep liaison with the control and appraise the control regarding the progress of restoration work at site.

4.17.3.4 **Duties of SC (Traffic)**

1) He will assist Sr. DSO and ADSO in the following activities.
2) He will note down diary and timings of each event at site.
3) He will assist in clearing the unaffected portion of the accident-involved train both in rear and front.
4) He shall man the telephone at site.
5) He will assist in keeping liaison with control office and any other duties given by Sr. DSO/ADSO.
6) He will take the statement of guards/ operating staff and passengers if any in connection with the accident in absence of TI.

4.17.3.5 **Duties of SC (Loco)**

1) He will ensure that the Bio-data, statement of LP and ALP of the accident involved train has taken and will show to Sr. DSO.
2) He will also ensure that speedometer-graph has been removed jointly from the speedometer of the engine of the accident-involved train.
3) He will also ensure that CLI has taken charge of engine repair book in case of derailment of locomotive.
4) He will also ensure that arrangement of Breathalyzer test of the LP and ALP has been done.
5) Any other duties given by Sr. DSO/ ADSO.

4.17.3.6 **Duties of SC (C&W)**

1) He shall make thorough inspection of the accident involved coaches/ wagons and assist Sr. DSO in finding out the probable cause of the accident.
2) He will ensure that the joint measurements of wagons/coaches are taken in proper Performa.
3) He will take down the PRO particulars of the derailed wagon/coaches and will show to Sr. DSO.
4) He will also check up the brake power certificate and its validity of the accident involved train and also seize the same.
5) Any other duties assigned by Sr. DSO/ADSO.

4.17.3.7 **Duties of SC (Engg.)**

1) He will ensure that the joint observations/ measurement of the track is taken in the standard Performa as per the accident Manual.
2) He will ensure that proper sketch of the accident site is being prepared and jointly

signed.

3) He will inspect the site and also go through the track observations and measurements and will assist Sr. DSO/ADSO in ascertaining the probable cause of the accident.
4) He will seize the gang diaries and gang chart, curve register and other related documents from the concerned PWI.
5) He will note down on the spot statement of the P. Way staff working at the site if any at the time of accident.

4.17.3.8 **Duties of SC (S&T)**

1) He will inspect the accident site particularly, if points and crossing & signal gears are involved and will assist Sr. DSO/ ADSO in ascertaining probable cause of the accident. He will ensure that joint observations of cabin/panel are taken.
2) In case of accident in station yard and on points, he will note down the gauge position of the points and all levers/push buttons in the ASM rooms along with traffic inspector/SS of the station.
3) He will ensure that the communication between the site and the control is arranged at the earliest. He shall also ensure that the site telephone is manned by responsible S&T staff to assist in making calls.

4.17.3.9 Duties of SC(HQ)

1) He will attend the control office on receiving message regarding accident.
2) He will collect information related to movement of ART/ARME of divison/adjoining division and will convey to Sr.DSO/ADSO.
(3) He will collect information from control/site and will fill data in SIMS.

4.17.3.10 **Duties of SC(TrD)**

1) He will ensure that are of accident is cordon off so that no one else may get injured, If there is a breakdown of the overhead lines.
2) He will ensure that supply is cut off to the installation and also he will ensure that no one may attempt to rescue to an electrocuted person until power supply has been cut off.
3) He will ensure that discharge rods provided at site on both end & distance between discharge rod is not more than 1000m.
4) Any other duties assigned by Sr.DSO/ADSO.

4.17.4 MEDICAL DEPARTMENT:

4.17.4.1 **General on Receipt of Information:**

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.

4.17.4.2 **Formation of two teams:**

(i) Two teams of Doctors and Para medical staff would be formed. Team 'A' and Team 'B'. In case the accident site is far away from divisional Head Quarters and injured passengers are unlikely to be brought back to the divisional hospital for treatment keep bare minimum number of doctors in Team 'B' and all remaining available doctors should be rushed to accident site as part of Team 'A'.

(ii) Team 'A' – headed by CMS/MS in charge will rush to the accident site by ARME along with Team-A (12-15 doctors and 15-20 paramedics).

(iii) Team 'B' – headed by the senior most doctor amongst them will stay back at the divisional hospital; and perform duties as given below:

4.17.4.3 **Duties of Team 'B':**

(i) Establish an Emergency Cell in the Casualty Unit of Railway Hospital.

(ii) Contact adjoining divisions and organise movement of 2 more ARME to accident site, one from each end.

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

(iv) Ask the local hospitals to be in readiness to receive and provide medical treatment to injured passengers.

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

(vi) Arrange to send backup logistic support (more medical teams, Safaiwalas, health workers, St.JAB, Scouts and Civil Defence personnel) to the accident site in the 2nd and 3rd Special trains carrying from each end:

(vii) Co-ordinate with MS/CMD of adjoining Divisions/Zones to send their medical teams to the accident site by any means.

(viii) Arrange and send Adequate number of items such as Body bags, Polythene covers for dead bodies, Coffins, Dry ice.etc for handling of dead bodies.

(ix) Keep one doctor in Divisional Emergency Cell to liaison with UCC and the medical team at the accident site for Requirement of medicines either at the accident site or in various patients admitted hospitals.

(x) Prepare Railway Hospital to receive and provide treatment to inured passengers, when they are brought back from accident site.

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

4.17.4.4 ***Duties of CMS/Medical Officer:***

1) Collect all staff that can be spared and proceed to site with necessary equipment from the hospital that can be quickly get-together whilst waiting for ARME:

2) Arrange for a message to be sent to his senior Officer.

3) Report his time of arrival to the SM on duty.

4) Rough notes are recorded at the site of the accident but very detailed confidential notes including X-ray reports of the injuries sustained should be kept, after arrival at the hospital or health units.

5) Make a note in respect of the log of events and action taken.

6) Ensure that a qualified person will accompany the ARME.

7) *Write Injury report on the prescribed form for each case of injury. List of dead/injured and nature of injury to be advised immediately from the site.*
8) *Submit reports indicating the progress of injured including those receiving treatment at non-Railway Hospitals, to the MS/ DMO/ CMO daily during the first week and weekly thereafter.*

4.17.4.5 ***Duties of Medical Department at Site (Team A):****Main functions of the Medical department can be broadly classified as:*

a) *Taking out injured passengers from accident involved coaches.*
b) *Attending to injured passengers and giving them First Aid.*
c) *Preparing list of injured passengers.*
d) *Classification of their injuries.*
e) *Transporting them to hospitals and getting them admitted.*
f) *Taking an initial round of hospitals and assessment of situation.*
g) *Post admittance hospital care of the injured.*
h) *Dealing with dead bodies.*
i) *Preservation of dead bodies.*

4.17.4.6 ***General(On Arrival at the Site):***

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 has names, telephone numbers and other details of hospitals near the accident site. They should be contacted on phone for sending road ambulances along with team of doctors.*
iv) *Set up Medical Counter in UCC and CAC for passenger assistance.*
v) *Set up First Aid Posts in LCCs.*

4.17.4.7 ***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 below:*
ii) *Different teams and groups will be formed discharging various duties of the Medical department. 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.*
iv) *One group consisting of 4-5 teams of doctors and Para-medics will take out injured passengers and dead bodies from accident involved coaches.*
v) *One team will attend to injured passengers and give them First Aid and other medical treatment.*
vi) *One team will prepare list of injured passengers, note down details of their injuries and classify them.*
vii) *One team would be in-charge of transporting injured passengers to hospitals and getting them admitted.*
viii) *One team would be in-charge of post admittance hospital care of the injured.*
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.*

(x) *In case sufficient doctors are available then more groups should be formed for rescue operations.*

4.17.4.8 ***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.*

vii) *Coaches should be thoroughly searched including lavatory and vestibule portions before abandoning further search and moving on to the next coach.*

4.17.4.9 ***Attentions 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 ARME.*

4.17.4.10 ***Preparing list of passengers:***

i) *Collect list of injured passengers prepared by TS/TTEs/Train Conductors 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, and 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) *The list of injured passengers will thereafter be updated periodically, as rescue and relief work continues.*

4.17.4.11 ***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 ARMEs 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 cash from station earnings.
viii) Airlifting of Passengers.
ix) Hiring of Skilled swimmers / Divers for under water rescue.

4.17.4.12 ***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 number, 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 PCO/Cell phone etc.
v) Prepare a list of person's 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.

4.17.4.13 ***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 hospital to handle the injured persons. Decide whether the patient needs to be shifted to other hospital with better facilities and arrange to shift the patient.

v) *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.*

4.17.4.14 **Dealing with dead bodies:**

i) Problem faced by rescue teams is regarding dealing of dead bodies.
ii) In case of a major disaster, the usual complement of medical staff in any ARME is grossly inadequate for undertaking work of this magnitude.
iii) Adequate number of Safaiwalas and other health workers who have come to the accident site should be mobilized for this purpose.
iv) Often rescue and relief operations continue for more than 48 hours.
v) Dismembered bodies begin emitting foul odour after two days. Carrying out this task under such circumstances become a real problem.
vi) Target should be to extricate all dead bodies within 24 hrs.
vii) Dead bodies should be dealt with coach wise; otherwise bodies taken out from different coaches' get mixed up.
viii) 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.
ix) 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.
x) Put dead bodies in body bags.
xi) Put label written by Marker pen on each dead body in the pocket provided in body bag.
- Date _____
- Dead body Serial No._____
- Name _____
- Age_____Sex_____
- Coach No._____

xii) 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.
xiii) 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 of full length of the body.
xiv) If possible each body should also be video photographed.
xv) After photographs have been taken, each body should be placed inside a plastic bag with zip having proper labelling system where same information is also to be provided.
xvi) After this, bodies will be handed over to GRP or Local Police for safe custody.
xvii) Take necessary steps to handle unhygienic condition that may arise due to decomposed/mutilated bodies.

4.17.4.15 **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 for hiring of a couple of big halls, for keeping bodies.

vii) Rooms should preferably be at a single location 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 nominate buildings being used as temporary mortuaries. Bodies likely to be hold for more days should be embalmed.

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 posted 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 Shrouds, Polythene bags, Coffins, Dry ice from local market for dealing with dead bodies if required.

xvi) 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.

4.17.5 COMMERCIAL DEPARTMENT:

4.17.5.1 **General (on Receipt of Information):**Sr. DCM should proceed to accident site along with all other Commercial Officers by withdrawing sufficient money from station earnings.DCM will be available in Divisional Control Office for providing backup support.

4.17.5.2 ***Duties of SR.DCM:***

(i) Ensure drinking water, tea and snacks are promptly supplied.

(ii) Take charge of injured person's luggage.

(iii) Luggage of the dead passengers should be deposited with the Railway Police after properrecords and acknowledgement.

(iv) Issue advice to the next of kin of the injured and dead and furnish details to control office.

(v) Arrange for Ticket collectors, Porters and Vendors.

(vi) Arrange for ex-gratia payment as per rules.

(vii) Arrange for refunds to passengers.

(viii) Assist the stranded passengers during transshipment.

(ix) Arrange inventory of the parcels damaged and advise the CCO.

(x) Arrange buses for stranded passengers and keep record of the buses destination wise withthe number of passengers.

(xi) Provide the Railway doctors with assistance of Ticket collectors/Porters. Compile the figuresof injured and dead from all sources.

(xii) Issue advice to the Control Office/Stations for issue of free passes to the next kin of the deadand injured.

(xiii) Keep in touch with the progress of patients in hospitals and increase the ex-gratia paymentsuitably in case simple injuries turn grievous/deaths.

4.17.5.3 ***Duties of DCM & ACM:***

(i) Send sufficient Ticket Collectors, Porters, and RPF to the site.
(ii) Arrange drinking water, tea snacks quickly.
(iii) Arrange for refund at important stations.
(iv) Issue press handouts after prior approval of the DRM.
(v) Open Enquiry offices with proper staff at important stations.
(vi) Arrange for buses if required.
(vii) Arrange for reservation of stranded passengers by advising the stations. concerned andCCM (PM) where Other Railways /Divisions are involved.
(viii) Arrange labour for loading/unloading of luggage/parcels/goods.

4.17.5.4 ***Transportation of men and material to accident site:***

(i) As soon as the ARME/ART siren sounds, Available TTE/TC &Licence Porters (preferably each 50 TTEs/TCs and licensed porters) in uniform should be collected together and rushed to the accident site either by ART or first available means. ART/ARME should not be detained on this account.

(ii) The on duty commercial supervisor at the station should ensure that they proceed by the ART itself.

(iii) The 2nd and 3rd Special trains carrying backup logistic support to accident site, from each end, can send more TTEs/TCs (80% TCs/TTEs from the entire division) also by utilising from the Divisional squad if required.

(iv) 2nd and 3rd Special trains should carry Sufficient cooks and catering staff from departmental catering/catering contractor (including IRCTC) with 2 Gas stoves, 4 gas cylinders, 1000 mineral water bottles, provisions for making puries, vegetables, tea, etc. would be rushed to the site for arranging tea, biscuits, packed meals to the stranded passengers, railways working force and other officials at site.

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

4.17.5.5 **Helpline Enquiry Booths at stations:**

4.17.5.5.1 General:

(i) Helpline Enquiry Booths within WR would be opened as below:

- Originating and destination stations of the accident involved train.
- All junction stations within the jurisdiction of WR falling on the route of the train.
- Divisional Head Quarters.
- Zonal Head Quarters.
- Any other station as may be decided.

(ii) Helpline Enquiry Booths would normally be opened at following stations, depending on the route of the accident involved train:

- Mumbai Central –Surat, Nandurbar.
- Vadodara-Anand, Godhra, Bharuch
- Ahmedabad, Mehsana, Palanpur, Gandhidham
- Ratlam-Indore, Ujjain, Nagda, Neemuch,
- Rajkot, Surendranagar, Okha
- Bhavnagar, Porbandar, Veraval, Junagadh

(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 stations falling on the route of the train.
- Divisional Head Quarters of originating and terminating divisions.
- Zonal Head Quarters of originating and terminating Zonal Railways.
- Any other station as may be decided.

(iii) All Helpline Enquiry Booths shall have DOT phones with STD, dedicated help line **No. 1072**. Railway Telephones with STD/fax, PC with printer & Internet connection.

(iv) Computer literate Sr. supervisors of commercial department would man Helpline Enquiry Booths round the clock.

(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 of the accident from the UCC and pass on the same to: All Help line Enquiry Booths within the division, Emergency Cells of other divisions of WR & Head Quarters Emergency Cell.

(viii) Such information should be received from UCC by E-Mail and transmitted by E-Mail to all concerned.

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

(x) Headquarters' 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 division of WR, Emergency Cells opened on originating and terminating Zonal railways & Safety Directorate's Emergency Cell in Railway Board.

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

4.17.5.5.2 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 onthe notice board.

(vi) For this purpose Computer printout of E-Mail received should be taken out and Displayed atnumber of places at the station.

(viii) 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.

(ix) Identification of dead bodies takes much longer since either:

- *They were travelling 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 comefrom their hometown.

(x) This aspect of identification of dead bodies and reasons for delay should be explained to thepublic.

(xi) Number of dead bodies identified, and their names should be available.

(xii) This information would continue to be updated once every 3 hours and would continue to be accessed for the next 4 to 5 days.

4.17.5.5.3 Information regarding running of trains:

(i) Departure of unaffected portions of the accident involved train, its diverted route, andexpected time of arrival at destination.

(ii) Expected date and time of starting of relatives special from originating and destination stations of the accident involved train, its stoppage en-route and its expected time of arrivalat intermediate stations.

(iii) 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.

(iv) Details of other trains that were scheduled to run on the accident affected section, but have been Delayed, Regulated, Diverted, Rescheduled, Short terminated and cancelled.

(v) Above information regarding running of trains would be required for initial 24 hrs. Thereafter, number of enquiries regarding train running would be very few and far between.

4.17.5.5.4 Refunds:

(i) Booking counters at stations should 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 and 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.

4.17.5.6 **Site management:**

i) At the accident site, handpicked commercial supervisors should be deputed for manning commercial counters in UCC and CAC.

ii) Each commercial counter in CAC is to be manned by one group.

iii) Different teams and groups will be formed for discharging various duties of the commercial department. Each team should consist of 4-6 members and each group should consist of 3-5 teams, depending upon requirement.

iv) Separate teams and groups should be formed as detailed below, headed by a commercial officer.

v) One team will hire road vehicles for use and other related activitie.

vi) One group will arrange beverages and food both for injured as also for uninjured.

vii) One team will take an initial round of hospitals along with doctors and assess the situation.

viii) One group should take care of uninjured passengers who have to be cleared from the accident site.

ix) One group will assist Medical department in preparing a list of injured passengers input the same into the PC in CAC.

x) One group will assist Medical department in shifting injured passengers to hospitals.

xi) One group will assist the Medical department in preparing a list of dead bodies and looking after them.

xii) One team will make ex-gratia payment to injured passengers and next of kin of dead.

xiii) One team will deal with refund cases and claims compensation formalities.

xiv) One group will be in-charge of unclaimed luggage and other consignments.

xv) One group will be in-charge of post admittance hospital care of injured and taking care of relatives under 'Passenger Care".

4.17.5.7 **Main Functions of Commercial Department at the site:**

Main functions of the Commercial department can be broadly classified as:

a) Withdrawal of cash from station earnings.
b) Hiring of road vehicles.
c) Catering to injured and uninjured passengers.
d) Initial round of hospitals and assessment of situation.
e) Preparing list of injured passengers.
f) Transporting them to hospitals and getting them admitted.
g) Payment to ex-gratia to injured and next to kin of dead.
h) Dealing with refund and claims compensation formalities.
i) Taking charge of luggage and consignments.
j) Post admittance hospital care of the injured.
k) Taking care of relatives.
l) Payment to staff if required.

4.17.5.7.1 Withdrawal of cash 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.(sub rule 8).*
- *Ex-gratia payments to persons involved in train accidents. (Sub rule 22).*

ii) *Before SR. DCM leaves for accident site, should withdraw sufficiently large amount of cash from station earnings to meet with immediate requirements at the site.*

iii) *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.*

iv) *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.*

v) *This requisition should be made in the form appended below indicating the officials making such withdrawal, the departmental officer concerned and also the purpose of withdrawal.*

From To
Name of Supervisory Official Station Master
Designation Station
Please arrange to pay from Station Earnings an amount of Rs._____(Rupees _____) towards_____(Purpose to be indicated). This is one of the authorised items of withdrawal from station Earnings. The expenditure is chargeable to the head_____.
Accounting Authority _____
Controlling Officer _____
Designation_____
Station _____
Payment made from Station Received an amount of Rs._____
Earning amount: from station earnings
Signature of Signature:
SM/SS 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. DAO 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 and Appeal Rules.*

Account:

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 supporting paid vouchers. The Branch Officers shall monitor timely submission so that they reach Accounts 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 CCM*

v) *A monthly return of requisitions issued during the period should be submitted to the Accounts Office by Executive Officers.*

4.17.5.7.2 Hiring of Vehicles & Mobile Phones:

(i) *A large number of road vehicles are required at an accident site for following purposes:*
- *Taking injured passengers 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.*

(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 driversfor 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".*

4.17.5.7.3 Catering arrangement:

(i) *Arrangements for supply of food and beverages to not only injured but also to otherpassengers 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.*

4.17.5.7.4 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 that 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 charge by any available mode of transport and also incur expenditure for carriage of passengers' luggage, etc.*

4.17.5.7.5 Preparing list of injured passengers:

(i) *Collect list of injured passengers prepared by TS/TTEs/Train Conductors 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, and ticket number, originating and destination station.*
- *If found Unconscious: Approximate age, sex, identification marks, ticket number and other particulars if relatives and friend are available.*

(iv) *Once the preliminary list of injured passengers has been prepared, the CMS/MS in charge should sign the list 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 also be E-Mailed to the Divisional Emergency Cell and Headquarters' 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.*

4.17.5.7.6 Amount of Ex-Gratia payable:

The amount of ex-gratia relief to be paid to the dependents of dead and injured passengers involved in Train Accidents and untoward incidents as defined under Section 123 read with section 124 and 124-A of the Railways Act, 1989 and to the road users who met with an accident due to Railway's prima facie liability at Manned Level Crossing Gate Accident. The revised rates and compiled instructions are as below:

1. ***Amount of ex-gratia for train accidents, untoward incidents and manned level crossing gate accidents***

Sr. No.	***Type of accident***	***Amount of exgratia for Death***	***Amount of ex-gratia for Grievous Injury***	***Amount of exgratia for Simple Injury***
1.	*Train Accident (as defined under Section 124 of the Railways Act, 1989)*	*Rs.5,00,000/ (Rupees five lakh only)*	*Rs.2,50,000/ (Rupees Two lakh fifty thousand only)*	*Rs.50,000/ (Rupees fifty thousand only)*
2.	*Untoward Incident (as defined under Section 124- A of the Railways Act, 1989)*	*Rs.1,50,000/ (Rupees one lakh fifty thousand only)*	*Rs.50,000/ (Rupees fifty thousand only)*	*Rs.5,000/ (Rupees Five Thousand only)*
3.	*Accident at Manned Level Crossing (due to Railway's prima facie liability)*	*Rs.5,00,000/ (Rupees five lakh only)*	*Rs.2,50,000/ (Rupees Two lakh fifty thousand only)*	*Rs.50,000/ (Rupees fifty thousand only*

2. ***Additional Ex-gratia relief in case of hospitalisation of grievously injured passengers beyond 30 days.***

In case of train accident	***In case of untoward incident***
Rs. 3000/- per day to be released at the end of every 10 day period or date of discharge, whichever is earlier.	*Rs. 1500/- per day to be released at the end of every 10 day period or date of discharge, whichever is earlier upto further six months of hospitalisation.*
	Thereafter, Rs. 750 per day be released at the end of every 10 day period or date of discharge, whichever is earlier upto further five months of hospitalisation.

a) *Lump sum amount of ex-gratia for hospitalisation of grievously injured passengers upto first 30 days is as mentioned in table at para (1) above.*

b) *The maximum period for which ex-gratia is payable to the grievously injured passenger will be 12 months.*

2.1 This ex-gratia relief will be exclusively for passengers who are grievously injured in train accidents or untoward incidents as defined under section 123, read with section 124 /124-A , of the Railways act , 1989.

2.2 The period for treatment as indoor patient for more than 30 days would need to be certified by a Railway Doctor for the purpose of further ex-gratia payment upto the period of remaining 11 months. In case where the injured is taking treatment in other than Railway Hospital , the treatment has to be certified by Railway Doctor.

2.3 Sr. Divisional Medical Officers shall also keep track of such injured person taking treatment in other than Railway hospitals. Sr.DCM/DCM shall keep co-ordination with Sr.DMO for the purpose and arrange payment of ex-gratia as per the prescribed schedule mentioned in the table in para 2 above at the doorstep of injured person. Every care shall be taken by Sr.DCM/DCM to avoid any inconvenience to injured person in such cases

3. Mode of payment of ex-gratia/enhanced ex-gratia

3.1 Maximum amount of upto Rs.50,000/- to be paid in cash as an immediate relief for taking care of initial expenses.
3.2 Remaining amount to be paid by Account Payee cheque / RTGS / NEFT/ any other online payment mode.
3.3 Notwithstanding anything contained in para 3.1 and 3.2 above, Railways may disburse the entire amount of ex-gratia / enhanced ex-gratia by Account Payee Cheque/RTGS/NEFT/ any other online payment mode, if deemed appropriate.

4. Other terms and conditions

4.1 No ex-gratia relief would be admissible to road users in case of accident at Unmanned Level Crossing, trespassers, persons electrocuted by OHE (Over Head Equipment).
4.2 Ex-gratia payment in case of train accidents and untoward incident are not to be taken into account at the time of final claim for compensation.
4.3 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 Accident, will be counted towards the amount of compensation payable, if action is tenable against the Railways under the Law of Torts and an award is actually granted by a Court of Law.
4.4 Ex-gratia payment should also be made to railway servants killed or injured by a moving train while performing their duty, for example, gangman working on track run over accidentally by a moving train.
4.5 Payments should be sanctioned / arranged preferably on the spot by a Senior Scale Officer nominated by the General Manager after making such enquiries as can be reasonably made on the spot after the immediate needs by way of medical attendance etc. to injured persons are attended to.

4.17.5.7.7Refunds 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.

4.17.5.7.8Luggage 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 toidentify.

(viii) A list should be displayed outside each room indicating 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 come and take over custody.

4.17.6 MECHANICAL DEPARTMENT:

On Receipt of Information Sr. DME as well as AME should proceed to site of accident. DME will be available in Divisional Control Office for providing backup support.

4.17.6.1 Duties of Sr. DME:

1) Supervise working of cranes and clearance/rescue operation.

2) Ensure that Speedo graphs, engine repair Books etc. are seized/sealed.

3) Note down observations, make arrangements to record measurements if loco is involved in accident. If it is not possible for all types of measurement to be taken on the spot then these should be taken to the shed. All relevant records should be sealed in shed.

4) Record the details regarding brake power and other aspects of Rolling stock as per prescribed Performa.

5) Have the joint measurements of the rolling stock taken.

6) Check the fitness of the stock supposed to move from the site.

7) Assisting clearance/Rescue operation.

4.17.6.2 Duties of ART Staff

(i) Proceed to the site of accident. Assisting evacuating passengers if any trapped under/ inside coaches involved in accident.

(ii) Record the details regarding brake power and other aspects of the rolling stock as per prescribed Performa.

(iii) Should have the measurement of the rolling stock taken as per the prescribed procedure / procedure.

(iv) Should check the fitness of the stock, which are supposed to move from the accident site.

(v) Should ensure that loco/coaches/wagons re-railed are in a fit condition to be taken from the accident site.

(vi) Plan for efficient movement of ART, Engine, Tower wagon etc. between site and station for quicker restoration.

(vii) Ensure safe and efficient working of cranes, Hydraulic re-railing equipment and other rescue devices.

(viii) Ensure that the log/diary regarding restoration at the accident site is maintained properly.

4.17.6.3 Rushing of men and material to site:

(i) *2 ARTs with 140 Crane should be moved to the accident site, one from each end.*
(ii) *In addition to above, Brake down Special should be sent from other base stations within WR, so that additional rescue equipment such as cutters, spreaders, hydraulic jacks etc. are made 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.*
(iv) *The aim should be to ensure one ART with 140T crane along with one BD special at each end of the accident site.*
(iv) *Provision should be made for availability of standby crane driver on each ART working at site to work round the clock.*
(v) *Road cranes of sufficient capacity should be arranged.*
(vi) *Trucks should be arranged for carrying BD equipment near to accident coaches, so that work centres can be opened up simultaneously from both ends.*

4.17.6.4 Duties of Mechanical Department On arrival at Site:

Restoration is the prime responsibility of Mechanical Deptt. For discharging the dual responsibility of extricating injured passengers and dead bodies form 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 ARMEs, 2 ARTs and 2 Break Down 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 of 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 directions of another AME. The second AME concerned would 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. Safe 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 centre 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 centres can be opened up.

(xii) Examine unaffected or re-railed rolling stock and certify their fitness for further movement.

4.17.7 SECURITY DEPARTMENT:

On receipt of Information Sr.DSC will proceed to the site by ARME along with maximum number of RPF personnel, only one officer will stay back at divisional Head Quarters.

CSC/RPF will also proceed to the accident site along with Dy.CSC. CSC/RPF will assume control and take necessary steps for discharging duties allotted to security department.

4.17.7.1 Duties of DSC (RPF):

1) Post adequate number of RPF staff at the accident site and other place where assistance is required.

2) Ensure security of passenger's belonging, security of parcels, damaged goods and parcels vans etc.

4.17.7.2 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 accident site by fastest available means.

(ii) The Post/Outpost in charge would requisition additional manpower form adjoining RPF posts.

(iii) Pass on the information to Local Police and Police Control Room, local Fire Brigade, Hospitals, local voluntary organisations at the earliest.

(iv) Divisional Security Control shall get reinforcement from neighbouring posts /outposts, reserve line, divisional headquarters or Zonal reserve and send them by the ART. If they

could not be sent by the ART then definitely send them by the 2nd and 3rd Special trains carrying backup logistic support to the accident site.

(v) If any RPF battalion/Company is located in the vicinity, men can be requisitioned from there for dealing with emergent situations till additional force made available from other sources.

(vi) Additional RPF personnel from Zonal headquarters 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.

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

4.17.7.3 Duties of Security Department on arrival at site:

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.

4.17.7.3.1 General:

(i) RPF personnel should respond to any call for assistance to rescue victims and transport them to the nearest hospital.

(ii) 3 – hourly Satraps 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.

4.17.7.3.2Co-ordinate with Local Police:

Maintain constant liaison with IG/GRP and ADG/GRP for following.

(i) Rushing all available GRP personnel to the accident site.

(ii) Obtain additional manpower from the local police for purpose of crowd control.

(iii) Issue necessary instructions to local police for expeditious clearance &Restoration.

(iv) Issue necessary instructions to SP of the district for waiving off formalities of Post Mortem on dead bodies.

(v) *In case of sabotage, liaison with Local Police & officials of district administration and get early clearance.*
(vi) *Clearance should be obtained as expeditiously as possible, for starting restoration work.*
(vii) *Additional manpower should be requisitioned from local police officials and district administration for purpose of crowd control.*
(viii) *Exemption should be obtained from SP of the district for waiving off formalities of Post Mortem of dead bodies.*
(ix) *Obtain assistance from GRP and Local Police as and when required.*

4.17.7.3.3 Crowd Management:

The first problem at an accident site is that of surging crowd. Carrying out any kind of rescue and relief operation becomes next to impossible. Railwaymen 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 makeshift 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) *Provided barricade and ask for additional force to control crowd during VIP visit.*

4.17.7.3.4 Protection of luggage:

(i) *Protect unclaimed luggage of passengers till these are duly taken over by commercial department for safe custody.*
(ii) *Unclaimed luggage of passengers should be isolated and stacked coach-wise, with proper labelling 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 toidentify.*

4.17.7.3.5 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 commercialdepartment.*

(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.

4.17.8 ELECTRICAL DEPARTMENT:

On receipt of Information Sr.DEE(P), AEE (P) Sr.DEE/TRD as well as AEE/TRD should proceed to site of accident.
CEE and CEDE and other JAG officers from Head Quarters will proceed to accident site.

If EMU/DMU/MEMU or Electrical Locomotive is involved, Sr DEE (TRO)should proceed to the site with adequate number of breakdown staff by quickest available means. (Call the relief train, if required)

(i) DEE(P) and DEE/TRD will be available in Divisional Control Office for providing backup support.
(ii) Maximum number of electrical staff should be send by the 2nd and 3rd special trains for installation and operation of electrical equipment.
(iii) Officers staying back in divisional headquarters shall maintain constant liaison with site and arrange assistance required by way of men and material from Railway sources within the division, from adjoining divisions and zones and from Non-Railway sources within the division.

4.17.8.1 Duties of Sr. DEE (Power):

1) Arrange for adequate illumination at the accident site.
2) In case of fire in coaches, immediately arrange to collect/record evidence of passengers.
3) Jointly examine the coach to ascertain the cause and damage.

4.17.8.2 Duties of Sr. DEE (TRD):

1) Arrange for adequate number of OHE breakdown staff, tower wagon and proceed toaccident site by the quickest available means.
2) Ensure that OHE is made dead and OHE is slewed as per requirement.
3) Arrange and supervise restoration of OHE, expeditiously.
4) Record all relevant information concerning the accident.

4.17.8.3 Duties of Sr. DEE (TRO):

1) Depute officer in the control office.
2) Note down joint observation regarding the Loco/ EMU/DMU/MEMU
3) Ensure that measurements of the Loco/ EMU/DMU/MEMU are taken on the spot /whereverpossible otherwise in Car/Loco shed.

4) Ensure that records for maintenance of Loco/ EMU/DMU/MEMU repairs are sealed in theshed.
5) Ensure prompt and sufficient arrangements for clearing the line.

4.17.8.4 Duties of Electric Department on Arrival at site:

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 ARMEs, 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.

4.17.8.4.1 *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 (P).

(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 any other requirement as necessary.
(iii) Thereafter, he would assess the quantity of electrical fittings and generating sets available in ARMEs and ARTs.
(iv) In order to set up adequate illumination facilities, all generating sets and lighting fixtures available in ARMEs 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 Plan.
(x) Once generators and lighting fixtures have been setup, 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 arranged for from other zone after discussion with RE organisation.
(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.

4.17.9 SIGNAL & TELECOMMUNICATION DEPARTMENT:

On receipt of Information Sr. DSTE as well as ASTEs should proceed to site of vvvaccident. DSTE will be available in Divisional Control Office for providing backup support.

CSTE along with HODs and other JAG officers from Head quarter will proceed to accident site.

(i) Main responsibility of S&T Department will be for providing effective and adequate means of communication.
(ii) Rushing of men and material to site:
(iii) Arrangement of communication at site:
(iv) Communication at Headquarters and Divisional Emergency Cell:
(v) Communication at Helpline Enquiry Booths:

4.17.9.1 Rushing of men and material to site:

(i) *Sr. DSTE ,ASTE along with two TCI and two TCM will carry the Satellite phone , FAX, Two 25W VHF sets along with antenna and battery, 10 numbers 5W walkie-talkie sets to the accident site.*

(ii) *6 more TCI/TCM, SIs of the section and maximum number of telecom staff should be sent for installation and operation of telecom equipment by either ART or latest by 2nd or 3rd special trains to the accident site for carrying backup logistic at the accident site.*

(iii) *Satellite phones of HQ and Mumbai Central division and one FAX machine will be carried in GM special by at least two TCI and two TCM of Mumbai division.*

(iv) *All mobile phones along with sufficient number of spare batteries and chargers available with the Division should also be rushed to site for emergency use.*

4.17.9.2 Arrangement of communication at site:

(i) *DSTE/ASTE in the division will immediately come to divisional control office and ensure setting up of all communication arrangements as required.*

(ii) *DSTE will keep a record of the numbers of Railway telephones, BSNL telephones, INMERSAT phones provided at site and telephones provided at Helpline Enquiry Booths. This information shall be passed on to the Divisional Emergency Cell. All satellite telephone no. should be displayed at Divisional control and Central Emergency Control.*

(iii) *DSTE/ASTE should liaison with BSNL officials in the area for immediate provision of additional BSNL telephone at the accident spot, nearest station and at Helpline Enquiry Booths duly utilising assets under his disposal.*

(iv) *Map of the division showing areas where cell phone connectivity is operative is available in Divisional DM plan. This should also be displayed in divisional control.*

(v) *Should have standing arrangement to hire sufficient cell phones and send them to accident site.*

(vi) *Obtain E-mail addresses of Emergency Cells set up on other Divisional and Zonal headquarters.*

4.17.9.3 Communication at Headquarters and Divisional Emergency Cell:

(i) *Communication arrangements are required to be provided at Western Railway headquarters' Emergency Cell immediately.*

(ii) *One BSNL Telephone having ISD/ and three BSNL telephone having STD facility should be made available in the Headquarters' Emergency Control. Dynamic locking code of the telephone should be available with CTNL/Emergency. FAX machine should also be provided on one BSNL telephone in the Emergency control.*

(iii) *Four other BSNL telephone numbers (2 with STD facility) and 2 Railway telephone numbers with STD facilities should be made available in headquarters' Emergency Cell for use by Chief Emergency Officer. These should be temporarily transferred from officers' chambers.*

(iv) *Similar Communication arrangements should also be provided in the Divisional Emergency Cell.*

4.17.9.4 Communication at Helpline Enquiry Booths:

(i) Helpline Enquiry Booths are to be opened at all important stations en-route of the affected trains.

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

(iii) One BSNL STD phone, 2 Railway Phones, One FAX machine, Photocopier, PC with Internet connection (if feasible) and printer should be identified and kept pre-wired to the Helpline Enquiry Booths so that this can be energised at short notice. A especially dedicated no. of 1072 should also be provided at such identified station.

(iv) Stations at which such arrangements are to be made and telephones, which are to be utilised, should be identified by Sr. DSTE with approval of DRM.

4.17.9.5 Duties of Sr. DSTE:

1) Ensure that a detailed record is made of all evidence bearing on the accident so far as S & Tand interlocking are concerned.

2) Preserve clues and seal the relevant equipment/documents if required.

3) Restore the signaling and interlocking for normal working immediately.

4.17.9.6 Duties of Signal & Telecommunication Department at accident site:

Duties of S&T department consist of providing sufficient and reliable means of communication at the accident site and other work centres.

4.17.9.6.1 Types of communication facilities& Locations:

The communication facilities to be provided at (i) UCC,(ii) CAC, (iii)LCCs, (iv)Hospitals,(v) Mortuary, and any other locations as decided and facilities to be are (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.

4.17.9.6.2 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 25W VHF set shall also be provided in UCC.

(vi) One 25W VHF set shall be installed in a road vehicle so that mobile communication can beset up, upto a range of about 15-20 Kms.

(vii) Railway telephones – each functionary in UCC, CAC and LCCs should becovered.

(viii) In RE area emergency sockets will be utilised for extending communication to the accident site and in non-RE area where 6 Quad cables is available the same will be utilised for providing communication.

(ix) PA system – at UCC, CAC and LCCs.

4.17.9.6.3 Public Address System:

(i) PA system should be provided in UCC, CAC and LCCs.
(ii) These are also to be provided for communicating with passengers and for giving directionsto railway staff. For this purpose, additional PA systems may become necessary depending upon the requirements at accident site.
(iii) Mega mikes available in ART will also be utilised for twin purpose.
(iv) Volume of PA system in UCC, CAC and LCCs should be so adjusted that announcements made over one of them reaches only those areas which are under its jurisdiction. It should not interfere with announcements being made by other PA system.

4.17.9.6.4 Other accessories:

(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.

4.17.10 ENGINEERING DEPARTMENT

On Receipt of information:Sr.DEN/DEN concerned will proceed to the site of accident by ARME. In the absence of Sr. DEN(HQ), the next senior most Sr.DEN/DEN of the division will proceed along with the concerned DEN. In the absence of Sr.DEN/DEN of the section, Sr.DEN/DEN of the adjoining section will proceed by ARME.

PCE along with HODs and other JAG officers from Head quarter will proceed to accident site.

It is expected that ADEN and Permanent Way Inspector of the Section would have already reached the accident site before arrival of ARME. In case, where the Permanent Way Inspector and ADEN are based at divisional headquarter, 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.

4.17.10.1 Duties of SR.DENs/DENs:

1) Ensure joint measurements are taken and sketches of the accident site are accurately drawnout.
2) Ensure collection of adequate labor and material and their proper deployment for speedy restoration.
3) Depute one DEN/AEN in control Office for planning, reinforcement of labour, material andstaff.
4) Ensure that inspection notes and diary of AEN, PWI, gang charts, maintenance records etc.,are seized and secured.
5) Assistant other Departments in clearance of line and ensure that track is rendered fit andcertified at the earliest.

4.17.10.2 Duties of Engineering Department at the site:

(i) AEN/SSE (P. Way /Bridge) 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) 2 Engineering specials, one from each end, carrying engineering material and Gangmen from the section.
(vii) Additional requirement 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) 500 additional workmen are required who are to be moved from adjoining divisions/zones.
(x) Each such division sending assistance should move 250 men along with 5 artisans and 5 PWIs.
(xi) One DEN and one AEN each should also move to the site of accident from each such division.
(xii) Plan for co-ordinated working and movement of track machine for quick restoration in consultation with TRD and operating officials.

4.17.11 IT DEPARTMENT:

The following should be arranged by Sr. EDPM/EDPM in HQ:-

(i) Disaster Management Cell, which will be used as Headquarters' Emergency Cell, should be provided with additional PCs and should be connected to Rail net and the E-Mail addresses already configured into them should be activated.
(ii) Similarly additional PCs in divisional control office nominated for being used in Divisional Emergency Cell should also be shifted and should be connected to Rail net and the E-mail addresses already configured into them should be activated.
(iii) PCs in various Helpline Enquiry Booths at different stations should all be made functional, connected to Rail net and made ready for receiving and sending E-mails.
(vi) Sr. EDPM in association with PRO should be uploaded below information on to Western Railway's Website **www.westernrailwayindia.com** as quickly as possible:

- 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.
- Details of diverted, regulated, short terminated, cancelled or rescheduled trains.

- Details of Passenger special trains for passengers to be run: (a) front portion of accident involved train. (b) rear portion of accident involved train. And (c) Relatives special from originating and terminating station of the accident involved train.

4.17.12 ACCOUNTS DEPARTMENT:

(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 payment, if so announced at accident site by Honourable MR.

4.17.13 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 hospital.
(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) Man personnel branch counters in CAC and discharge duties listed out for those counters.

4.18 DISASTER RESPONSE – CO-ORDINATION CENTERS:

4.18.1 Rushing of ARMEs & ARTs to accident site:

(i) *After ARMEs and ARTs have been ordered, PCR should locate diesel powers for these ARMEs 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 ARMEs and ARTs should be moved out by Electric 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 division.*

(v) *Requisitioning of diesel power should be done from following sections in the given order of priority:*

Vadodara Division:

(a) Main line section of Vadodara division.
(b) Anand – Godhara section.
(c) Ratlam division.
(d) Ahmedabad division.
(e) Mumbai Central division.

(vi) *Movement of ARME and ART should never be clubbed together. ARME should be started first and moved separately for faster movement.*

(vii) *ARMEs and ARTs should be dispatched from the base station, within the target time stipulated. Departure of ARMEs 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 even by road.*

(viii) *ARMEs 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 utilise facilities of ARME after its arrival at site.*

(ix) *ARMEs 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.*

(x) *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.*

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

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

(xiii) *Even for stabling beyond 7 stations, both up and down loop lines should not be blocked at the same station.*

(xiv) *For stabling beyond 7 stations, up loop and down loop should be blocked, at alternate stations.*

4.18.2 Movement of Passenger Trains:

(i) The moment information is received about the accident, all Mail/Express trains on runtowards 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) Too many trains should not be simultaneously brought to a Jn. station for regulation, since it may create law and order problems.

(v) 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's Emergency Cell shall decide the Diversion, Regulation, Short termination, Cancellation, and Rescheduling of trainsin consultation with adjoining Railway and Coaching Directorate of Railway Board:

(viii) The above decision regarding diversion etc. should be taken in about an hour's time after ARMEs, 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.

(xi) Sr. DEE/TRO would be in charge of co-ordination with operating department regarding requirement and availability of crew.

(xii) Sr. DEE/TRO will take into consideration changing traffic requirement and plan crew deployment accordingly.

(xiii) Adjoining divisions should be informed about these diverted trains to sent spare crew to interchange points.

(xiii) Necessary road learning should be arranged for diverted trains crew.

(xv) Drivers nominated for working these diverted trains should be empanelled for workingMail/Express as per Railway Board's instructions.

(xvi) Crews should also be planned for diesel engines sent to the accident site working ARMEs,ARTs, other special trains and likely to be held up there for next 2-3 days.

(xvii) A total of about 10 diesel powers would be deployed in the accident-affected section ondifferent special trains at any point of time.

(xviii) 3 sets of diesel crews should be planned for each diesel loco deployed at the accident site.

(xix) If required necessary diesel crew should be arranged from adjoining divisions.

(xx) In the absence of Sr. DEE /TRO, DEE/AEE (TRO) will perform this function.

4.18.3 Running of Special trains:

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

(i) ARME

(ii) ARME from the other end.

(iii) Two additional ARMEs from adjoining divisions, one from each end.

(iv) ART.

(v) ART from the other end.

(vi) Two additional BD Specials one from each end.

(vii) 1st special train carrying GM and other officers from Headquarter and some left over officersfrom division (in case it passes through the divisional headquarter).

(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) Two 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 hours after arrival of ARME carrying DRM and other divisional officers at the accident site.

(xiii) Before these 2nd and 3rd special trains run from each end, railway staff at all stations en-routeshould 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) Two light engines should be stationed, one at each station on either side of the accident involved block section.

(xv) Two 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 Headquarters' 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) Two 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.

4.18.4 Sequence of movement of ARMEs 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 theblock 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, thenthese should be withdrawn before sending in ARMEs into the block section.

(iv) After the unaffected front and rear portions have been pulled out, both portions should beaugmented 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 ARMEs reaches adjacent stations from either side, they should be sentinto the block section, one from each end.

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

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

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

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

(xi) Both ARTs with 140T 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 ARMEs are still there.

(xiii) After transhipment 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 ARMEs 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 sendingdiesel light engines into the block section.

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

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

4.18.5 Setting of Divisional Emergency Cells:

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

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

(iii) It shall function in a separate cubicle at Divisional Control Office provided with centralised communication networks, hot line to the site and Headquarter.

(iv) Sr.DOM will be over all incharge 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 will be the Divisional Emergency Officer.

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

(vii) Requirements of all departments for movement of men and materials to the accident siteshall 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, carryingbackup logistic support will be conveyed to all concerned beforehand.

(ix) Divisional Emergency Cell will maintain:

- *(a) Telephone and FAX numbers, functionary wise available in UCC.*
- *(b) Telephone and FAX numbers, functionaries available in CAC.*
- *(c) Telephone and FAX numbers of Helpline Enquiry Booths at various stations on the division.*
- *(d) E-Mail addresses of UCC, CAC, Helpline Enquiry Booths and Headquarters' EmergencyCell. E-Mail addresses of some of them are given in Annexure-5.*
- *(e) Names and phone numbers of hospitals where injured have been admitted/shifted, alongwith 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-Mal to:
(a) All Helpline Enquiry Booths within the division.
(b) Headquarters' Emergency Cell.

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

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

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

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

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

4.18.6 Manning of Divisional Emergency Cell:

(i) Divisional 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, Commercial, Medical, Security, Safety and Personnel departments in the Divisional/Headquarters' Emergency Cell round the clock.

(iii) Divisional Emergency Cell will be manned by Senior Scale/Junior Scale officers of all departments in 12 hours shift duties round the clock (8 hours to 20 hours day shift and 20 hours to 8 hours night shift).

(iv) Senior most officer of each department who is available in the Division/ Headquarters' shall be on duty in the Divisional Emergency Cell during the day shift only. (8 hrs. to 20 hrs.)

(v) Senior most officer of each department shall issue a 12 hours roster for his own department for the night shift. (20 hrs. to 8 hrs.)

(vi) Round the clock roster of 12 hours shift duty should cover both officers and supervisors.

(vii) Same officers and supervisors should be repeated each day without any change or rotation, for the next 4-5 days. This will maintain continuity and will ensure that experience gained on the first day can be gainfully used on subsequent days.

4.18.7 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 division/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.

4.19 DISASTER RESPONSE – ASSISTANCE FROM ADJOINING DIVISIONS/ZONES:

4.19.1 Necessity of assistance from adjoining Divisions/Zones:

(i) No division can be equipped to handle a disaster of such a large magnitude like Ferozabad 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 50 injuries (Grievous). 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-ordinate by the Chief Emergency Officer in Head Quarter's Emergency Cell.

4.19.2 Assessment of assistance from adjoining Divisions/Zones:

(i) DRM after reaching the accident site should make an immediate assessment of likelyinjuries.
(ii) Quick assessment is an absolute must 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 (no. of coaches) x 30.
(vi) This should be conveyed to Sr.DOM in Divisional Emergency Cell and Chief Emergency Officer in Head Quarter's Emergency Cell.
(vii) Based on the above figures, decision should be taken and assistance rushed from adjoining division and zones.

4.19.3 Scale of assistance from adjoining Divisions/Zones:

(i) As a thumb rule, assistant of 1 team should be sought from adjoining division for every 50additional injuries, beyond 50 injuries.
(ii) In case of all disasters, following should be used as an approximate guideline for decidinglevel of assistance required:

Threshold level	100>injuries<50	200>injuries>100
No. of teams	1 team	3
ARMEs/ SPARTs	2	2 + 2
140 T crane	2	2+2 breakdown

(iii) Complement of staff in each team sent by adjoining divisions/zones will be as per normsgiven 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

Assistance should be sought from following divisions in the given order of priority:

Name of division	No. of Teams
ADI Division	2
Mumbai Division	1
Ratlam Division	1
Kota Division(WCR)	1
Rajkot Division	1
Total	6

4.19.4 Assistance from Defence& Para Military Forces:

As per Disaster Management Act 2005, various Ministries and departments under Government of India, should join hands for mutual assistance in case of 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. Assistance of NDRF could be of great help to the Railways in major Railway Disasters.

Details of NDRF battalions covering Vadodara division is as under:

S.N	Name of the Commandant Location of Deployment	Telephone no.	Control Phone No.	Divisions Covered
1.	Shri. Surender Singh Commandant, 6th Bn NDRF Jarod,Halol Highway, Vadodara (Gujarat)	02668-299201 09870006730	09429199493	BRC,ADI,RJT,BVP & BCT (Partially)

(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 a war like situation.
(iv) Therefore, divisional/Zonal headquarters should get in touch with the nearest NDRF commandant and request for necessary assistance.As per Boards letter No.2003/ Safety(DM)/6/3 dated 05.08.2010.

4.19.5 Departmental assistance from adjoining Divisions/Zones:

4.19.5.1 S&T Department:

(i) Satellite telephones from ARTs of remain divisions of Western Railway as required .
(ii) 5 existing Mobile Telephones from 5 remaining divisions (25 Mobiles in all) should be sent to site.

4.19.5.2 Electrical Department:

(i) Generators from ARTs of adjoining division.
(ii) Lighting equipment from ARTs of adjoining division.
(iii) Portals and OHE masts.

4.19.5.3 Civil Engineering:

(i) 500 additional workmen are required are to be moved from adjoining divisions/zones.
(ii) Each such division sending assistance should move 250 men along with 5 artisans and 5 PWIs.
(iii) One DEN and one AEN each should also move to the site of accident from eachsuch division.

4.20 SITE MANAGEMENT PLAN:

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 setup at an accident site. The outline schematic plan of accident site is given at Annexure-I.

4.20.1 Unified Command Centre (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) Detail schematic plan of UCC is given at Annexure-II. UCC is to be manned by staff of relevant departments such as: Medical, Commercial, Operating, Safety, Security, Public Relations, Mechanical, Electrical, S&T and 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 Headquarters. Emergency Cell should be provided. Preferably each department in the UCC should be given an independent telephone.

(vii) Satellite telephone should be installed in the UCC.

(ix) UCC should be provided with FAX, loudspeakers, P.A. system with conference facility for press briefing to be arranged by S&T Deptt. Mech. Deptt should arrange photocopier and PCs. in consultation with Sr. EDPM.

(x) PC/Laptop should be connected to Internet (if feasible) for E-mailing of details update to all concerned, including Divisional Emergency Cell, Headquarters' 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 signage's indicating the way to UCC on approach roads etc.

(xiii) UCC at the site will be manned by Sr. Supervisors on round the clock basis in 12 Hrs. shift duty.

(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 centres. However, they will keep coming to the UCC off and on and will kept 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 logbook. Flow of information both incoming and outgoing would be recorded along with the time and names of officers/staff that were given the message.

(xvii) UCC will basically supervise the working of 2 LCCs and co-ordinate with Divisional and Headquarters' Emergency Cell.

(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 hours starting from 1.00 hrs, through out the day.

4.20.2 Local Command Centres (LCC):

(i) Depending on the spread of the accident site, Local Command Centres (LCC) on the samepattern as the UCC should be setup.

(ii) If the site is spread out over 300-400 metres 2 LCCs should be setup.

(iii) Detail schematic plan of LCCs would be similar to that of UCCs as given at

(iv) 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.

(v) LCCs will serve as co-ordination centres for various teams that are working spread out overdifferent geographical locations.

(vi) Each LCC will oversee the working of DM teams at one end of the accident site.

(vii) Jurisdiction of each LCC will extend to all men and materials belonging to 2 ARMEs, BDspecial and 1 ART at that end of the accident site.

(viii) One SAG officer of Mechanical department will be overall incharge of each LCC.

(ix) LCCs should be provided with loudspeakers for making announcements.

(x) LCCs should be provided with direct telephone links to UCC.

(xi) However, LCCs should not be provided with telephone links to either Divisional Emergency Cell or Headquarters' 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 out from UCC only.

(xii) 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.

(xiii) This updated information should be provided once every 3 hours as detailed at 4.11.1(xix) above.

4.20.3 Combined Assistance Centre (CAC):

(i) Need for setting up of Combined Assistance Centre:

(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 & 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.

(ii) 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 travellingin 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 relative 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 hospitalisation, 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 roundof the building where all unclaimed luggage have been kept.
(viii) Next they have to arrange for a place for them to stay.
(ix) Arrange for medicines/diet etc. and payment of hospital bills, if required.
(x) Thereafter, they have to keep in touch with the hospital and get their relative 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 relative.
(v) In case they fail to identify the same then they have to go through photographs ofunidentified 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, dependingon circumstances.
(xiv) Make arrangements for their return journey back to their native place.

4.20.4 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 these entire 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 antagonised towards railways.
(v) For this purpose a single window clearance system should be available for relatives and next of kin.

4.20.5 Combined Assistance Centre (CAC):

(i) The UCC should have a Combined Assistance Centre (CAC) located towards the rear side, away from the track, for rendering help to passengers and their relatives. Outline schematic plan of UCC/CAC is given at **Annexure-1.**
(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) Combined Assistance Centre (CAC) should be separate from the UCC so that it does not interfere with normal rescue and relief work.
(iv) Detail schematic plan of CAC is given at **Annexure-C.**
(v) CAC will be manned by staff of relevant departments such as: Operating, Medical, Commercial, Security and Personnel.
(vi) There should be only one such CAC, and all railway resources should be pooled into it.
(vii) LCCs should not have any small CAC located in the rear. It is likely to create logistic problems.
(viii) A big banner displaying 'COMBINED ASSISTANCE CENTRE' should be put up at aprominent place at the entry to the shamiana.
(ix) Similarly there should be sufficient number of signage's indicating the way to CAC onapproach roads etc.
(x) Railway staff fluent in the language of relatives should be posted for doing work ofinterpreters.
(xi) Post mortem formalities should be waived off so that one reduces number of formalities.
(xii) Different counters should be provided in sequence for each of these formalities, so that the entire exercise can be completed in about an hour.
(xiii) Functionary concerned from the local Municipality who issues Official Death Certificate should be made to come and sit in the CAC so that these certificates can be issued immediately without any delay.
(xiv) 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 relative and going to hospital 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 decided to cremate thebody there itself.
(j) Pass counter for issue of return journey pass.
(k) Return journey facilitation counter for making arrangements for return journey.

(xv) CAC will provide updated information to UCC, initially once every half an hour and later onceevery hour.

4.20.6 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) First Aid 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.

4.20.7 Setting up of UCC, LCC and CAC:

(i) One SSE/Works shall be exclusively responsible for setting up of these facilities. He shallundertake the following:
(a) Move along with sufficient staff for setting up of these facilities.
(b) Immediately start setting up of the tentage accommodation after taking out tents and shamianas provided in ARTs.
(c) In addition, he should also requisition agencies, which provide tentage accommodation on contract. Details of such agencies have been given in Divisional Disaster Management Plan.

(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 organised, if required at site.

(v) Few temporary toilets should be provided at one location in addition to number of urinals at 3or 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 setup 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 orrestoration operations wherever site is surrounded by deep water.
(x) Signage's for both UCC and CAC should be provided at prominent locations.

4.20.8 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 hours.

4.20.8.1 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 hours report 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.

4.20.8.2 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.

4.20.8.3 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.
(iv) Time required for restoring track for traffic use.

4.21 PASSENGER CARE:

4.21.1 Hospitalisation of the injured:

(i) General policy in case of railway accidents in which casualties occur is that of rapid evacuation to railway hospital after rendering immediate and necessary first-aid treatment. In following cases, injured may be taken to a Private Hospital.

(a) When there is no railway or Govt. hospital available within a radius of say 8 Kms. of the site of accident or,

(b) When the attending doctor certifies in writing that the treatment in private hospital is necessary in the interest of the patient,

(c) 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,

(d) 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.

(ii) 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 without loss of time to the hospitals concerned.To facilitate matters and to avoid misunderstanding, CMD should draw up a list of such private hospitals bearing in mind Railway and non-railway hospitals in existence in the vicinity.CMD should also settle charges to be paid to the hospitals for such cases for each class of accommodation/diet etc.

(iii) Bills by such private hospitals should be submitted through CMD who will certify the correctness of charges payable, before passing for payment by FA&CAO.Payments to private hospitals under this Para can be arranged locally by the Railway and Ministry of Railway 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.)

(iv) 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. They should also carefully monitor the condition of injured and maintain an updated list with all details. 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 centralised updated position.

4.21.2 Catering Arrangements:

(i) The affected passengers and their relatives are to be treated with utmost courtesy, concern and sympathy to alleviate their trauma and discomfort. Commercial officers and supervisors should be assigned to talk to injured to ascertain from them whether they wish to call relatives. Free passes can also be given to the relatives.

ii) Arrangements for supply of meals, drinking water, tea, coffee etc., to not only the injured but also to other passengers of the affected train/trains should be swiftly organized.

In this connection, Boards instructions vide their letter No. 89/safety-I/4/3, dated 22.09.89 is reproduced.

(iv) Refreshments, food and beverages may be supplied free of charge to the affected passengers, injured/or stranded. These may be arranged from the railway and/or outside sources as necessary.

(iv) The senior most official at the site shall have the powers to arrange conveyance of the affected passengers free of charge by any available mode of transport and also incur expenditure for carriage of passengers, luggage, etc.(Boards letter No.93/safety-I/6/1,dtd 02.11.93).

4.21.3 Facilities to be made available in hospital:

(i) A reception counter with a chart (ward, name, bed no, coach number of patient) should be manned by commercial supervisor/WLI at the hospital for dealing with patients relatives.

(ii) Commercial staff at the hospital should carry a list indicating the name, address and telephone no, of relatives as given by the patient.

(iii) Arrangements should be made to inform the next of kin or a relative.

(iv) Complete medical care of all passengers including payment of medical bills till their final discharge should be provided.

4.21.4 Communication:

(i) STD equipped telephone should be made available to passengers to communicate with theirrelatives. (Boards letter No. 93/Safety-I/6/1 dtd.02.11.93)

(ii) BSNL/Railway Telephones available at adjoining Stations/Cabins/Gates shall be extended tothe accident site.

(iii) If feasible 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.

(v) SM should can hire a few mobile phones in case passenger train accidents to meet the needs of stranded passengers wherever cellular phone connectivity available. Stranded passengers should be permitted to use these phones free of charge. Boards letter No.2002/Tele/TN/1 dtd 12.05.03).

4.21.5 Taking care of relatives:

(i) A hired vehicle should be provided relatives of affected passenger 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.

4.21.6 Single window clearance:

(i) CAC should have provision of single window clearance for all legal formalities & multiplicityof paper work.

(ii) Counters provided in CAC should have facilities for following items in the given sequence asindicated in **Annexure – C:**

(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 From.
(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 counter will make arrangements for return journey.

4.22 MANAGEMENT OF FIRE IN TRAINS:

Fire on a running train is more catastrophic than on a static one, because the fanning effect may spread the fire very quickly to other coaches and in panic the passengers may jump out of a running train as it had happened in past train accidents. Under such situation, every railway servant available on the train or at the site shall immediately try and stop the train and plunge into action to save lives and property. In this context, the railway servants are expected to have a basic knowledge on fire and fire fighting methods.

Continuous heating due to brake binding, hot axles etc. may also cause a fire. Split liquid fuel can catch fire quickly than the liquid in bulk.

4.22.1 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 with inflammable sealing material.

4.22.2 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 extinguishing 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.

4.22.3 In the event of fire on an Electric engine/EMU:

(i) Loco Pilot/Motormen shall immediately switch off the circuit and lower the pantograph. The train shall then be brought to a stop at once.
(ii) The battery bank of the electric engine / MEMU is to be immediately disconnected.
(iii) After disconnecting the electric supply to affected circuits, Loco Pilot/Motormen shall take necessary action to put out the fire.

(iv) If fire cannot be extinguished by the above means Loco Pilot/Motormen shall advise TPC through emergency telephone to arrange for the affected section OHE to be made dead.

(v) The guard and any other staff available shall render all possible assistance to the Loco Pilot/Motormen in putting out the fire.

(vi) Ordinary fire extinguishers or water from a hosepipe shall on **no account** be used to extinguish fire on live wire or electrical equipment. 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 has been made dead.

4.22.4 In the event of a fire on a Diesel Engine/DMU stock:

(i) The Loco pilot/Motorman shall immediately switch off the circuit breaker and shut down the engine. The train shall be brought to stop at once.
(ii) The battery bank of the diesel engine / DMU is to be immediately disconnected.
(iii) The Guard shall give all possible assistance to the Loco pilot/Motorman in putting out the fire.

(iv) 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 in-charge of the shed shall inspect the fire extinguishers and ensure that these are in good working condition.

4.22.5 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.

4.22.6 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, whichmay be dangerous.
(iii) Use foam type fire extinguishers and sand only. **Do not use water** or soda acid type fireextinguishers.
(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 isput out.
(viii) Withdraw immediately in case of rising sound from venting safety device or any discolouration of tank due to fire.
(ix) Inform civil authorities and summon assistance from Fire Brigade, Oil Co. Depot, Bottling Plant Refinery,etc.

4.22.7 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 thespray should take up a position where he would be protected from possible explosion.

(iii) If cylinder containing inflammable/ toxic gas develops leak during transportation, removeit 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 department 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.

4.22.8 Duties of Station Staff, Guards, Loco Pilots, Asstt. Loco Pilots, TTE's, Pantry Car staff, and Postal van staff on Board in case of fire in Train carrying Passengers

- In case of fire pulled the Alarm chain and stopped the Train immediately.
- Don"t be panic, build up confidence of Passengers by suitable advice.
- Try to extinguish the fire before it becomes a big blaze by using either water or wet Blanket etc.
- More people expire due to suffocation from smoke rather than due to actual burning as such advice the passengers to cover their nostrils with a wet cloth.
- Instruct passengers to go to other end of the coach, which is away from the fire, if possible change to next coach through the vestibules.
- Insist that passengers should save them self first and not to bother about their luggage which can be retrieved later on.
- Make sure that no passenger is lies down on the floor after Train has stopped, passenger should evacuate from the coach immediately.
- Fire Extinguishers are available in Dy. SS office, SLR, AC Coach, Pantry Car, Postal van and Locomotive.
- On board Railway employee should take the help of Gang man, Gate man, passengers and near by Villagers to extinguish the fire.
- On no account, water should be used to extinguish fire on live Electrical equipments. Only DCP type Fire extinguisher should be used, even Fire brigade should also not allowed to commence the operation until unless all Electrical supplies to equipments have been made dead.

4.22.9 FIRE FIGHTING: Fire fighting equipment such as fire buckets, fire drum, fire extinguishers , fire bell should be available at stations, depots, goods shed, parcel office etc.

4.22.9.1 Dry chemical powder type fire extinguisher (DCP):

These types are suitable for tackling petroleum, gas, electrical fire and controlling fires of textile fibres. Sodium based chemical powder is used on a fire which undergo chemical reaction.

4.22.9.2 How to Use Dry chemical powder type fire extinguisher (DCP):

(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.

(vii) Direct the steam of the powder at the base of the flame.

(vi) For effective result stand at about 1.5 to 2.5 metre near the seat of the fire.

(vii) Move forward with moving the nozzle rapidly from side to side in sweeping motion.

4.22.9.3 Carbon dioxide$(CO)_2$ type fire extinguisher :

Carbon dioxide fire extinguishers are mainly aimed at electrical fires but are also suitable for Class B liquid fires and are used in different ways depending on the type of fire they are being used on. Do not use CO_2 extinguishers in very small spaces, as there is a risk of asphyxiation. Only tackle small fires with an extinguisher. If the fire has taken hold do not fight the fire but evacuate immediately and warn others of the fire, then call the fire and rescue service. If you tackle the fire make sure you stay at a safe distance and follow the instruction below.

4.22.9.4 How to Use Carbon dioxide(CO)2 type fire extinguisher :

(i) pull the safety pin, this will break the tamper seal.

(ii) do not hold the horn, unless it is a frost-free horn, as it becomes extremely cold during use and can lead to severe frost burns.

(iii) Squeeze the lever to start discharging the extinguisher. Please nte that the CO_2 extinguishers mke a very strong discharge noise, which is normal..

(iv) Aiming the extinguisher:

A Flammable liquids: aim the horn at the base of the fire and move across the area. Be careful not to splash the burning liquid with the powerful jet of the carbon dioxide extinguisher.

B. Electrical equipment: switch off the power, where safely possible, to prevent later re –ignition and then direct the horn straight at the fire.(vi) For effective result stand at about 1.5 to 2.5 metre near the seat of the fire.

(v) Ensure all the fire has been extinguished as re-ignition is easily possible when a carbon dioxide extinguisher has been used. CO_2 gas drifts off after use and if the fire is still very hot it might just re –ignite.

4.22.9.5 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) Don't use elevators.

(iv) Proceed to the designated gathering area outside the building.

(v) Do not re-enter building until cleared by authority personnel.

(vi) Assist with evacuation of individuals with special needs.

4.22.9.6 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 authority.

4.23 Other Accidents:

4.23.1 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) Persons noticing a bomb like object, should bring it to the notice of the nearest available officer.

(vii) Inform GRP, RPF, and 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) Utilise “Caller ID” facility if provided to trace the caller.

4.23.2 Threat of Terrorist attack:

(i) Keep the possibility of entrapment in mind.
(ii) Avoid obvious means of entry.
(iii) Avoid hand movement of suspicious objects.
(iv) Look for things out of place.
(v) Avoid development of fixed daily personal or group habits.
(vi) Provide 24 hr. security for assembly points.
(vii) Be particularly alert to entrapment situations when changing shifts.
(viii) Avoid predictable pattern of patrol.
(ix) Don’t panic if the vehicle is struck by petrol bomb.
(x) If fire bombed, don’t panic. It only seems more dangerous than it actually is.
(xi) If a suspicious container or package is found, immediately alert all officers and

security and get out.

(xii) Insist that the person desiring to leave the package should open it and display thecontents.

(xiii) Conduct a careful visual inspection.

(xiv) Never attempt to open or inspect the suspicious package on your own.

(xv) If a vehicle is found in an abandoned state, clear the area and notify the bomb squad.

(xvi) If a vehicle is found in an abandoned state, visually inspect any package found inside the vehicle.

(xvii) In case of abandoned vehicle, do not flip switches, turn knobs, release hand brakes, blow the horn, step on the brake or perform other operations until you are sure thatno bomb is located in or under thevehicle.

(xviii) Upon arrival, security staff, as rapidly as possible conduct a thorough search of the area surrounding the bomb scene.

(xix) A security staff must remember to complete search the area even when a second bomb is found. He must look out for the third and fourth bombs.

(xx) Security staff must check those areas that lead to the bomb scene as well as vehicle parking areas.

4.23.3 Radiation Emergency:

4.23.3.1 Personal injury involving radioactive material contamination:

(i) Render first aid immediately for serious injuries, as 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.

4.23.3.2 Radioactive contamination of personnel:

(i) Remove and bag all contaminated clothing, for proper disposal.

(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.

4.23.3.3 What to do upon receipt of suspicious letter/package:

(i) Handle with care.5

(ii) Don’t shake or bump.

(iii) Isolate and look for indicators.

(iv) Don't open, smell or taste.

(v) Treat it as suspect. Keep away the personnel.

(vi)Call Police/Fire service/Bomb squad.

4.23.3.4 If parcel is Open and/or Threat is identified:

4.23.3.4.1 For a bomb:

- Evacuate immediately and Call Police/ Fire service/Bomb squad.

4.23.3.4.2 For Radiological:

- Limit exposure- don't handle and Evacuate area.
- Shield yourself from the object and Call Police/ Fire service/Bomb squad

4.23.3.4.3 For Biological or Chemical:

- Isolate – don't handle and Call Police/ Fire service/Bomb squad.
- Wash your hands with soap and water.

4.23.3.4.4 Tampering of Railway fittings causing accident & placing of foreign particle 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.

4.23.3.4.5 In case of derailment of LPG Wagon:

(i) Check for leakage.
(ii) Advice all not to smoke and extinguish all fire and to use mobile phone etc. within 1 km. radius.
(iii) Examine tank barrel and fittings carefully for any damage.
(iv) To hoist the wagon, use diesel crane with spark arrester at exhaust.

4.23.3.4.6 In case of leakage of LPG Tank Wagon:

(i) Do not start hoisting of wagon.
(ii) Make efforts for stopping the leak.
(iii) Disperse Vapour away from ignition source by waterspray.
(iv) Shut off ignition sourceimmediately.

(v) If leakage is minor, put gunny bags on leakage and wet with watericing.
(vi) Give warning to District Authorities for evacuation of population.

4.23.3.4.7 Action to be taken at Divisional level:

After getting the information regarding LPG / Oil Emergency message like leakage or fire or derailment of LPG / Oil Wagon from Loco Pilot or Guard or Station Master, The controller will take the following action immediately in simultaneous manner:

(i) Inform higher railway authorities.
(ii) Ordering of ART/ARME. In case of leakage it can be brought to the nearest station and to the affected place after leakage source has been blocked.
(iii) Informing Disaster Management authority of related district.
(iv) Inform Fire Brigade & LPG / Oil companies like Reliance, IOC, ESSAR and organizations or authorities listed under mutual aid scheme.
(v) Informing Secretary MAS GSFC Limited Jamnagar.
(vi) Stop movement of train towards the affected section.
(vii) Adjoining station will be asked to mobilize the staff and other local resources so that it may be utilized in time to deal with the emergency.
(viii) The RPF will be informed to protect the affected area for maintaining law and orderand avoid crowding at thespot.
(ix) The RPF staff will also reach the site with fire fighting equipments and staff to deal with the emergency.
(x) In case of leakage of LPG, nearby State Electricity Deptt. (GEB) will be asked to cut the electric supply immediately.
(xi) Loco Pilot will immediately switch off the locomotive and precaution to be taken as per G&SR.
(xii) Station staff will immediately cut off the power supply.
(xiii) The station staff colony will also be asked to stop the cooking or any work related toburning of fire.

CHAPTER – 5

STRENGTHENING DISASTER RISK GOVERNANCE

5.1 Background:

Strengthening disaster risk governance is considered a cornerstone of the efforts to understand, reduce and manage risks in global practices (UNDP 2015). UNDP defines disaster risk governance as follows (UNDP 2013):

"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(Disaster risk reduction), 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.

5.2 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 publically 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 sectorial 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 stakeholders at the national and local levels, such as national and local platforms for disasterrisk 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.

5.3 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 as under:

5.3.1 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 inter & intra Division by divisional safety team are conducted on regular basis.
- **Training facilities -** Special emphasis is being laid on training of Railway Officials specially those looking after areas connected with safety.
- Training is imparted to Non- Gazetted staff from following training institute / centres located in the Division:

SN	Name of Training Institute / Centre	Type of Training	Category of Staff
1	Zonal Electric Training Centre (ZETC), Vadodara Yard	Initial, Refresher, Promotion,Conversion & Special	ALP, LP,CLI & Maintenance staff of Electrical deptt.
		Simulator course	ALP,LP & CLI
2	Divisional Training Centre (Traffic), Vadodara Yard	Initial, Refresher & Special.	Pointsman, Platform Porter.
3	Divisional Engineering Training Centre, Vadodara	Initial, Refresher, Promotion & Special.	Track Maintainer
4	Carriage & Wagon Training Centre, Vadodara Yard	Initial, Refresher & Special.	Artisan Staff.

5.3.2 Measures to avoid Collisions :

To increase efficiency and to enhance safety in train operations with Panel Interlocking/ Route Relay interlocking / Electronic Interlocking (PI/RRI/EI) along with Multi Aspect Colour Light Signals have been provided replacing the obsolete Multi Cabin Mechanical Signaling System, that involved a large amount of human intervention. **Route Relay Interlocking (RRI)** have been provided on Vadodara, Anand and Nadiad 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. Complete track circuiting is available at all stations in ST-GER, BRC-GDA, ANND-GDA, PRTN-KHANDALA sections.

- **Block Proving Axle Counter (BPAC):-** To enhance safety, 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. BPAC is provided between KRSA-GDA, CYI-PIO & CTD-KHANDALA stations.
- **Automatic Block Signaling:-** For augmenting Line Capacity and reducing headway on existing High Density Routes on Indian Railways, Automatic Block Signalling is being provided. This results in track circuiting of large portion of the track which leads to enhanced safety. Automatic Block signalling is provided between ST-BRC-GER section.

5.3.3 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 sleeper offers higher frame resistance, less stress on ballast and rail pad, improving reliability and maintainability of track.
- Upgradation of Track Structure consisting of pre-stressed Concrete (PSC) sleepers, 60 Kg high strength (90 Ultimate Tensile Strength) rails on concrete sleepers, fanshaped 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.
- **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. Electronic In-motion weighbridge are provided at MAPD Siding Dahej, GR siding Karchiya, MKIG Siding KRIL Surat, BDRCL Siding Dahej & Kapadvanj.
- **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).

5.3.4 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. In addition fire balls are being provided in all power cars to control the fires in case if any such incident happens.

5.3.5 Curbing Fire hazards in Pantry Car & Power 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 authorized persons in Pantry Car & Power Car to remain in pantry car and Power Car and having valid travel authority.
- Smoking is to be prohibited.
- Fire extinguishers are to be fixed near high risk places. Staff is to be imparted training regarding use of fire extinguisher to extinguish fire.
- Material used in pantry car is to be fire retardant.

5.3.6 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. Fire fighting equipment are being provided at such installations. Staffs have been trained to use these equipment.

5.3.7 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. Division 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:** Division have provided interlocking with Signals at Level Crossing Gates to enhance the safety at Level Crossings.

(d) **Action Plan for Road Users' Safety :** To reduce accidents at manned and unmanned level crossing gates, Division will adopt following multi-pronged strategy :-

- Existing task force of the Ministry of Railways and State Governments for construction of ROBs/RUBs would be made more effective.
- Items to be resolved between the Ministry of Railways and Ministry of Road Transport and Highways.
- Speed breakers at level crossings, their standards and maintenance.
- Testing of driving license applicant with regard to thorough knowledge pertaining to level crossings.
- Widening of roads at selected high density locations to ease movement.
- Training and counselling of road users.
- Lifting barriers with retro-reflective markers in lieu of gate leaves shall be provided on double and multiple lines.
- On manned level crossings, with more than 500 road vehicles per day and where possible, the road width shall be widened in railway land.
- Signalling Systems like Interlocking arrangements and provision of telephones at LC gates enhances safety considerably.
- Inclusion of Dos and Don'ts near level crossings in primary school curriculum.
- Intensive social awareness campaigns to counter misadventure in front of approaching trains.
- Basic infrastructure on all unmanned level crossings will be ensured and it includes provision of adequate width, normal gradient, level surface for 5 m from centre of the nearest track, Whistle Boards in retro-reflective sheets, specified Road Warning Boards, road surface in good condition and speed breakers/rumble strips etc.
- All level crossings, as per revised criteria for manning, falling in the three specified categories, are proposed to be manned in next 5 years.
- Periodic census of level crossings will be carried out by multi-disciplinary teams.
- Compulsory whistling by train drivers by linking loco whistle to the Vigilance Control Device (VCD).
- On sections where there are a number of unmanned level crossings, at close proximity, RUBs may be constructed at a convenient location and the remaining level crossings closed.
- Checking visibility levels at all unmanned level crossings, and taking corrective action for their improvement.
- Appropriate approach road gradients within railway boundary to be ensured.

5.3.8 Prevention of Accident Due to Fog :

Division should ensure that the staff be advised and counselled 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 be enhanced to maximum 60 KMPH subject to the judgement of the Loco Pilots. Divisions should comply instructions issued from Railway Board/Head quarter on fog from time to time. As per latest instructions on foggy/inclement weather, major precautions to be taken by Division for safe train operations are briefly described below:

- 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.
- Modified Automatic Signalling System as per G.R 9.01 (3) & (4) and G.R 9.03 (3) and and G.R 5.18 to be followed strictly.

- 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 doneto 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 60 KMPH.
- LP to whistle frequently to warn gateman and road users at level crossings.
- In Automatic Block territory the speed will be subject to the judgement of the LP i.e. after passing Automatic Stop Signal in Green, Double yellow and at Yellow the speed not to exceed 60 Kmph, 30 Kmph and at a further restricted speed respectively.

5.3.9 Other Measures :

- **Constant Review of Safety Performance at Zonal level** - Safety performance is invariably reviewed as a first item on Agenda of Zonal Meeting at the apex level. All accidents are analyzed in detail so that remedialmeasures can be initiated.
- **Safety Review meeting with Divisions –** GM & PHODs should have conducted Safety Review Meetings with Divisional Railway Manager and BOs of divisons during their visits as well as through video conference.
- **Intensive Footplate Night Inspections -** Intensive Footplate Inspections including night inspections are conducted at the level of SAG, branch officers and supervisors in the field.
- **Regular Safety Drives & awareness campaigns –** Safety drives and awareness campaigns are 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 6

CAPACITY BUILDING TO HANDLE DISASTER

6. Capacity Development – An Overview:

6.1 Background:

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 for capacity development for disaster risk reduction to be effective, it must be clear in its purpose.

As capacity development entails activities on various levels, i.e. legal and institutional frameworks, systems of organisations, organisation and 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 organisational 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."

6.2 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 7-1. The hazard-specific capacity development needs for prevention and response are given in the plan matrix of the Chapter-3 and Chapter-4. The list is indicative, illustrative, and not exhaustive. Further, those chapters provide certain extent of detailing. Even those are indicative and in consonance with national, regional, and global practices, there will be changes, which will be incorporated in the periodic revisions of the plan and during its implementation. The effort will be to follow the emerging best practices.

Table 6-1: 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. • Mainstreaming 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. • Retrofitting 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 health care . • 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
Key Aspect	**Thematic Areas**
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. • Comprehensive revamping of Fire and Emergency Services with 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.
Recover 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.

6.3 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.

6.4 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 of rural and urban local bodies. 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

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6.5 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, sensitisation, orientation, and developing skills of communities and community leaders. Assistance from NDRF, Civil Defence, civil society organisations, 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.

6.6 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, for managing 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 Network (SDRN) portal on the pattern of IDRN.

6.7 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 Table7-2 given below on the basis of proper capacity development needs assessment.

	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.	Respective Directorates to identify gaps and initiate action.

			• Procurements of additional equipment with advanced technologies	
2.	Strengthening training institutes for disaster management.	NIDM, MoHRD, MHA, NDMA	• Research and extension support grants • Create/strengthen state level DM institutes.	Establishment directorate.

6.8 National Disaster Response and Mitigation Funds:

6.8.1 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 Planning Commission will give due weight age to these factors while allocating resources.

6.8.2 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.

6.8.3 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 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.

In the case of Ministry of Railways, all the maintenance activities related to rolling stock, track, civil infrastructure, signals and telecommunication, traction, operations as well as the capital expenditure incurred

on these are for upkeep and improvement of safety of train operations. There is no specific allocation head for providing/capturing expenditure relating to disaster Management activities on Indian Railways. However, disasters do happen in form of train accidents, breaches, natural calamities, etc which affect operations on railways. The expenditure incurred as a result is, however, accounted for under safety related revenue and capital heads. Thus, the mitigation funds are part and parcel of the expenditure of Railways.

6.9 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 service 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 21st century. 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; TF Exchanges; RRI of Junction Stations, Major Bridges, Tunnels of long lengths, Hospitals etc. are very sensitive/vulnerable locations.

6.10 Terrorist attacks on a freight train carrying inflammables:

Railways have an excellent liaison with the Oil Companies due to the transport of their commodities viz. Motor Spirit, HSD, Naphtha etc. Traditionally we have always made use of their fire fighting 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 fire fighting equipment.

CHAPTER - 7

MEDICAL PREPAREDNESS and HOSPITAL DISASTER MANAGEMENT PLAN

7.1 Network of Mobile Medical Infrastructure:

Indian Railways has an established network system capable of handling train accidents along with emergency medical response and casualty evacuation. The system is based on an infrastructure consisting of 161Accident Relief medical Vans (ARMV) – Scale I (Unit of accident relief trains situated at an average distance of every 300kms on main lines and 400 km on branch lines), 320 Accident Relief Medical Equipment (ARME) – Scale II consisting of three sets of Portable Medical Kit for Accidents (POMKA). POMKAs are also available at all health units, sub-divisional and divisional/zonal hospitals. Trained manpower of medical and all other departments of the Indian Railways provide first aid, immediate and necessary emergency medical treatment to save the life and limbs of persons involved in train accidents and arrange rapid evacuation to the nearest government/private hospital by the first available means of transport. There is a well-rehearsed action plan to handle railway accidents.

The system is committed to the primary goal or meeting the needs of the Vadodara Division, though this resource may be available in a limited manner for assistance of the district administration for mass casualty management. The details of Government & private Hospitals with MOU in Vadodara Division Jurisdiction is summarised below:

BRC Division	All government hospitals with 108 Ambulance services

7.2 Responsibility of Stake Holders:

Medical Response: Medical Response has to be quick and effective. The execution of medical response plans and deployment of medical resources warrant special attention at the State and District level in most of the situations. The voluntary deployment of the nearest medical resources to the disaster site, irrespective of the administrative boundaries, will be emphasized. Mobile medical hospitals and other resources available with the centre will also be provided to the States/UTs in a proactive manner. Post-disaster management of health, sanitation and hygiene services is crucial to prevent an outbreak of epidemics. Therefore a constant monitoring of any such possibilities will be necessary.

The main stakeholders in the Medical Preparedness and Mass Casualty Management (MPMCM) are the Ministry of Health and Family Welfare, Ministry of Labour and Employment, Employees State Insurance Corporation, Ministry of Defence, Ministry of Railways, State Governments and Union Territories and private health care providers.

NDMA's guidelines on Mass Casualty Management (MCM) have been prepared to provide directions to the Central Ministries, Departments and State Authorities for the preparation of their detailed Medical Preparedness Plans. These guidelines call for a proactive, participatory, well-structured, fail-safe, multidisciplinary and multi-sectoral approach at various levels.

Each organization of the Government may be made aware of risks, vulnerabilities and effects of various natural and man-made disasters including peripheral emergencies in terms of mortality and morbidity; short and long-term health effects including the socio-economic problems faced by the community during, and in the aftermath of MCE. The need for creation of an institutional mechanism and system is essential. This would result in enhancing capacities and capabilities of hospital and health care workers. So also is the need for strengthening existing procedures that allow emergent activities to meet the challenge of surge capacity because of mass casualty events. The different mass casualty events and other potential disasters including Chemical, Biological, Radiological and Nuclear (CBRN) emergencies which may lead to Mass Casualty Evacuation are to be made aware of to the Medical Management of the concerned departments which have their own medical establishments; Railways falls within the ambit of this item; this can be achieved only through specialized training initially to a few select Doctors in each Divisional Hospital (and the Zonal Hospitals).

A review of the existing health framework, preparedness of the Ministry of Health and Family Welfare, Ministry of Defence, Ministry of Railways and Ministry of Labour and Employment in relation to their capacity for handling casualties caused by various disasters is to be done so as to share each other's strengths and capabilities. Ministry of Health and Family Welfare is assigned with legislative capacity for a number of subjects including all matters relating to the medical, dental, nursing and pharmacy professions and education; mental health; standards for drugs; prevention of food adulteration; and prevention and control of epidemics.

Medical preparedness of Ministry of Defence, Ministry of Railways and ESIC have also been elaborated in the NDMA's guidelines. A brief outline of the arrangements with the state health departments is enumerated there is also a bird's eye view of the health care infrastructure of the private sector, Indian Red Cross Society, certain Non-Governmental Organisations and various laboratories. Among the various International initiatives, the role of the recently operationalised International Health Regulations in limiting the spread of epidemics and other public health emergencies by the Member States has been highlighted in the guidelines.

Medical preparedness aims at preventive and mitigation measures. Preventive measures include upgrading public health laboratories and establishing an integrated Disease Surveillance Programme (IDSP). Preparedness for Emergency Medical Response (EMR) for the management of mass casualties at the incident site and, their quick and safe evacuation by ambulance services is an important step in this direction. The need for hospital disaster preparedness plans along with the non-availability of medical logistics in critical care has been highlighted by NDMA in their guidelines which need to be followed up. The cold chain system in blood transfusion services needs to be established all across the country. The requirement of specialised facilities for CBRN management has also been highlighted by NDMA.

NDMA's guidelines are comprehensively given for a legislative and regulatory framework, preventive measures, preparedness, capacity development, hospital preparedness, specialised health care and

laboratory facilities, role of alternative systems of medicine and identification of the dead, psychosocial care and mental health services and Research and Development for MPMCM. The roles and responsibilities of various stakeholders at the centre state and district levels are also described. The salient highlights in the guidelines include:

- Preventive measures like strengthening of epidemic control programmes, immunisation, HIV control etc., development of minimum standards of food and water; IDSP and its integration at all levels converged to develop an effective Early Warning System (EWS) operable at all levels.
- The Medical First Responders (MFRs) of mobile medical teams will be fully trained in triage and resuscitation; well-equipped and supported by all emergency services and material logistics.
- Emergency medical evacuation requires development of an Integrated Ambulance Network (IAN) including road, aerial and water ambulance networks integrated with special trains for MCE and not only self-propelled Accident Relief medical Vans (SP-ARMVs) of the railways as mentioned in the guidelines. As the evacuation of large number of casualties cannot be done by an ARME (or SP-ARMEs) the Railways shall mobilize special train for MCE whenever required. It will work in conjunction with Emergency Response Centres (ERCs), ESIC medical services and related emergency functionaries with laid down Standard Operative Procedures (SOPs) for all stakeholders.
- Full-fledged containerised mobile hospitals will be acquired and attached with hospitals earmarked by states/districts.
- Capacity development will include training of all stakeholders including doctors, nurses, paramedics and other resource persons in triage and Basic Life Support (BLS), and development of specialists.
- Hospital preparedness should aim at planning the use of hospital resources in a well co-ordinated and simple way with defined roles for all medical personnel. Such activities will be drafted in the hospital DM plan which will be a part of the Zonal/Divisional DM plan. The plan will be rehearsed once a year using mock drills.

NDMA's guidelines include items related to response, rehabilitation and recovery, PPP, post-disaster documentation, media management and important medical management aspects which need to be integrated into the district DM plans. The major guideline include:-

- Mock drills will be based on the simulation of worst scenario in the identified vulnerable areas to check the preparedness level of the MFRs.

  A specific reference in NDMA's guidelines include item for medical preparedness for handling CBRN emergencies besides the basic aspects of medical preparedness. It covers the following areas:-
- Specific education and skill based training of MFRs and necessary community awareness about various Dos and Don'ts to deal with CBRN incidences in a participative approach.
- SOPs for CBRN management at the incident site, triage, personal protection, decontamination, resuscitation, and casualty evacuation followed by management of victims at the hospital level.
- The necessary resource inventory in terms of Personal Protective Equipment (PPE), various detectors, decontamination and de-corporation agents, antidotes, essential medicines,

specialised mobile laboratories and ambulances fitted with CBRN filters. Special CBRN stores and necessary laboratory facilities will be established at various levels.

Zonal Railways have to arrange special trains consisting of AC and/or non-AC coaches to run from the nearest coaching terminal to the site for evacuation especially for large scale casualties. Railway and non-Railway Medical Terms may be deployed in these special trains along with a portable kit of medicines, etc. (POMKA) to attend to the injured during the process of evacuation. In these special trains casualties even in hundreds can be evacuated; the medical attention, however, would be limited vis-à-vis what can be provided in the ARMVs.

Each different type of casualty requires a specialized training to handle it. The Railway Medical Department neither has the training nor can they digress from their principle function of providing medical care to the railway men and their families including to retired staff/families. During a Chemical Disaster, as the public areas are far away from station premises it may not be possible to run the ARME or a special train to the location close to the site. In some situations due to effect of Chemical Gases (as was the case in Bhopal Gas tragedy of Union Carbide) even the Loco Pilot/Guard and the Medical Teams may not find it possible to reach the site in the immediate period of post-Disaster.

Railways is not expected to be a main stake holder in the DM Plan of CBRN disasters. They can at best be involved in the evacuation of casualties by a special train (A/c and non A/c coaches) from the nearest station closer to site to a station serving Hospital, nearby. Skeleton First Aid facility can be extended by the Railways Medical Team in this special train. In any case it would take a maximum of 5/6 hours for the special train to evacuate the causalities once it reaches near the site to reach the station serving the Hospital.

The medical and para-medical staff of Railways need to be imparted training for management of CBRN disasters, till the specialist force arrives at the disaster site. As an alternative zonal railways must cater in their own plans to arrange special trains consists of AC and non AC coaches for the purpose of evacuation of large number of casualties in a mass casualty event whenever the railways may be called upon to help the district and state authorities. Railways may not be the main stakeholder in disaster management for CBRN disasters but railways should also train their Para medics, Medical First Responders and Quick Medical Reaction Teams (QMRTS) and train them to provide pre hospital care in case of CBRN attack within the trains or platforms and should be able to respond till such time specialized trams of NDRF/SDRF mobilized to reach the site. Therefore, it is essential to provide personal protection equipment and other equipment, training to Para medics and Medical officers for the limited role for your own set up.

7.3 In the NDMA's Guidelines on Medical Preparedness and MCE, under the head of Medical Preparedness (Page 31) in Item 3.3.3 (i) a no. of duties are defined to be done by the Medical First Responder (MFR). It is specifically mentioned that adequate no. of Personnel, Protection Equipment (PPE) should be available with the mobile teams, various first responders and rescue services. Further, in item (ii) (b), it is mentioned for evacuation of CBRN victims the use of Rail Ambulances is currently non-existent.

As the different MFR's are neither defined nor separately listed in the NDMA's guidelines, it is clarified that the Railways are not to be treated as MFR. NDMA has clarified in a review meeting held

with Railway Ministry representatives that the MFR would be NDRF and along with trained personnel of State Governments and District Administration. This may be specifically clarified in the Zonal and Divisional DM Plans as to who is considered as MFR.

7.4 Aim of Hospital Disaster Management Plan:

The aim of a Hospital Disaster Management Plan is to provide prompt and effective medical care to the maximum possible, in order to minimize morbidity and mortality resulting from any MCE.

7.5 Hospital DM Plan:

The Hospital Disaster Management Plan for Vadodara Division will be prepared by CMS of the Divisional hospital/PRTN. This shall be based on the NDMA Guidelines on Medical Preparedness and Mass Casualty Management (Annex. I page 104 of NDMA Guidelines) referring to "Important Considerations for Developing the Hospital Disaster Management Plan".

The Hospital DM Plan should incorporate relevant items given in the DM Plan of the Railways. It should be clarified that:-

"The Hospital DM Plan comes into effect only if the competent authority so authorized declares on the Zonal Railways an incident as a disaster. It can also come into effect if any Central/State Govt. agency declares a major incident a Disaster, and where the Medical facility of the Railways shall be required to give assistance."

7.6 Objective and Goals of a Hospital Disaster Management Plan:

The hospital disaster management plans should address not only mass causalities that has occurred away from the hospital, but should also address a situation where the hospital itself has been affected by a disaster – fire, explosion, flooding or earthquake, etc.
The role of the Railway Hospital will be of a general hospital only. After assessment of the hospital resources, treatment capacity and surgical capacity (Based on NDMA Guidelines on Medical Preparedness and Mass Casualty Management), its Hospital Disaster Management Plan should be available to the Divisional/Zonal Railway Administration and also to the district administration.

7.7 Disaster Drills:

As a part of the emergency management plan, every hospital is required to have structure in place to respond to emergencies, this structure is routinely tested during drills.
Continuous revisions should be made in the hospital disaster management plan taking leads from the regular disaster drills in the hospitals. In these drills it should be tested if the Hospital is equipped to respond effectively to the disposal of a large no. of dead etc. i.e role of mortuary services and forensic departments. Hospital Disaster Management Plan should be tested once a year by mock drills for updating.

7.8 Training of Health Care Personnel of Indian Railways:

It is desired by the National Plan that the Railways should train their Doctors in the treatment of specific injury from CBRN disasters as also keep medicines, the vaccines, equipment and disposables etc. for the same in their hospitals. Railways may alternatively get the Training for

Trainers of Medical department so that this could be proliferated to other Doctors and other Para Medical Personnel on all Indian Railways in nominated Railway Training Institute/s.

7.9 Preparedness of Vadodara Division:

S.N	RB DMP Guidelines	Vadodara Division preparedness
1	Specialized training initially to a few select Doctors in each Divisional Hospital and the Zonal Hospitals to cater the requirement of NDMA guidelines on Medical Preparedness on Mass Causality Management (MPMCM*).*	03 Nos doctors have undergone training to cater the requirement of NDMA guidelines on Medical preparedness on Mass Causality Management(MPMCM)
2	Medical preparedness (Preventive and Mitigation measures) viz. upgrading Public health laboratories and establishing an Integrated Disease Surveillance Program (IDSP). *)*	Not available
3	Preparedness for Emergency Medical Response (EMR) for the management of mass casualties at the incident site and, their quick and safe evacuation by ambulance services.	Doctors and staff are trained for EMR.
4	Availability of medical logistics in critical care	08 beded ICU with 04 Ventilators,04 Bipap machines are available.
5	Availability of Cold chain system in blood transfusion services	No blood bank service is available.
6	Specialized facilities for CBRN management	Training of Doctors and paramedics staff on CBRN have been completed
7	Capacity development initiatives such as training of all stakeholders including doctors, nurses, Paramedics and other resource persons in triage and Basic Life Support (BLS), and development of specialists.	Training of Doctors and paramedics staff have been completed in BLS
8	Hospital preparedness in planning the use of hospital resources in a well coordinated and simple way with defined roles for all medical personnel. Such activities will be drafted in the hospital DM plan which will be a part of the Zonal/Divisional DM plan. The plan will be rehearsed once a year using mock drills.	Hospital DM Plan in place. Mock drills are also carried out in association with NDRF.
9	Mock drills will be based on the simulation of worst scenario in the identified vulnerable areas to check the preparedness level of the MFRs.	Mock drills are based on simulation of worst scenario and to check the preparedness. Mock drills are being carried out 2-3 times in a year.
10	Training to railways Para medics, Medical First Responders and Quick Medical Reaction Teams (QMRTS) to provide pre hospital care in case of CBRN attack within the trains or platforms and should be able to respond till such time specialized trams of NDRF/SDRF mobilized to reach the site	Periodical training of Doctors,paramedical staff are carried out in association with NDRF.
11	Provision of personal protection equipment and other equipment, to Para medics and Medical officers for the limited role in case of CBRN attack within the trains or platforms.	PPE kits available, specific for CBRN is not available.

12	Training for Trainers of Medical department so that this could be proliferated to other Doctors and other Para Medical Personnel on all Indian Railways in nominated Railway Training Institute/s.	Training of trainers programme are being carried out for doctors and paramedical staff on regular basis.
13	Training to the Doctors in the treatment of specific injury from CBRN disasters and also keep medicines, the vaccines, equipment and disposables etc as per National Plan.	Training of trainers programme are being carried out for doctors and paramedical staff on regular basis
14	Training of Fire detection and suppression system at important installations.	Fire safety audit has been completed and provisional fire safety certificate obtained and permanent certificate is under process.
15	Identification of sensitive/Vulnerable installations& infrastructure for modernization of Relief/ Rescue during disasters (Ref 7.9 of RB DMP-2017).	All salient infrastructures are identified.

CHAPTER - 8

ROLE OF SECURITY DEPARTMENT IN DISASTER MANAGEMENT

A three tier security system of District Police, Government Railway Police (GRP) and Railway Protection Force (RPF) is prevailing over Indian Railways with following roles and responsibilities-

District Police: Security of tracks, bridges and tunnels (Authority: MHA message no. 27/1/72/Poll.II, dated 11.02.1972).

Government Railway Police (GRP): GRP is a wing of State police maintained by respective State Governments for prevention and detection of crime and maintenance of law and order in station premises and trains. Duties of the GRP as regards the areas in their jurisdiction correspond in general to those of the District Police in the areas under their charge. Railways are sharing 50% of the cost on GRPs with respective State Governments.

Railway Protection Force (RPF): RPF is an 'Armed Force of the Union' constituted under the RPF Act for better protection and security of railway property, passenger area and passengers and matters connected therewith.

8.1 Role of RPF in Disasters:

In case of any disaster affecting Railways viz. serious train accidents, fire incidents, explosion in trains or on railway premises, terrorist acts, hijacking of train, etc., RPF will coordinate with other Departments of Railways, Government Railway Police/District Police and various agencies of State and Central Government for speedier relief and rescue operations. Similarly, in cases of CBRN Disasters or a natural calamity affecting Railways, RPF will provide support services in rescue, rehabilitation and mitigation efforts.

RPF will play active role in crowd control in station premises/circulating area in coordination with GRPs of respective States and Commercial Branch staff.

The deployment of the RPF may be done on need basis to provide relief, rescue and rehabilitation consequent upon any disaster situation over Railways.

8.2 Current Preparedness:

Role of RPF in the event of railway accidents and other calamities has been outlined in Standing Order No. 34 as under:

- Arranging maximum available RPF manpower within the shortest possible time and dispatching of the same to scene of accident by the quickest means.
- Segregation of the area of incident by establishing temporary barriers by use of nylon ropes to ensure that on-lookers and spectators do not enter the affected area to disturb the scene or hamper the rescue operations.
- Baggage of passengers should be isolated and protected and consigned goods should be taken care of till they are handed over to claimants or taken over by railway authorities.
- Respond to any call for assistance in rescue of victims and transporting them to the nearest hospital.

Coordination with State Police and civil authorities is ensured at the divisional and zonal level by concerned RPF officials. An SOP on "Coordination and Flow of Information between RPF and State Agencies" has also been circulated to all zonal railways for information and necessary action [2014/Sec(Spl)/200/10, dated 10.09.2015].

As per recommendations of the High Level Committee, a Disaster Management Team of 15 RPF personnel has been constituted on each Division with provision of necessary equipment viz. torches and other lighting arrangements, nylon ropes and poles for segregating the affected areas from unwanted visitors and spectators, loud-hailer, stretchers and first aid equipment, wireless sets for inter-communication, cameras for photography of scene of incident, luminous jackets, etc.

Guidelines also exist for ensuring availability of off duty RPF staff for dispatching them to place of occurrence in case of major disasters affecting Railways.

Thirty (30) categories of modern security related equipment have been identified along with scale by a Norms Committee. Zonal Railways need to ensure procurement of these equipment as per laid down scale.

Home Secretaries of all the States have been advised by the Min. of Home Affairs regarding initiation of action for expeditious clearance by the State Police in case of railway accident involving loss of human lives or injuries to the passengers, etc. [No. VI-24022/11/2002-PM-I, dated 24th December, 2002]. This letter of the Ministry of Home Affairs has also been circulated to all the General Managers for information and necessary action [2002/Sec(Cr.)/45/47, dated March 27,2003].

8.3 Integrated Security System:

An Integrated Security Scheme has been approved for 202 railway stations of Indian Railways. The system envisages multi-layered surveillance of vehicles, luggage and passengers in station premises. The system comprises of following four broad categories:

- CCTV surveillance system
- Access control (under vehicle scanning system)
- Personal and baggage screening system (HHMD, DFMD & Baggage Scanner)
- Bomb Detection and Disposal System

8.4 Crowd Control and Management:

For effective crowd control, RPF, GRP and District Police have to act in a synchronized manner in coordination with civil authorities. Chapter 10 (Maintenance of Public Order and Tranquillity) of the Code of 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 officers of Armed Forces to deal with Unlawful Assemblies. Enabling provisions are also available under rule 243 of the RPF Rules 1987 empowering superior officers of the Force to disburse unlawful assembly.

Existing CCTV surveillance system at the railway stations needs to be upgraded to incorporate intelligent video analytics 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 initiating legal action against such elements. One of the intelligent video analytics envisaged for CCTV surveillance under the Integrated Security System is 'crowd management' to signal for crowd density within station premises when it exceeds the prescribed limit.

It is, however, essential that the District Magistrate (Dy. Commissioner) or the Civil Police (Senior Superintendent of Police) provide advance information to the Railways (DRM) of the dates of expected rush; and also the volumes of rush (including some rough assessment of direction wise destination).

On Western Railway the recommendations of the Committee in this regard is being followed by the Division. A training programme has also been organised in the Divisional level regarding steps to be taken by RPF. All IPFs of Posts and Outposts have been instructed to act according to the recommendations. RPF staff have been briefed and trained to effectively control mobs at the accident sites by using nylon ropes. luminous jackets and human chains and also to keep the luggage of the victims under safe custody at the accident sites and guard it till its return to the victims' relatives They have also been briefed to treat the VIPs and Media persons effectively.

8.5 Explosion in trains and railway premises:

At present, Railways have to rely upon the existing expertise with States and Central Security Agencies for bomb detection/disposal over railways.

Explosive detection and disposal is a highly skilled and challenging job. Bomb detection system has been envisaged under Integrated Security System. It provides for development of detection capability with RPF. RPF personnel are being trained in phased manner to develop capability in bomb detection on each zonal railway.

Preventive measures to be taken in such situations have been separately circulated vide Security Directorate Secret letter No. 2003/Sec(Spl.)200/14 dated 16.01.2008.

8.6 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 especially in cases of terrorist attacks.

8.7 Preparedness of Vadodara Division:

The compliance of Railway Board Disaster management plan Guidelines, regarding current preparedness, integrated security system, Explosion in trains and railway premises &Terrorist act &Hijacking of trains is summarized below:

S.N	Guide lines RB DMP	Vadodara Division Preparedness
1	Compliance of Standing Order No. 34 in the event of railway accidents and other calamities.	Standing order is being complied by BRC division during the event of railway accident and other calamities.
2	Implementation of SOP on “Co-ordination and Flow of Information between RPF and State Agencies” as per letter [2014/Sec.(Spl.)/200/10, dated 10.09.2015].	SOP on co-ordination and Flow of information between RPF and state agencies is being complied over BRC division.
3	Constitution of a Disaster Management Team of 15 RPF personnel and provision of necessary equipment.	Disaster management Team of RPF Vadodara division consisting 18 staff of various ranks have already been formed. 16 RPF commando team has also been formed over BRC division. They also equipped with disaster related equipment viz torches and other lighting arrangements, nylon ropes and poles for segregating. The affected areas from unwanted visitors and spectators, load-hauler, stretchers and first aid equipment, wireless sets for inter communication, camera for photography of scene of incident luminous jackets etc.
4	Implementation of Guidelines for ensuring availability of off duty RPF staff for dispatching them to place of occurrence in case of major disasters affecting Railways.	All IPFs have already been instructed to ensure availability of off duty RPF staff in case of major disaster affecting Railways and dispatching them to place of incidence by quickest means.
5	Procurement of modern security related equipment identified along with scale by a Norms Committee.	30 category of modern security related equipment identified along with scale by Norms, Committee needs to be procure. However some equipment is available at post level and some equipment kept at BRCR for disaster management team at divisional level.
6	Compliance of MHA guidelines [No. VI-	Initiation of action for expeditious clearance by

	24022/11/2002-PM-I, dated 24th December, 2002] circulated vide letter 2002/Sec(Cr.)/45/47, dated March 27, 2003] for expeditious clearance by the State Police in case of railway accident involving loss of human lives or injuries to the passengers.	the state police in case of railway accident involving loss of human lives or injuries to the passengers are being complied by making co-ordination of various level.
7	Provision of Integrated Security Scheme at railway stations over Western Railway.	Status of CCTV surveillance system, access control (under vehicle scanning system) personal and baggage scanning system (HHMD) DFMD & baggage scanner & Bomb detection and disposal system is enclosed at Annexure-A & B.
8	Provision of CCTV Surveillance system, baggage scanners, Under Vehicle Scanning System (UVSS) and bomb detection & disposal equipment over Western Railway under ISS scheme and in overall including ISS.	In BRC division 02 stations i.e. Vadodara and Godhra identified for installation under SSP have equipped with 49 and 09 CCTV cameras respectively, owned by railways. 02 luggage scanner are proposed to installed at BRC station. 01 sat if BDDS equipment consisting of 19 items is available in this division.
9	Sanction for installation of CCTV cameras in A1, A, B & C category stations over Western Railway under 'Nirbhaya Fund' and its progress.	Installation of CCTV camera under Nirbhaya fund in 06 railway stations i.e. A1- 01, A- 04 & B-01 category are proposed. However work has been sanctioned and allotted to RCIL for execution.
10	'All India Security Help-Line' 182 through Divisional Security Control Rooms of RPF & another Security Helpline 1800111322 from Railway Board, Rail Bhavan, New Delhi to provide round the clock security related assistance to passengers over Western Railway.	RPF personnel are being deployed at security control room 24X7 for smooth functioning and maintaining of security helpline No 182. There are total 03 lines available at divisional security control rooms Vadodara.
11	Up-gradation of existing CCTV surveillance system at the Railway Stations for incorporating intelligent video analysis to get timely information when heavy crowd builds up within station premises and plan follow-up action.	104 CCTV cameras have been installed at important station over BRC division viz BRCP-49, AKV-09, BH-13, ANND-14, ND-10 and GDA-09. Proposal for installation of 185 CCTV cameras at 06 railway stations i.e. A1- 01, A- 04 & B-01 over BRC division under Nirbhaya fund is under process through Railtel corporation Ltd. Existing CCTV surveillance system at the railway station needs to be upgraded to incorporate intelligent video analytics 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 initiating legal action against such elements. One of the intelligent video analytics envisaged for CCTV surveillance under the integrated security system is crowd management to signal for crowd density within station premises when it exceeds the prescribed limit.
12	RPF personnel training to develop capacity in bomb detection.	Bomb detection teams have been formed and 19 BDDS equipment have been procured and allot to the team .

13	Availability of no. of trackers and sniffer dogs with RPF for detection of explosives and search.	There are 04 sniffer dogs, 1 narcotics dog=5 dogs are available over BRC division more over 01 pub is going for training which declared unfit during training.
14	Compliance of Security Directorate Secret letter No. 2003/Sec(Spl.)200/14 dated 16.01.2008.	As per security directorates secret letter preventive measures are being taken RPF bomb detection and disposal squad teams are exist which is equipped with modern equipment. Trained RPF personnel and sniffer dogs are being utilized during bomb threats call, hoax call with the help of GRP and city police.
15	Compliance of Procedures outlined in the Crisis Management Plans of the GOI, of the MHA and of the Ministry of Railways to tackle such situations of Terrorist acts & Hijacking of trains.	Above mentioned secret documents are available with concern authorities and action has to be ensured in accordance with the provisions mentioned in the above plans.
16	Availability of Quick Reaction Teams (QRTs) of RPF personnel round the clock at bigger stations to tackle terrorist attacks.	All important railway station are being manned by deploying armed RPF QRT teams round the clock. The teams immense help to tackle such situations during initial phases especially in cases of terrorist attacks.
17	Fire detection and suppression system at important installations.	In case of any fire disaster affection railway viz serious train accidents caused by accidental, human error or manmade, RPF co-ordinate with fire Brigade, other department of Railways, GRP, District police and various agencies of state and central government to speed relief and rescue, operation and provides support service in rescue, rehabilitation and mitigation efforts. RPF plays active role in crowd control at the accident site in co-ordination with GRP and commercial branch staff.

CHAPTER - 9

DISASTER COMMUNICATION SYSTEM

9.1 Communication on Railways for Disaster Management:

Railways have their own extensive communication systems which would be used for Disaster Management too. However, we need to have back-ups especially to ensure 100% communication availability in case of any type of man-made or natural disasters. Sharing of OFC network, where required with others may be ensured by tie-ups in advance. This will be also inter-linked with the communication system with outside agencies of the concerned Central and State Governments, IMD etc.

Preparatory work may be done for quick installation of communication system (satellite system) between Railway control set up for flood and affected locations /station. This can even be on make shift raft, boat etc. Similar arrangements can also be made in earthquake affected areas.

Prepared Ness of Vadodara Division:

- **Optic Fiber Communication system:**

Western Railway has its own captive Optic fibre communication network for Railway operations. Railway communication networks are not being shared by any other service providers/outside Central or State agencies etc. These OFC communication networks have back up / ring protected route diversity on Rail Tel long haul network in most of the sections. The details of Communication System is as below :- **OFC communication system:**

Sections shown in table A are low density Traffic /small Section/Route where OFC is yet to be provided.

Table A			
S.N	**Division**	**Gauge**	**Setion**
1	Vadodara	BG	Pratapnagar-Chhota Udaipur
2	Vadodara	BG	Nadiad-Modasa
3	Vadodara	BG	Ankleshwar-Rajpipla

Sections shown in table B are the sections where OFC is linear i.e. without route diversity. These sections are either branch lines or with low traffic density.

Table B			
Sr.	**Division**	**Gauge**	**Section**
1	Vadodara	BG	Vasad-Kathana
2	Vadodara	BG	Anand-Khambhat
3	Vadodara	BG	Bharuch-Dahej
4	Vadodara	BG	Chhotaudepur-Alirajpur

❖ **Satellite based communication system are provided at ARTs:-**

S.N	Div.	Location	I-SAT	VSAT (Manual tracking)	VSAT (auto tracking)
1	BRC	Vadodara (Y)	Available	-	Available

❖ **Satellite based communication system are provided other than ARTs*:***

Sr.	Division	Location	I-SAT
1	BRC	ARME / Vadodara(P)	Available
		NOCC(Test Room) Pratapnagar	Available
		Disaster Room (Divisional office Pratapnagar)	Available

Wherever possible, communication at the relief camps is being provided if the relief camps are located near the Railway Stations and it is physically possible as per the prevailing conditions at site. At other locations, communication is possible through CUG mobile phones wherever the coverage exists.

9.2 Back up Communication on Railways:

To handle any disaster by the Railways and to utilize its resources efficiently, Communication is an essential requirement. Where required, back up (alternatives) should be adequately available. One of the strengths of the Railways to handle a disaster is its own communication network. In handling a crises or a disaster, reliability of communication has to be cent per cent.

At the Divisional level, the control rooms have to communicate with the stations, the telephone exchange have to function and the OFC and Quad cable network has to have reliable back ups to be able to be effective.

Where there is no back up of the Railways owned OFC network, an arrangement of sharing with Government/Non-Government organization and other service providers has to be planned in advance. Or else, the alternative of satellite communication be resorted to. However, the speed of reconnecting a failed communication by which ever means is of essence.

Further to provide better communication facilities during disaster, it is necessary that either the Rail net, intranet network of IR is extended to every railway station of Indian Railways. Alternatively, other means of communiation is provided on all the stations. This will ensure quick set up of voice,video and data transmission facility at stations during any eventuality since IR's own V-SAT Hub is now established at Thompson Road, New Delhi, voice/data/video communication facilities from this center to different railways and divisions need to be planned and catered to.

9.3 Backup Communication of Western Railway:

The captive communication system of Western Railway has backups available on most of the routes through channels provided by RCIL (a PSU under the ministry of Railways). The divisional control rooms are able to communicate with all the stations through control phones. Communication at

major stations, where telephone exchanges are provided, is also possible through auto telephones. In addition to this BSNL phones are also provided at the control rooms and way side stations. Therefore there are multiple modes of communication between divisional control rooms and stations. These modes of communication are available in all Broad Gauge except Nadiad – Modasa(104 RKm) and Ankaleshwar-Rajpipla(63 RKM) which are non control sections i.e. section having one train system of working without any control communication. The narrow gauge sections on Vadodara Division, Choranda-Motikoral(19 Kms), Jambusar-Pratapnagar(51 Kms), are having one train system of working without any control communication.

Wherever Railway owned OFC networks are not available, backup channels are being hired from service provider like BSNL. Railnet may be extended to those stations where Railway exchange are provided and stations where OFC route and POP available. V-SAT communication can be established after the arrival of ART at the site as these sets are provided in the divisional ART only using IR's own V-SAT hubs established at Thomson Road, New Delhi.

9.4 Incident Response System (IRS):

The National Policy on Disaster Management lays down guidelines for a chain of command in a structured unit to handle various types of Disasters as under:

A traditional command structure exists in the Railway hierarchy which manages disasters in Indian Railways. It has been planned to strengthen and professionalize the same by drawing upon the principles of the IRS with suitable modifications. The IRS is essentially a management system to organize various emergency functions in a standardized manner while responding to any disaster. It will provide for specialised incident management teams with an incident commander and officers trained in different aspects of incident management, such as logistics, operations planning, safety, media management, etc.

The Railways have their own IRS as they have had to deal with crises like situations and mini-disasters in the day to day operational working and especially with handling of train accidents.

9.5 Coordination – Integrated Command System of Railways with Integrated Operations Centre of MHA:

Traditionally the Control Room in each Division monitors on a "Real Time" basis the train operations. This Control Room is manned round the clock and has representatives of all the departments concerned with train operations as also with abnormalities which may affect train running. The "Command and Control" of the Divisions Control Room is with the operating department who plan, execute and monitor the running of trains (both freight and coaching trains). Assistance of other departments, viz. Mechanical (Power), Electrical (Power and OHE Traction Distribution), Mechanical (Carriage and Wagon), Civil Engineering (track maintenance and monitoring), Commercial (passenger information interface), Signal and Telecom (through a 'Test Room'), Security (RPF) etc is provided round the clock in the Operations Control Room.

This control room of the affected divisions on the Railways will monitor the activities post Disaster and coordinates with the various organizations (rescue, relief, mitigation etc) in the disaster areas.

The Divisional control will coordinate with the "Zonal Control" where a similar control room exists, called the Emergency Control in the Headquarters of each Zonal Railway. "Zonal Control will establish liaison with the Disaster Management Centre in the Railway Board which in turn coordinate with the IOC of the MHA right from the stage of receipt and issue of "Orange or Red Alerts" and also for providing/requesting help in relief/rescue/mitigation to other departments (or State Government) or from them respectively. The Zonal Control will constantly update the position to Railway Board.

9.6 Preparedness of Vadodara Division :

S.N	RB DMP	Vadodara Division Preparedness
1	Need and availability of backup communication to ensure 100% communication availability in case of any man-made or natural disasters.	In case of Man-made Disasters :- • Vadodara Division have their own extensive communication systems which would be used for Disaster Management too. • Most of the circuits working on OFC network over Western Railway are in Ring protection with 100% communication availability. • 100% communication availability during any disaster in areas / location where Vadodara Division's OFC is not in Ring protection can be ensured by hiring leased wired / wireless circuits from other Telecom service providers. In case of Natural Disasters :- • I-SAT and V-Sat in ART can be used for communication.
2	Need and availability of sharing of OFC & Quad cable network, where required with others.	OFC and Quad cable Network is not shared by Railway with others (Central and State Governments, other agencies)
3	Need and requirement of inter-linking the communication system with outside agencies of the concerned central and state Governments, IMD etc.	Communication system with outside agencies is not inter-linked by Railway (Central, State Governments, IMD & other agencies).
4	Preparation for quick installation of communication system (satellite system) between Railway control setup for flood & earthquake affected areas and affected locations/station.	• ART over Vadodara Division is equipped with Satellite Communication (I-Sat phone and V-Sat)facility. • The communication system can be setup from the Railway Track (location up to which ART can be reached).
5	Availability of Rail net/internet network of IR to every railway station of Western Railway.	• Presently Rail net / Internet connections have been extended to Divisional Head quarter and important stations. • Rail net/internet network can be extended to disaster location / site with the help of V-Sat communication when the ARTs reach at site/ location.

6	Planning & progress of voice /data / video communication facilities from IR's own V-SAT hub established at Thomas Road, New Delhi, to different railway stations of all divisions of Western Railway.	Voice / Data/ Video communication can be established through VSAT hub at disaster location after arrival of ART.

CHAPTER - 10

DISASTER INFORMATION FLOWS AND ALERTS OF DISASTER

10.1 Standard Operating Procedures (SOPs):

The Ministry of Home Affairs (MHA), as the nodal Ministry is responsible for coordinating response and relief efforts with various Ministries/Departments of the Government of India, State Governments and District Authorities. They have prepared the Standard Operating Procedures (SOPs) for handling man made disasters (for eq. Terrorism related disasters) for which they are earmarked as the lead Ministry for disaster response, relief and mitigation.

All Central Ministries, State Governments, District Authorities and other stakeholders will prepare SOPs in consonance with the National and State Plans. The SOPs will be prescribed for activities like search and rescue, medical assistance and casualty management, evacuation, restoration of essential services and communication at disaster sites, etc. the other important activities are provision of food, drinking water, sanitation, clothing and management of relief camps. Detailed SOPs will also be devised by all concerned for dispatch, receipt and deployment of central resources.

10.2 Levels of Disasters:

The Standard Operating Procedures (SOPs) will determine the levels of disasters and for issuing alerts to electronic messaging systems to various agencies about disasters have been formulated by Ministry of Home Affairs. These SOPs will be reviewed periodically for disaster response management in case of natural and man-made disasters.

10.3 Integrated Operation Centre of MHA:

Integrated Operation Centre (IOC) has been set up in the Ministry of Home Affairs to handle disaster situations on a 24X7 basis. IOC is responsible for initiating incident alert messages when a disaster is likely to occur or when it has actually taken place.

10.4 Categorization of Alerts:

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.**

10.5 Action Plan for Communication of Alert Messages:

Whenever a crisis is about to be faced, Government of India has laid down systems for warning its respective departments 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/Organisations/Agencies will report events to IOC,MHA.
(ii) While generating and transmitting alerts to IOC (MHA), the concerned agency, will indicatethe category of the event as well as its corresponding stage (Red/Orange/Yellow).
(iii) For natural calamities and other crisis situations categorization of Alerts is as under:

(a) 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 stuffs 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

(b) 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.

(c) LANDSLIDES(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 its impact would be of a lower order. Although a threat potential is there, it may not be immediate.	Orange

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 sometimes 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

(d) 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 impeding disaster. All preparedness action should have been completed by this time. MHA would be closely monitoring steps taken by the concerned State 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.	Red

(e) EARTHQUAKE (India Meteorological Department):

Category	Description	Stage
Slight	M ≤ 5.0	Yellow
Moderate	5.0 ≤ M ≤ 6.9	Orange
Great	M ≥ 7.0	Red

(f) 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

(g) RAILWAYS (Ministry of Railways):

Category	Description	Stage
Minor	Consequential Passenger Train Accident not resulting to casualty.	Yellow
Medium	1-25casualties.	Orange
Major	26 or more casualties.	Red

(f) FOREST FIRE (Ministry of Environment & Forests):

Category	Description	Stage
Ordinary Fire	Localised 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

10.6 Action on Division on Orange/Red Alert:

On the issue of an Orange Alert (or of a higher level) the Responders have to be activated as required for rescue and relief etc. as under:

- Mobilization of Gangman.
- Hospitals to mobilize Doctors and Para-medical staff.
- Civil Defense units to be activated.
- RPF and RPSF deployment.
- Scouts and Guides for colony care and passenger guidance.
- Operation and manning of the disaster control room.
- Coordination amongst various stake holders through advance warnings.
- Communication system to be ensured and backups to be in readiness for immediate use when required.
- TA Units Deployment; In case the existing railway staff may not be able to maintain train services to be operational, the TA units have to mobilized. (It takes 2-3 days for the deployment of the TA unit after issue of their mobilization order; hence advance warning is of essence).

10.7 Monitoring/Reporting of Effects of Disaster:

On the declaration of an incident as a Disaster by a State Government or District Administrator or even by the GM/AGM of the Zonal Railway, the CSO would give time to time updates to the Safety Control in Railway Board of the Situation. Assistance of other departments would be made available by the GM to the Safety Department on the zonal Railways.

10.8 Standard Operating Procedure (SOP) on Railways:

(a) 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, Landslides etc. Depending on the gravity of the disaster/crises/calamity expected the information would be passed on to the Divisional officers through the Emergency Control which will act as the IRS. 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.

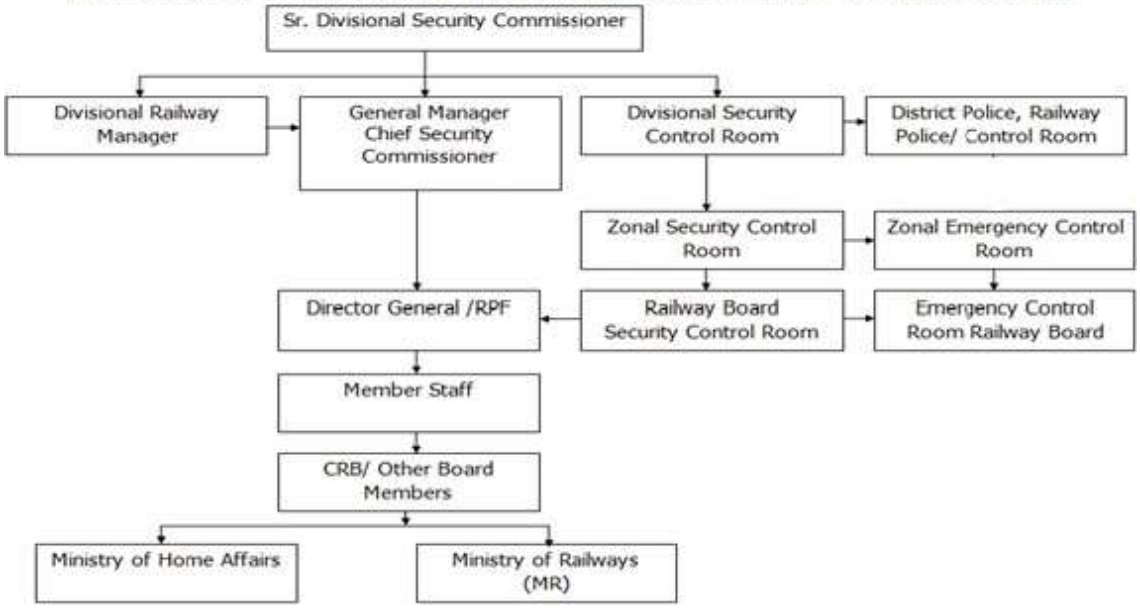
(b) Man-made Disasters:

Different forms of terrorism fall under the ambit of these disasters. A major role has to 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 IRS. The Headquarter Security Control will coordinate with the IOC of MHA.

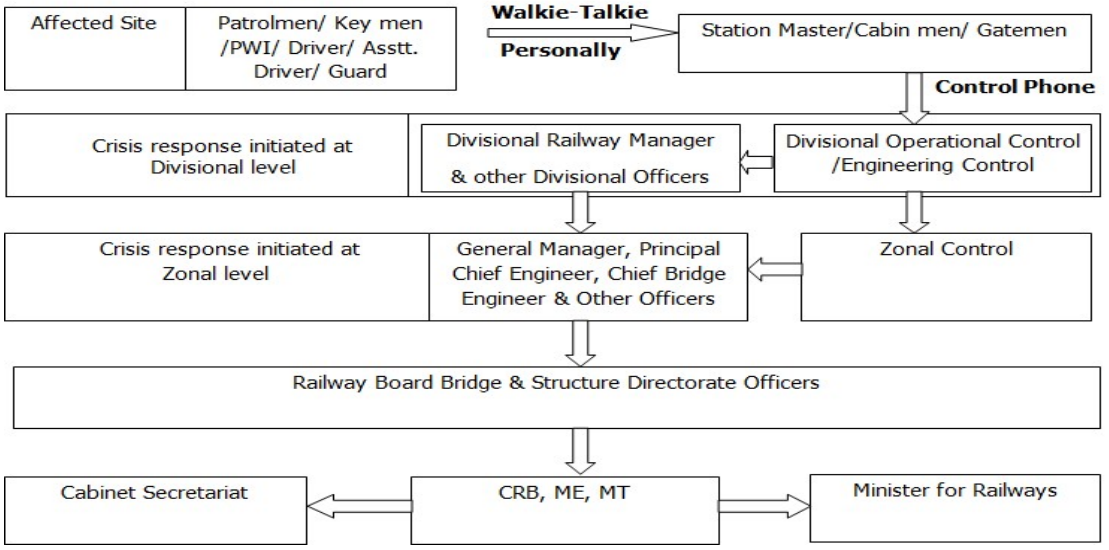
A similar system would be followed as above in organizing regulation of train services by the operating department at the divisional, zonal level and also in the Railway Board.

The Disaster information flow charts for Terrorism and security related disasters, Natural calamitiesanda railway accident is as below:

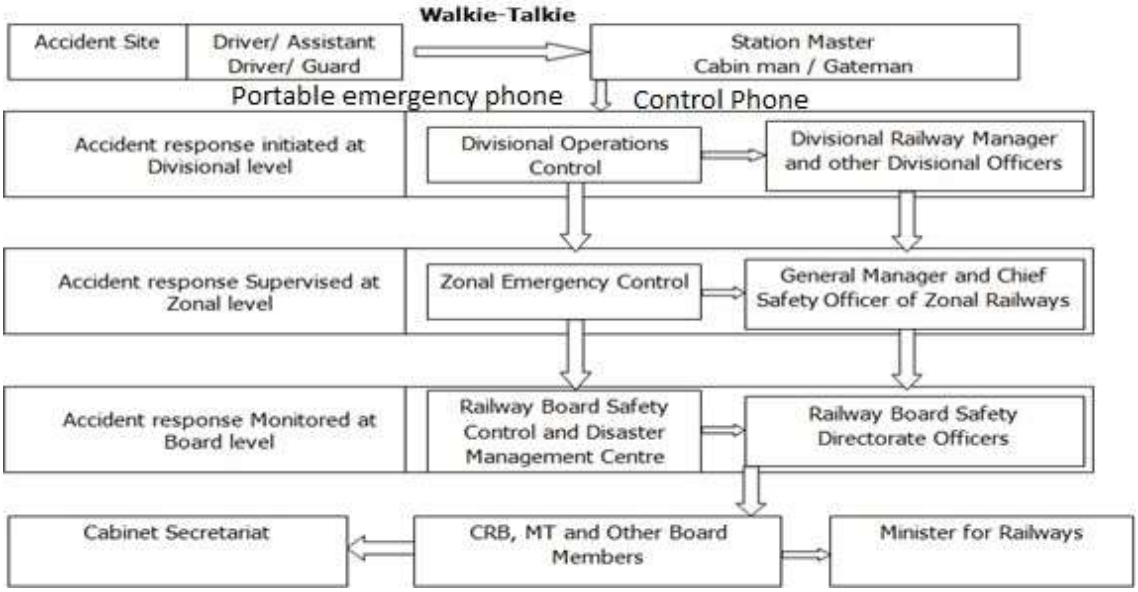
REPORTING FLOW CHART FOR TERRORISM/SECURITY RELATED CRISIS



NATURAL FACTOR(S) CRISIS MANAGEMENT INFORMATION FLOW CHART



RAILWAY ACCIDENT



Chapter 11

MEDIA MANAGEMENT

11.1 Authority To Deal With The Media

11.1.1 **At the Railway Board level,** only Ministers, Chairman, Members, Secretary Railway Board, Director Public Relations (DPR), Director Information & Publicity (DIP) or any other Officer(s) especially authorized by the Minister of Railways may give information or be accessible to the representatives of the media. Any other officer, if approached by the representatives of the media is to refer them to the DPR (***the official Spokesperson for the Ministry of Railways***) or in his absence to the Information Officer. The Chairman is tobe kept informed of the press conferences, if any, being held by any Member of the Board.

11.1.2 **At the Railway/PU Headquarters level,** the General Managers and the CPROs are authorized to meet the media in a formal Press Conference or informally depending upon the importance of the nature of the information to be given. However, the General Managers may especially authorize the PHODs to give information or be accessible to the representatives of the media. Any other officer, if approached, by the media, is to refer them to the CPRO.

11.1.3 **At the Divisional Level,** Divisional Railway Mangers (DRMs) are permitted to meet the representatives of the media approaching them for factual information on specific subjects. They may also send news items concerning the working of the Railways (particularly in their Division and other matters oflocal interest) to the media directly or through the local office of Press Information Bureau (if available). DRMs may also hold press conferences **occasionally**. However, in respect of queries on wider policy matters concerning the Zonal Railway or the Indian Railways, the representatives of the media may politelybe directed to GM/CPRO or DPR/Railway Board. In order to ensure that no unauthorized information/material is supplied to the press, the DRMs should **generally not** delegate this work to a Divisional Officer except to ADRMs. All such information/material should have **DRMs approval** before it is supplied to the press. Services of PROs (wherever positioned) may be utilized for the purpose.

11.1.4 It is made clear that **no unauthorized person should speak to or interact with the media,** as it may amount to un-becoming of a railway servant. In this connection, the provisions relating to official documents and responsibility of railway servants (*contained in **Rule-11** of Railway Servants (Conduct) Rules,1966*) may also kept in view.

11.2 PUBLICITY DURING ACCIDENTS/OTHER UNUSUAL OCCURENCES

11.2.1 **In the event of accidents**, resulting in damage/causalities, the image of Railways invariably suffersbecause of adverse reactions in public and media. In such situations, Railways must **display greater responsibility** not only in relief and rescue operations but also in interacting with the media with correct and updated information.

11.2.2 Sometimes, newspapers publish **contrary versions** relating to any accidents attributing them torailway sources. It is, therefore, necessary that only the authorized officers interact with the media. Unauthorized person **should not** speak to the media.

11.2.3 It has **to be ensured that the media is kept informed** of the relief and rescue measures, passengersinjured and dead, restorations of the traffic, etc. to avoid breeding of gossip, rumours and sensational reporting in the absence of authentic information. CPROs must depute an official to monitor and scan through all the print and major electronic media reports, analyze them and take appropriate action immediately to correct any adverse trend for any report aimed at mere sensationalizing the untoward incident.

11.2.4 The media persons must be **briefed** at the accident site and if necessary, **at least once every day** atthe Divisional/Zonal Headquarters on regular basis. For this purpose, the executive departments should ensure that the PR Department is fed with the latest information and update at top priority.

11.2.5 Appropriate **rejoinders and contradictions** must be issued and copies thereof should be sent to DPR,Railway Board for briefing the media at the national level. During such emergencies, a **close contact should be established with DPR** Ministry of Railways. It is of prime importance that PR activities have a **common strategy and one voice.**

11.2.6 Sometimes, train services are disrupted badly because of other reasons such as **bandh calls, rail rookagitations, etc.** by political/pressure groups etc. for causes many a time not even remotely connected with railway operations.

11.2.7 In situations , where **advance information** of such agitations is available, zonal railways must publicize about the possibility of train services getting affected from the relevant date through suitablepress notifications. These notifications must make it amply clear that the agitations and bandh calls are responsible for the cancellations/diversions of the train services, if any. Wherever necessary advertisements can also be brought out in the newspapers, TV and Radio in this regard. Apart from conveying information, such initiatives may also generate opinion against such bandh calls/agitations.

11.2.8 A similar action may be taken for **publicizing disruption of traffic due to floods, fog etc.** regretting inconvenience caused to the passengers and stating clearly that the reasons for such disruptions are beyond the control of Railway Administrations.

11.3 MEDIA MANAGEMENT PLAN:

11.3.1 Objective:

11.3.1.1 To post the public with factual information.
11.3.1.2 To create a positive public opinion.
11.3.1.3 To create a healthy relationship with the media.

11.3.2 Managing Media:

- Any accident which may reflect in the media shall be reported to Public relations branch by central control. The safety officials available in the control shall personally ensure that CPRO/PRO is informed of all the available details.
- Depending on the gravity of the situation, CPRO or his representative will immediately position himself in the Central control.
- Either CPRO or his representative shall proceed to the accident spot, whenever required, to take charge of PR work at the site.
- Meanwhile, PR official stationed at the Central Control will obtain more details from the site for information of media.
- The public relations officer, on arrival at the site of accident shall collect factual information from the officer-in-charge of the accident site and then relay the same to the media men at site and also to PR representatives in the control. Thus, an on line communication channel will be established to keep media informed of all important details.
- Railway's endeavour shall be to ensure that only factually correct and confirmed information is relayed to the media and no inflated or exaggerated version of the fact reported in the press.

11.3.3 The procedure to be followed:

(i) Only GM, DRM, CPRO, and officer authorized by GM is competent to interact or give interview to media.

(ii) Unconfirmed news having no authentic source shall not be relayed to media.

(iii) No railway men shall express or voice any criticism, opinion or views at any point of time about the accident.

(iv) No one except the PR representative stationed at Control/site shall relay any information to the media.

(v) The media may be given the following information:

(a) Nature of the accident- date, time, place, exact location, train no &Name. Number of coaches involved, Names of dead and injured passengers.,etc.

(b) Prima-facie cause of the accident will be relayed to Media only with the approval of GM. Sabotage, even if suspected, will not be relayed to Media, without approval of Railway Board.

(c) Names of Hospitals where injured are being treated.

(d) Facilities offered to the kith and kin of the victims-Payments Exgratia.

(e) Setting up of passenger assistance booths, tele/fax No., e-mail address etc.

(f) Diversion of trains, road bridging, re-routing etc.

(g) Probable restoration.

(vi) Convenience and conveyance of media shall be taken care of by PR personal with assistance of Commercial representatives at the site. The media persons must be conducted to the hospitals where injured are being treated.

(vii) Commercial department must ensure that list of passengers who travelled by the accident involved train along with the list of dead and injured in the accident reach the PR officials in control/site by the fastest possible means.

Chapter 12

GUIDELINES FOR MANAGEMENT OF DISASTERS

12.1 Background

India is the seventh-largest country by area, the second-most populous country with over 1.2 billion people and the most populous democracy in the World. Bounded by the Indian Ocean on the south, the Arabian Sea on the south-west, and the Bay of Bengal on the south-east, it shares land borders with Pakistan to the west; China, Nepal, and Bhutan to the north-east; and Burma and Bangladesh to the east. In the Indian Ocean, India's neighbours are Sri Lanka and Maldives. Andaman and Nicobar Islands share a maritime border with Thailand and Indonesia.

Disaster Risks in India:

India is vulnerable, in varying degrees, to a large number of natural as well as man-made disasters. 59% of the landmass is prone to earthquakes of moderate to very high intensity; over 40 million hectares (12% of land) is prone to floods and river erosion; of the 7500 km long coastline, close to 5700 km is prone to cyclones and tsunamis; 68% of the cultivable area is vulnerable to drought and hilly areas are at risk from landslides and avalanches. Vulnerability to disasters/emergencies of Chemical, Biological, Radiological and Nuclear (CBRN) origin also exists. Heightened vulnerabilities to disaster risks can be related to expanding population, urbanization and industrialization, development within high-risk zones, environmental degradation and climate change.

12.2 Management of cyclones:

12.2.1 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.

12.2.2 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 *a forestation*, 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.

12.2.3 Coordination by Railways regarding Cyclones Risk Management, Advance Warnings andMitigation:

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 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.

12.2.4 Preparedness of Vadodara Division:

Coastal area of Gujarat state is prone to cyclone in western region.

Vadodara division is having close coordination with state governments of Gujarat, Maharashtra & Madhya Pradesh for handling all phases of the cyclones. The following issues have been taken care of:

1. All the railway bridges and embankments on Western Railway are safely designed against flood and stability to bear cyclone effect. These parameters are also taken into account for re-construction/replacement/new lines bridges and embankments.
2. All the major and important bridges are designed for maximum runoff during the flood for their catchment area/modified catchment area.
3. All the bridges are marked high flood level (HFL) with year and danger level (DL) in red colour. In case of any water flow crossing danger level, the train movement will be suspended in the section till water level falls and traffic will be restore only after physical check against the scouring near abutments and piers by sounding method and a safety certificate is issued by competent officer at site.
4. To avoid fly/falling of GI/Aluminium/AC sheets used in station platform sheds and other structures, the necessary J bolts are provided in more quantities with wind ties.
5. The roof of old staff quarters having AC/GI sheets have been replaced with RCC and abandoned structures are dismantled immediately after declaring unsafe as a policy.
6. Necessary specified quantities of materials like boulders, sand/stone dust/moorum/coal ash etc is kept at vulnerable areas to attend post effects of cyclone i.e. washouts, breaches immediately in cases of small cyclones.
7. Capacity building on rail tracks/bridges and important rail installations both for reducing devastation from a cyclone, and for relief/restoration etc is completed in coastal region.
8. As soon as any information is received from Indian metrology department and other agencies like CWC, State Government, local bodies etc., advance warning of a cyclone should be communicated in affected area through Railway's own telecom and control lines through on duty station masters (24 hours) and various offices and installations.
9. All the residents i.e. staff and families residing in low lying areas should be taken at safe and higher places like platforms, institute building, other sheds/structures, shelter etc available at stations.

12.2.5 When a train is caught in a cyclone storm at mid- section/station:

1. Driver to stop the train clear of vulnerable cuttings, bridges and embankments.
2. Guard, Driver and other Railway staff on train shall open all doors and windows of all coaches.
3. Station Master shall not start trains when the wind velocity exceeds the permitted level of 72 kmph as per IRBM 1998 para no. 717
4. Make announcement frequently to warn the public about the storm/cyclone.

5. Take all necessary action to provide shelter and other assistance to those affected by cyclone and storm.

12.2.6 Weather warning message.

Meteorological department, Government of India issues messages of warning whenever a storm/gale or heavy rainfall is expected. Following conditions are considered dangerous.

i) Dangerous rainfall – When amount of rainfall is expected 5 cm and above in 24 hours.

ii) Dangerous wind velocity - When wind velocity is 65 KMPH & above. (Cyclone Warning centre is located at Ahmadabad)

12.2.7 Action to be taken on receipt of Weather / Cyclone warning massage:

(A) Action by CTNL / Dy. TNL / Engg.Control:

CTNL / Dy. TNL should repeat the massage to the concerned SS / SMs / ASMs of Station and other concern controllers which are likely to be affected and other Divisional control for taking necessary action. He shall also advice DRM / ADRM, Sr. DOM, Sr. DSO, Sr. DEN and other concern BOs.

A register should be maintained in control office showing the full particular of receipt and action taken on the Weather / Cyclone warning massage, showing the date & time of receipt of the warning massage.

(B) Action by Station Master, Loco pilot andGuard:

On receipt of Weather / Cyclone warning advices from the controller, the SM should take the following action:

(i) **Intimation to staff:**

The SM on duty where ADMO / ADEN / SSE / SE (P. Way), Works, OHE / PSI and other senior subordinate and Inspectors like TI, LI etc. are Head Quartered should immediately hand over the massage receipt from the controller and obtained his acknowledgement. In case of any Officer is posted at the Station they should also be immediately informed.

(ii) **Control ofTrains:**

Precaution to be taken by SM / Loco Pilot and Guard regarding control of Trains:

(a) In case of storm wind, detain the Train until the storm and high winds abate and it is considered safe to allow the Train toproceed.

(b) The Loco pilot of the Train should wait till, in his opinion, the intensity if wind has come down to the level that the movement issafe.

(c) Don"t stop Trains at places like sharp curves, high embankment, cuttings and Bridges including approaches. The Train could be restarted in consultation with the Guard only after the Storm and high winds abate and it is considered safe toproceed.

i. Anemometers indication:

In Vadodara Division, Anemometers is installed at Bharuch & Utran Stations.
In case where Anemometer is installed at one of the Stations if it is indicating wind velocity higher than the dangerous level as prescribed by the special instruction, the SM shall take following action:

- The SM shall inform the section controller and the SM on the other side immediately about the need to control the movement of theTrains.
- The SM shall not start or allow the movement of Trains through his Stations and also not grant line clear to the Trains waiting at the adjacent Station for his Station.
- He shall resume normal running of Trains in consultation with section controller and the SM at the adjacent Station after the wind velocity is again below the danger level as prescribed by the special instruction.

ii. When a Train be caught on run in a Cyclone, Storm or strong wind of an intensity which of the opinion of the Loco Pilot is likely to endanger the safety of the Train he shall immediately control the speed of Train and bring it to a stop at first convenient place without a jerk. Loco Pilot to restart in consultation with the Guard only after the Storm and high winds abate and it is considered safe to proceed.

iii. The Guard and Loco Pilot of the Train in co-operation with the Rly staff traveling in the Train shall try to see that doors & windows of the coaches are kept open by the passengers to allow free passage of the wind through the passage.

12.2.8 Action taken by Engineering Branch :

i) Introduced Monsoon patrolling: Advice monsoon patrolman / watchman and gang mates to be extra vigilant. Deploy Watch man at vulnerable locations and bridges continue monsoon patrolling by trolley beyond 48 hrs ofwarning.

ii) Guarding vulnerable locations: Stationary watch man should be posted round the clock at every nominatedlocation.

iii) Inform intermediate Gang mates: send 2 gang men in either side section to inform all gang man and gang mates in the section about the Cyclone / Dangerous windvelocity.

iv) Gang patrol should be carried out: By mate gang man as per instruction contained in Para 1001 (3) of IRPWM.

12.2.9 Action by Traction Power Controller:

Arrange manning all SSP / SP and OHE Depots and alert all staff keep Tower Wagon in readiness.

12.3 Management of Floods:

12.3.1 Vulnerability to Floods:

Floods have been a recurrent phenomenon in India and cause huge losses to lives, properties, livelihood systems, infrastructure and public utilities. India's high risk and vulnerability is highlighted by the fact that 40 million hectares out of a geographical area of 3290 lakh hectares is prone to floods. On an average every year, 75 lakh hectares of land is affected, 1600 lives are lost and the damage caused to crops, houses and public utilities is Rs. 1805 crores 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 inadequate 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 neighbouring countries, adds another complex dimension to the problem.

Gujarat has seen many damaging floods. Almost all major rivers in state pass through a wide stretch of every flat terrain before reaching the sea. These flat low lands of lower river basins are prone to flooding. Occasional cyclones and depressions also cause heavy rainfall in large parts of Saurashtra, kachchh, central and northern Gujarat. The cities of Ahmedabad, Surat, and Bharuch are also located on the flat alluvial plains of large rivers and are prone to flooding

12.3.2 Institutional Framework:

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.

12.3.3 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.

12.3.4 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 Organisation and State governments.

12.3.5 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 in vulnerability 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 overtopping 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.

12.3.6 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 users 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.

12.3.7 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.

12.3.8 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.

12.3.9 Flood Preparedness:

Railway Board has advised RDSO to compile the Flood vulnerable areas in Formation, Cutting Bridges and Buildings etc. along with a questionnaire.

Ministry of Railways has asked RDSO to coordinate IR activities for implementation of National Disaster Management Authority's guidelines on 'Management of floods (Jan.08) by zonal railways and production units. NDMA Guidelines have been made available to all zonal railway and production units.

12.3.10 Actions Taken by Vadodara Division for minimizing flood risk and losses:

The activities proposed to be undertaken aimed at minimizing the flood risk and losses are implemented on Vadodara Division.

These activities include identification and marking of flood prone area on maps, preparation of close contour and flood vulnerability maps, formulating plans for expansion and modernization of flood

forecasting and warning system, 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.

However integration with state government and Survey of India department to procure contour plans is regular practice. Design of linear water way of bridges is based on catchment area and contour maps. There are no problems of river erosion on this railway being most of non-perennial rivers in western region.

12.3.11 Action Plan and Current Status:

Sr. No.	Action Plan (IR DMP)	Action taken by Vadodara Division-
1	Flood/weather forecasting in consultation with IMD and other agencies like CWC, State Government, local bodies etc.	As soon as any information is received from Indian metrology department and other agencies like CWC, State Government, local bodies etc., advance warning of flood/weather forecasting can be communicated in affected area through Railway's own telecom and control lines through on duty station masters (24 hours) and various offices and installations. It is also placed on WhatsApp group of CUG of concerned officials.
2	Development of system of collecting data using modern techniques, Monitoring of land slides, flood danger to bridges, bridge approaches causing interruption to traffic.	Under water inspection by professional divers has been carried out on important bridges of Vadodara Division to check the soundness of foundation and substructure. All the bridges are marked high flood level (HFL) with year and danger level (DL) in red colour. In case of any water flow crossing danger level, the train movement will be suspended in the section till water level falls and physical check against scouring near abutments and piers is done by sounding method. The traffic will be restored only after physical check against the scouring near abutments and piers by sounding method after issue of a safety certificate by competent officer at site.
3	Identification of flood prone areas, RAT, RAW and information prone to erosion/breaches and marking them on railways system map. Monitoring of behaviour of rivers which pose danger to railway embankment.	The data from previous years of such prone areas is compiled way and is well known to the Inspector in charge of the section and is also recorded in the section register. Major/important bridges likely to be affected by Dams on Upstream has been identified and marked in copies of System map for ready reference. River training work of rivers at the Bridge approach is in place in the form of guide bunds, spurs and retaining wall along embankment slopes on vulnerable embankments and bridges.
4	Documentation of records of flood and breaches.	Documentation of records of flood and breaches is being kept in division office and their annual updating.
5	Flood Insurance of Railway properties – A pilot project to be taken by each Railway through help of suitable consultants.	So far no such project is in force with engineering deptt.

Sr. No.	Action Plan (IR DMP)	Action taken by Vadodara Division-
6	Mechanism for coordination with State Government and other Central Agencies on flood control and erosion etc.	Important phone number of Maharashtra, Madhya Pradesh and Gujarat state of all concerned updated and incorporated in Monsoon precaution booklet.
7	Sanction and execution of Anti Erosion works of track, formations, bridges etc.	It is a regular exercise to inspect all the track, formation & bridges before and after monsoon. The result of inspection is materialised to work execution by proposing work in revenue or in capital works for rectification thereafter. Any defect is noticed the same is reflected in bridge register of that particular year. If any major work is required that will be proposed after instructions given by the chief engineer while scrutinizing the bridge register of that year.
8	Improvement to water ways of bridges in track formation (if necessary) including sanction and execution of works.	At many places over division water ways for bridges have been improved by providing pipes and Box culverts across the tracks by studying flood pattern of the affected area.
9	Development of Flood Shelters for staff and passenger at suitable locations in the areas prone to repeated floods.	This is being done as an interim relief measure by railway on the flood affected location.All the residents i.e. staff and families residing in low lying areas can be taken at safe and higher places like platforms, institute building, other sheds/structures, shelter etc.
10	Implementation of Bye-laws for buildings in flood prone areas including modifications of Works Manual.	Provisions available in works manual are implemented over division.
11	Training on Flood Management to officials in various Railway Training Schools and institutions by devising suitable syllabus.	Special Course on Hydraulic design, Breaches & floods and Restoration & Tunneling is carried out in IRICEN Pune on regular basis.
12	Emergency response team on floods.	Position of monsoon reserve material kept at various locations & Availability of Machines/equipment/trucks/T&Ps are taken stock every year before monsoon. The ART & material train reserves are also replenished to meet with any railway emergency caused by flood.
13	Study of silting pattern resulting in reduction in reservoir/Dam's water holding capacity over years to forecast and extrapolate future impact on track due to over flow and need of additional waterway.	Survey & Construction unit of Engineering department while planning gauge conversion, construction of new line evaluates the linear waterway required for each bridge based on the HFL data, catchment area, data provided by dam authorities etc.

14	Study of changed water catchment area due to construction of highways, Dams.	Survey & Construction unit of Engineering department while planning gauge conversion, construction of new line in very special cases go in for catchment area study where previous railway records of HFL, rainfall and catchment is not available. However river/stream in the upstream is inspected for any possible change of course prior to monsoon.
15	Study of changed rainy season month on a particular region.	This is not done by railway. Railways rely upon the forecast of rains provided by meteorological deptt.
16	Installation of Flood water level monitoring system.	The flood water level monitoring system has installed at 04 important bridges. The details are as under- Br.no. 452,502 of Surat-Vadodara, 624 of Vadodara -Ahmedabad,65 of Anand-Godhra section of Vadodara division.

12.4 Management of Earthquakes:

12.4.1 Earthquake Risk in India:

India's high earthquake risk and vulnerability is evident from the fact that about 59 percent of India's land area could face moderate to severe earthquakes. During the period 1990 to 2006, more than 23,000 lives were lost due to 6 major earthquakes in India, which also caused enormous damage to property and public infrastructure. The occurrence of several devastating earthquakes in areas hitherto considered safe from earthquakes indicates that the built environment in the country is extremely fragile and our ability to prepare ourselves and effectively respond to earthquakes is inadequate. India witnessed several earthquakes like the Uttarkashi earthquake of 1991, the Latur earthquake of 1993, the Jabalpur earthquake of 1997, and the Chamoli earthquake of 1999. These were followed by the Bhuj earthquake of 26 January 2001 and the Jammu & Kashmir earthquake of 8 October 2005.

12.4.2 Nodal Ministry:

The Ministry of Earth Sciences (MoES), as the nodal ministry will prepare the Earthquake Management Plan covering all aspects like earthquake preparedness, mitigation, public awareness, capacity building, training, education, Research and Development (R&D), documentation earthquake response, rehabilitation and recovery.

12.4.3 Monitoring Seismic Activity and Safety Codes:

The Indian Meteorological Department (IMD) will be the nodal agency for the monitoring of seismic activity. The Bureau of Indian Standards (BIS) will be the nodal agency for preparing earthquake-resistant building codes and other safety codes. All such key stakeholders, including central ministries, departments and State Governments/SDMAs will develop detailed DM plans, recognising the seismic risk in their respective jurisdictions based on the Guidelines of NDMA.

Given the high seismic risk the earthquake vulnerability in India, the NDMA Guidelines require the Railways along with all other stakeholders to ensure that, hereafter, all new structures are built in compliance of earthquake-resistant building codes and town planning bye-laws. This will be taken up as a national resolve.

12.4.4 Structural Safety Audit and Strengthening:

The NDMA Guidelines emphasize the need for carrying out the structural safety audit of existing lifeline structures and other critical structures in earthquake-prone areas and carrying out selective seismic strengthening and retrofitting.

The critical factors responsible for the high seismic risk in India and consequently the prioritised six sets of critical interventions have been presented as the six pillars of earthquake management. They will help to:-

1. Ensure the incorporation of earthquake-resistant design features for the construction of new structures.
2. Facilitate selective strengthening and seismic retrofitting of existing priority and lifeline structures in earthquake-prone areas.
3. Improve the compliance regime through appropriate regulations and enforcement.
4. Improve the awareness and preparedness of all stakeholders.
5. Introduce appropriate capacity development interventions for effective earthquake management (including education, training, R&D, and documentation).
6. Strengthen the emergency response capability in earthquake-prone areas.

12.4.5 Institutionalization Earthquake-Resistant Design and Construction:

The Railways along with all central ministries and departments and State Governments will facilitate the implementation and enforcement of relevant standards for seismically safe design and construction of buildings, bridges, flyovers, ports and harbours, and other lifeline and operationally important structures including track infrastructure etc. falling within their administrative control.

12.4.6 Need for Seismic Strengthening of Existing Structures:

There are approximately 12 crores buildings in the country in seismic Zones III, IV and V. A review of the vulnerable buildings on the Railways needs to be similarly done. Out of these how many are critical to Railways operational needs have to be separately identified. As it is not practically feasible or financially viable to retrofit all the existing buildings, these Guidelines recommend the structural safety audit and retrofitting of select critical lifeline structures and high priority buildings. Such selection will be based on considerations such as the degree of risk, the potential loss of life and the estimated financial implications for each structure, especially in high-risk areas, i.e. in seismic Zones III, IV and V, where structures have to conform to IS-1893 specifications. All the Railway buildings and bridges are designed as per relevant latest seismic provisions.

12.4.7 Preparedness by Vadodara Division:

S.N	**Action Plan(IR DMP)**	**Action taken by Vadodara Division-**
1	Identification of existing structures which need retro fitment	No bridges are pending to be retrofitted over WR.
2	Gist of RDSO action plan for implementation in a year time frame	All the latest guidelines issued by RDSO for design and construction of bridges and building structures are being followed on Western railway.
3	Action to be taken by the field staff post earthquake with regard to train operation and inspection of track/ bridges	(i) Driver will stop the train immediately and safely, when he feels disturbances due to earth quake. (ii)Both driver and guard will inspect the track on either side and try to clear train away from vulnerable cuttings, bridges and embankment if possible. (iii) Station master shall not start any trains in the affected section and he will inform to all concerned. (iv) Concerned engineering officers/ supervisors will immediately move to inspect the section by trolley and light engine for any defects created in structures of bridges, cuttings, tunnels etc. And certify the track for inspected block section from one end to the other. (v) After certification of railway track, the train can be started in relevant section as per instructions mentioned in the certificate issued by engineering officials.

Summary of NDMA Guidelines on Earthquakes and Floods:

Railway Infrastructure	Earthquake Proneness Review	Flood Proneness Review
• Railway Track Formation (incl. station Yards, bridges/culverts, ROBs/RUBs, etc. • Buildings housing signaling gears like RRI, SSI etc. • Buildings in open line maintenance work centres like loco sheds Coaching depots etc. • Station buildings • Control room, other important office building, etc. • High-rise residential buildings, other important residential buildings • Railway hospitals	• New Construction: - Must be earthquake resistant. • Existing Infrastructure - Identify existing railway infrastructure falling under various seismic zones. - Review for earthquake resistant adequacy based on age, foundation and other details. - Retrofit/rebuild to make it earthquake resistant. - Training of Engineers (at various levels). - Associated with design and construction of railway infrastructure.	**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 subversion due to drainage congestion. ○ Government offices buildings 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. ○ Inspections of Railway 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 buildings in flood plains. ○ Making existing and new buildings and infrastructure capable of withstanding fury of floods.

12.4.8 Preparedness by Vadodara Division:

A small region of Gujarat state along the coastal bank and its surrounding area comes in seismic zone V&IV respectively on Vadodara Division. All the latest guidelines issued by RDSO for design and construction of bridges and building structures are being followed on Vadodara Division. All new construction of all type structures and bridges are designed for seismic loads in Zone V &IV. Strengthening of major and important bridges is also planned and almost completed except few

bridges. Which are under process/progress or otherwise new bridges is being constructed on replacement account.

12.4.9 Action when a train is caught in an Earthquake at Mid Section/Station:

(i) Driver will stop the train immediately and safely, when he feels disturbances due to earth quake.

(ii) Both driver and guard will inspect the track on either side and try to clear train away from vulnerable cuttings, bridges and embankment if possible.

(iii) Station master shall not start any trains in the affected section and he will inform to all concerned.

(iv) Concerned engineering officers/ supervisors will immediately move to inspect the section by trolley and light engine for any defects created in structures of bridges, cuttings, tunnels etc. And certify the track for inspected block section from one end to the other.

(v) After certification of railway track, the train can be started in relevant section as per instructions mentioned in the certificate issued by engineering officials.

The Railway staff living in the earthquake area were probably affected to the same extent as the rest of the community, but the discipline in the service was so good that without exception the staff remained at their posts throughout their terrifying experiences and did everything that could be reasonably expected of them to provide for the safety of their lines of communication and for any demand that might subsequently be made up on transport facilities.

12.4.10 Impact of Earthquake on Railway systems:

Damaged to track:

(i) Track alignment.
(ii) Earth formation
(iii) Shrinkage ofTrack
(iv) Bridges / Girder /Pillars

Damaged to service building:

(i) Control office.
(ii) ASM office, Relay room, Cabins & Gate lodge.
(iii) SSP /SP
(iv) Office building
(v) Residential building
(vi) Service and approach Roads.
(vii) Over head tanks.
(viii) Electrical installations.

Damaged to Signal &Telecommunication:

(i) Signal post
(ii) MicrowaveTower
(iii) Telephone post &Wires
(iv) Cables

Damage to OHE:

(i) OHE mast
(ii) Portals
(iii) Sub Stations, SP/SSP
(iv) Tower wagon shed

Damage to C & W sick line & TRS shed:

(i) Pit lines
(ii) Sick lines / Shed structure

12.4.11 If you live in an earthquake-prone area, here are some steps that can be taken by Railway staff to minimize risks:

(i) Affix bookcases, cabinets and furniture to the walls.
(ii) Fit cabinets with "childproof locks" so doors will remain closed and items won't fly out.
(iii) Have a staff evacuation plan including phone numbers and a safe place to which to evacuate.
(iv) Establish escape routes from each room / office in the building.

12.4.12 General Instructions: If you are in an earthquake:-

(i) If you are indoors, fine a secure location to wait out of the quake, such as under a heavy table or desk, or in an interior hallway where you can brace yourself between two walls. Doorways are among the safest places to stand thanks to the strong beams overhead. However, watch out for swinging doors. Stay away from windows.

(ii) If you are outdoors, try to get into an open area, away from falling buildings, power lines, trees, etc.

(iii) If you are in a crowded public area, crouch down, with your hands protecting your head and neck.

(iv) If you are in train, get yourself out of the train after train being stabled and move away towards the open space, away frompower lines and overpasses, and stay in the open space until the shaking has subsided.

(v) Be sure to put on shoes immediately, to avoid injury from stepping on broken glass and objects.

(vi) Check yourself and others for injuries.

(vii) Check for gas and water leaks and damage to electrical wires. Only turn off gaslines if there is damage;It may take a while for technicians to get to your area to turn gas and power back on.

(viii) Survey the exterior of your office and home for structural damage to the roof, foundation and walls.

(ix) DO NOT use any automobile unless there is an emergency.

REMEMBER that there may be after shocks, which can also cause great damage to your surroundings. Be prepared!

12.4.13 ACTIVATION OF EMERGENCY CONTROL AND NOMINATION OF STAFF FOR VARIOUS DUTIES:

As soon as information is received in Control Office about earthquake from any source, the following action is to be taken:

A. Divisional emergency Control:

(a) Disaster Management department will work as Emergency Control office. All other department will be working under Emergency Control during the emergency.

(b) Emergency offices will also be opened at Big/Junction stations like AKV, BH, MYG, BRCP, GDA, ANND, ND & DB who will remain in touch of divisional emergency control.

(c) The Divisional emergency control will remain in touch of the Civil authorities, Armed and Paramilitary forces for the relief work.

(d) The divisional emergency control will provide the information of the situation and steps taken; to the HQ CCG emergency control.

(e) If require major help, NDRF will also be contacted.

(f) Information regarding running; of relief train with time and location will be given to the local authorities adNDRF.

B. Relief Train:

(a) Any available rake of preferably 6 coaches of any type with the arrangement of staff, Doctor, Food, Medicines & Relief materials to be run from BRCP.

(b) Information regarding its running will also be given to the NGOs and other charitable societies.

C. Action by Operating Branch:

(i) Stop all Trains in affected area.

(ii) Inform P. Way, S & T and traction Power supervisors for checking Track, bridges, points, Signals & OHE on light Engine / Push Trolley / motor trolley in each block section of affected area.

(iii) Inform civil authorities regarding any unusual.

(iv) Arrange stock & Power for moving relief / restoration material.

(v) Arrange additional operating staff i.e. ASMs, Points man, Guard & Cabin man from un-affected areas.

D. Action to be taken by Engg.Branch:

(vi) All SSE/JE-P.Way, Works, Bridge, Track maintainer, Key man and other staff should report to nearest SM who in term will repeat to control.

(vii) Checking of Track & Bridges.

(viii) A team of Track maintainer, key man and BRI should be sent to either side of each block section for checking the Track structure and Bridges.

(ix) Protection to damaged site–checking team should be suitably instructed to protect any damage to Track structure or Bridge and service / Residential building in the section & arrange for repair as per requirement.

E. Action by S & TBranch:

(x) **Restoration of alternate communication –**

It is most likely that over head / cable communication may effect during earth quake. Therefore one of the alternate communication – Micro wave / RE cable / Optical fiber cable or VHF communication must be made through between control & Station.

(xi) **Alternate Power supply -** It is also expected that power supply may disrupt for a longer period. Therefore alternate power supply for communication equipment which can last for longer period should be arranged.

(xii) **Assessment of damage –**SSE / JE (Signal) & ESM / MSM must be available at the station. After checking all the S & T installation, details should be given to SI (Control) in regard to damage and additional requirement of man & material.

F. Action to be taken by Electrical (TRD)Branch:

On receipt of information about earth quake, OHE supply on the affected section must be shut down at once, All the sections in up & down direction should be checked thoroughly by Tower wagon, when Tower wagon on run for checking, it should run at restricted speed so that it can be stopped before anyobstruction.

After checking each section, feed back is to be given to TPC who in term will advise the position to Dy. TNL.

G. Action to be taken by Electrical (P)Branch:

In case power supply fails, DG sets should arrange at the important installations like control, stations etc as per the requirement.

H. Action to be taken by Commercial Branch:

Regular announcements – for information of Passenger explaining the calamity and affect on Train running.

Emergency enquiry counters – to be open at the major stations and affected station with DOT phone / cell phone facilities.

Facilities to stranded passengers like drinking water, catering etc. are to be provided at stations where Trains are controlled.

Additional windows for refund.

I. Action to be taken by Mechanical Department:

Be ready for TXR examination of relief coaching / goods rolling stock. Arrange Diesel loco & Crew as per requirement in case OHE fails.

J. Action to be taken by Personal Branch:

Form relief cell consisting CWLI / WLI and staff to assess losses and damage of stations/colony wise. Coordinate for assistance and relief with Trade unions, Mahila-Samities, NGO to speed up relief, send assessment report to HQ.

K. Action to be taken by RPF Branch:

(xiii) Help Railway officials/employees in relief work by deputing RPF staff at stations andcolonies.
(xiv) Protect Railway stations, Yards and colonies from unsocialelements.
(xv) Render necessary assistance to the victimized person to save the humanlife.
(xvi) Protect all vital installations and restrict the entry of theoutsiders.
(xvii) Keep close co-ordination with Civil Police and DistrictAdministration.

12.4.14 PRE-DISASTER PHASE – MITIGATION AND PREPAREDNESS

Considering Precambrian Geological set-up in major parts of Gujarat, seismic city is relatively high as evident from the number of earthquakes in the hard rockterrain.
The most common scale used for measuring the magnitude of an earthquake by scientists is the open-ended Richter scale; the Modified Mercalli Scale (having twelve classes) is commonly used for measuring its intensity.

Measure of intensity of earthquake according to Modified Mercalli (MM) scale and its possible impact is given below:

MM Scale intensity of earthquake	**Measure of intensity described in terms of possible impact**
I	Not felt except by a very few under especially favorable circumstances.
II	Felt only by a few persons at rest, especially on upper floors of building.
III	Felt quite noticeably indoors, especially on upper floors of buildings.
IV	Felt by many indoors, during the day by a few outdoors, At night some are awakened. Dishes, windows, doors are disturbed. Standing motorcars rocked noticeably.
V	Felt by nearly everyone, may awakened. Some dishes, windows, etc., broken, Pendulum clock may stop.
VI	Felt by all many frightened and run outdoors. Heavy furniture may move. A few instances of fallen plaster or damaged chimneys – damage slight.
VII	Everybody runs outdoors. Damage negligible in buildings of good design and construction, slight to moderate in well built ordinary structures, but considerable in poorly built or badly designed structures.
VIII	Damage slight in specially designed structures; considerable in ordinary structures and great in poorly built structures. Fall of chimneys, stacks and columns. Persons driving motor cars are disturbed.
IX	Damage considerable, even in especially designed structures; well- designed frame structures thrown out of plumbing. Buildings shift off foundations. Ground cracked conspicuously.
X	Some well-built wooden structures destroyed; ground badly cracked; rails bent. Landslides and shifting of sand andmud.
XI	Few, if any (masonry) structures, remain standing Broad fractures in ground.
XII	Damage total. Waves seen on ground surface. Lines of sight and level distorted. Objects thrown upward into the air.

12.5 Management of Landslides and Snow Avalanches:

12.5.1 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.

12.5.2 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.

12.5.3 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.

12.5.4 Management of Snow Avalanches:

The recording of avalanche data and their clearance is carried out by the Border Roads Organisation. The forecasting and control of snow avalanches are generally dealt with by the Snow and Avalanche Studies Establishment. According to the management of this hazard will be a collaborative work of the National Disaster Management Authority, District Administration, Border Roads Organisation, Snow and Avalanche Studies Establishment, and academic institutions active in carrying out research in this field.

Till the Kashmir Project is fully completed the Railway infrastructure is not likely to be affected by this except at a few locations in Himachal Pradesh.TheNilgiri Hills and Western Ghats are additional likely areas which may be affected by landslides and should be included in the DM Plan as vulnerable areas.

12.5.5 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 –

S.N	**Action Plan (IR-DMP)**	**Action taken by Western Railway-**
1	Hazard zonation mapping in macro and micro scales after identification and prioritization of areas in consultation with Border Road Organization, state governments and local communities.	There is no problem of landslides and snow avalanches on Western Railway in any section however in case of any such incidents the following action to be taken; i) Whenever landslide/boulder falling is expected / experienced due to heavy down pour or otherwise all train services should be regulated. (ii)Rescue team to be rushed for restoration work.

12.6Management of Lightning/Thunderstorm:

12.6.1 Lightning/Thunderstorm Risk

In India, on an average, more than 2,500 deaths are recorded due to thunderstorm and lightning every year (Source: Annual Report, NCRB). It accounted for about 39 per cent of deaths from natural disasters in the country from 1967 to 2012. Rural and forest areas are the most vulnerable due to presence of tall trees and water bodies. A majority of the lightning victims are people working in the fields in rural areas. Lightning is also a major cause of electrical power breakdowns and forest fires. It can also damage communication and computer equipment.

A severe thunderstorm can damage power and communication lines as well as roads, besides flooding of escape routes, breaking of tree branches, uprooting of large trees, etc.

Indian Institute of Tropical Meteorology (IITM), Pune, under the Ministry of Earth Sciences, has initiated a project to study the characteristics of lightning by using Lightning Location Network (LLN). This network can accurately detect the location of occurrence of a lightning strike and can help forewarn the public at least 1-2 hours before the occurrence of a thunderstorm.

12.6.2 Definition & classification of Lightning

Lightning is a high-energy luminous electrical discharge accompanied by thunder. It is of three types:

1) Thundercloud or Intra-cloud lightning (IC)
2) Cloud-to-cloud or Inter-cloud lightning (CC)
3) Cloud-to-ground lightning (CG)

The third type of lightning takes a toll on lives and property, and therefore, is of more concern to us. However, inter-cloud and intra-cloud lightning may hit aircrafts. These are also the precursor to cloud-to-ground lightning.

Lightning has a total path length of a few kilometres. Its peak power and total energy are very high, with the peak power discharge in the order of 100 million watts per meter of the channel and the peak channel temperature approaching 30,000 °C. Peak currents in a lightning discharge range up to hundreds of kilo amperes (kA) with its typical value being 40 kA. Predicting the precise time and location of lightning is very difficult. However, a season or a period of lightning occurrence is known for many regions.

12.6.3 Early Warning of Lightning

India Meteorological Department (IMD), Ministry of Earth Sciences, is the nodal agency for providing current weather information and forecast, including warnings for all weather-related hazards. Besides, States should establish their own independent early warning and monitoring systems to supplement warnings from the IMD.

A thunderstorm is a small-scale phenomenon and has a life cycle of about three hours. It has a dimension of 2 km to 20 km, and therefore, its detection is difficult. Geostationary Weather Satellite captures images from a height of 36,000 km above the earth. It takes about half an hour to capture the image and another half an hour to process the data. So, by the time someone sees the satellite imagery on IMD's website, it is already one hour late. Due to the short life cycle of thunderstorms, a satellite cannot capture its initiation unless it is a large-scale thunderstorm activity.

Lightning incidents can be detected by the ground-based Lightning Detection Network in real time. There is a need to create a high-density network in regions vulnerable to lightning strikes.

12.6.4 Roles and Responsibilities to deal with Lightning

All the stakeholder Ministries/Departments and agencies should work under a unified command to ensure effective implementation of prevention, preparedness and mitigation measures.

The Chief of Operations (Chief Secretary) will spell out the priorities and issue policy guidelines. The Relief Commissioner will coordinate the services of various stakeholders, including national/State agencies, and central government agencies.

The State Emergency operation centre (SEOC) is the nerve centre to support, coordinate and monitor disaster management activities at the State level, including training and research. It will, under normal circumstances, work under the supervision of the Relief Commissioner. During an emergency situation, it will work as the centre for decision making as long as the need for emergency relief operations continues or until the long-term plans for rehabilitation are finalised.

12.6.5 Action Plan of Ministry of Railways All essential establishments of railway's network viz. track distribution system, Signal & telecommunication equipment etc. are properly grounded. However, installation of lightning arrestors and sound earthing for each building is essential. Lightning shields are the most commonly employed structural protection measure for buildings and other structures. A lightning shield consists of the installation of a lightning conductor at a suitably high location at the top of the structure. The conductor is grounded using a metal strip of suitable conductance. The grounding of the conductor is also specially designed to ensure rapid dissipation of the electrical charge of a lightning strike into the ground.

CHAPTER 13

MANAGEMENT OF CBRN DISASTERS (HUMAN INDUCED DISASTERS)

13.1 Background

The NPDM notes that rise in population, rapid urbanization and industrialization, development within high-risk zones, environmental degradation, and climate change aggravates the vulnerabilities to various kinds of disasters. Due to inadequate disaster preparedness, communities, and animals are at increased risk from many kinds of human-induced hazards arising from accidents (industrial, road, air, rail, on river or sea, building collapse, fires, mine flooding, oil spills, etc.). Chemical, Biological, Radiological, and Nuclear (CBRN) hazards rank very high in among the human-induced risks. Terrorist activities and secondary incidents add to these risks and call for adequate preparedness and planning.

13.2 Management of Chemical Disasters:

13.2.1 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).

13.2.2 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 Iso-cyanate, is still fresh in our memories.

13.2.3 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.

13.2.4 **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.

13.2.5 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	Oxidising 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 authorised 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.

13.2.6 Emergency Response Guidebook 2016 - Transport of Hazardous Materials

Apart from Railways Red Tariff which contains detailed guidelines on transportation of Chemicals and Hazardous Materials, Ministry of Railways has also published Emergency Response Guidebook 2016 (ERG2016) which is intended for use by first responders during the initial phase of a transportation incident involving dangerous goods/hazardous materials. Copies of ERG2016 have been distributed to all Zonal Railways which will further help in transporting hazardous materials safely.

ERG2016 was prepared by the staff of Transport Canada, the U.S. Department of Transportation and the secretariat of Communications and Transport of Mexico with the assistance of many interested parties from government and industry including the collaboration of CIQUIME of Argentina.

13.2.7 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 Organisations on their system that has 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.

Preparedness of Vadodara Division:(i) All nominated staff of ARTs & ARMEs are being trained for dealing with transportation of hazardous materials & maintain the rolling stock.

On Vadodara Division, CMS will be instructed to coordinate with Sr.DME of the division for such exposure training soon.

13.2.8 Preventive Action in 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 fire fighting 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 Naptha 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.

13.3 Management of Biological Disasters:

13.3.1 Causes of Biological Disasters:

Biological disasters might be caused by epidemics, accidental release of virulent microorganism(s) or Bioterrorism (BT) with the use of biological agents such as anthrax, smallpox, etc. The existences of infectious diseases have been known among human communities and civilisations since the dawn of history.

In recent times travelling has become easier for which Railways have made a significant contribution. More and more people are travelling all over the world which exposes the whole world to epidemics. As our society is in a state of flux, novel pathogens emerge to pose challenges not only at the point of primary contact but in far removed locations. The Marburg virus illustrates this. The increased interaction between humans and animals has increased the possibilities of zoonotic diseases emerging in epidemic form.

13.3.2 Biological Warfare (BW) and Bio-Terrorism (BT):

The historical association between military action and outbreaks of infections suggest a strategic role for biological agents. The advances in bacteriology, virology and immunology in the late 19th century and early 20th century enabled nations to develop biological weapons. The Biological and Toxin Weapons Convention, however, resolved to eliminate these weapons of mass destruction. Despite considerable enthusiasm, the convention has been a non-starter.

13.3.3 Mitigation:

The essential protection against natural and artificial outbreaks of disease (bio-terrorism) will include the development of mechanisms for prompt detection of incipient outbreaks, isolation of the infected persons and the people they have been in contact with and mobilisation of investigational and therapeutic countermeasures. In the case of deliberately generated outbreaks (bio-terrorism) the spectrum of possible pathogens is narrow, while natural outbreaks can have a wide range of pathogens. The mechanism required however, to face both can be similar if the service providers are adequately sensitized.

13.3.4 Nodal Ministry and support of other Ministries:

The response to these challenges will be coordinated by the nodal ministry-Ministry of Health and Family Welfare (MOH&FW) with inputs from the Ministry of Agriculture for agents affecting animals and crops. The support and input of other ministries like Ministry of Home Affairs, Ministry of Defence, Ministry of Railways and Ministry of Labour and Employment, who have their own medical care infrastructure with capability of casualty evacuation and treatment, have an important role to play. With a proper surveillance mechanism and response system in place, epidemics can be detected at the beginning stage of their outbreak and controlled.

13.3.5 Handling CBRN Disaster – Training:

For handling and to provide medical relief for all CBRN disaster which (include a Biological Disaster) and mitigation of BW and BT affected Railway staff, need to be incorporated in the Hospital DM Plan. Training of a skeleton numbers of MedicalDoctors in each Divisional Railway Hospital to manage CBRN casualties is to be organised.

13.4 Management of Chemical (Terrorism) Disasters:

13.4.1 Introduction:

A terrorist attack involving chemical agents differs from a normal terrorist attack as it results in specific effects on health and can cause fatal injuries, create panic, and affect the morale of the community. The targets of terrorists include market places,

densely populated areas, public functions, important dignitaries, water and electricity supplies, restaurants/food plazas, malls, places of entertainment, busy railway stations in metros and critical and sensitive military, civil and economic institutions.

Chemical terrorism is an act of violence to achieve professed aims using chemical agents. These chemical agents include poisonous gases, liquids or solids that have a deleterious effect on the biotic and non –biotic environment. Due to the relatively easy availability of hazardous chemicals in Major Accident Hazard units, storages and during transportation, terrorists can procure chemicals or even try to sabotage the facilities or transport vehicles as it offers them an easier and often more catastrophic method of anti-national activity. The mode of dispersal used for chemical agents would range from dissemination of aerosolised material to contamination of food and water.

13.4.2 NDMA's Guidelines:

The possibility of a chemical terrorism attack can be minimized by spreading general awareness and building the capacity of the community, institutions, and governmental and non-governmental organisations.

The approach followed in the NDMA's Guidelines lays emphasis on :

i) Security and surveillance measures for installations manufacturing/ using/storing chemicals.
ii) Strengthening intelligence regarding the movement of chemicals.
iii) Preparedness for counter-terrorism measures :
   (a) Issues regarding the safety of chemicals and risk reduction strategies etc.
   (b) Strengthening of response through rescue and emergency medical resources.

Preparedness of all emergency functionaries in terms of protection, detection, decontamination, de-corporation, capacity building and infrastructure development.

(c) Community-centric mechanism for the management of chemical (terrorism) disasters.

13.4.3 CTD Preparedness Plan:

Implementation of the Guidelines at the national level shall begin with the preparation of a detailed action plan (involving programmes and activities) by the nodal ministry (MHA) that shall promote coherence among different CTD management practices and strengthen mass casualty management capacities at various levels. The concerned ministries like MoD, MoEF, Ministry of Railways (MoR), MoL&E (through Employees' State Insurance Corporation (ESIC), MoA etc., will also prepare their respective CTD preparedness plan as a part of all hazard DM Plans. The Railways has an important role in the management of mass casualties in the event of national calamities, they should also cater for developing additional capacities besides meeting their own requirements in their preparedness plan.

Railway Board has issued guidelines on precautions in handling, storage and transportation of chemicals. These are to supplement the guidelines laid down in the Red Tariff. The Commercial Department may keep the RPF official updated on the Goods Sheds which handle Hazchem so that adequate security systems can be strengthened. This may be a part of the Divisional DM Plans.

13.4.5 Preparedness for Emergency Response:

Preparedness for an emergency response at the incident site requires protection, detection, and decontamination. RPF and the Medical Department have a role to play in the relief and mitigation efforts. SOPs are required for all the emergency responders working under the overall supervision of the incident commander. This may be identified in the zonal DM Plan as the DRM of the respective division on the Railways where CTD has occurred. SOPs will be included for field decontamination. A well-orchestrated medical response to CTD will be possible only by having a command and control function at the divisional level by the Medical Department. The CMO/CMS will be the main coordinator for the management of CTD.

13.5 Management of Nuclear and Radiological Emergency (Disaster):

13.5.1 Nuclear/Radiological Emergency:

Any radiation incident resulting in or having a potential to result in exposure and/or contamination of the workers or the public in excess of the respective permissible limits can lead to a nuclear/radiological emergency.

After due consideration of the nature and consequences of the nature and consequences of all the possible scenarios, these radiological emergencies have been broadly classified into the following five categories:

i. An accident taking place in any nuclear facility of the nuclear fuel cycle including the nuclear reactor, or in a facility using radioactive sources, leading to a large-scale release of radioactivity in the environment.

ii. A 'criticality' accident in a nuclear fuel cycle facility where an uncontrolled nuclear chain reaction takes place inadvertently, leading to bursts of neutrons and gamma radiations.

iii. An accident during the transportation of radioactive material.

iv. The malevolent use of radioactive material as a Radiological Dispersal Device by terrorists for dispersing radioactive material in the environment.

v. A large-scale nuclear disaster, resulting from a nuclear weapon attack (as had happened at Hiroshima and Nagasaki) which would lead to mass casualties and destruction of large areas and property.

Normally, nuclear or radiological emergencies (referred to in points (i) to (iv) above)are within the coping capability of the plant/facility authorities. A nuclear emergency that can arise in nuclear fuel cycle facilities, including nuclear reactors, and the radiological emergency due to malevolent acts of using Radiological Dispersal Devices are the two scenarios that are of major concern. The impact of a nuclear disaster (scenario at (v)) will be well beyond the coping capability of the local authorities and it calls for handling at the national level.

13.5.2 Vulnerability of Nuclear Facilities:

Identification of a Rail network close to a nuclear facility needs to be done by the Divisional Railways.

As regards the vulnerability of various nuclear fuel cycle facilities to terrorists attacks, these facilities have elaborate physical protection arrangements in place to ensure their security. The structural design of these facilities ensures that even in the event of a physical attack, the structural barriers prevent the release of any radioactivity outside the plant area itself and hence the public are not likely to be exposed to radiation.

While their radioactive strength is in itself a deterrent to pilferage, the radioactive sources can still be stolen and used in a Radiological Dispersal Device or Improvised Nuclear Device. Essentially, a Radiological Dispersal Device is a conventional explosive device in which the radioactive material has been so added that, on its being exploded, there would be dispersal of radioactivity in the environment.

A Radiological Dispersal Device is not a Weapon of Mass Destruction. Normally, the use of a Radiological Dispersal Device by itself would not result in fatalities due to radiation. The fatalities, if any, would primarily be due to the explosion. However, it may contaminate a reasonably large area, besides its main potential of causing panic and disruption.

Accidents during the transportation of radioactive materials are of low probability due to the special design features of the containers in which they are transported and special safety and security measures (to take care of all possible threats/eventualities, including the threat from misguided elements) which are laid down to be followed during actual transportation.

A network of Emergency Response Centres has presently been established by the Bhabha Atomic Research Centre to cope with radiological emergencies in the public domain, like transport accidents, handling of orphan sources, explosion of Radiological Dispersal Devices etc. The task of these Emergency Response Centres is to monitor and detect radiation sources, train the stakeholders,

maintain adequate inventory of monitoring instruments and protective gear, and provide technical advice to first responders and local authorities.

13.6 DOs & DONTs for the Disaster Magistrates in the event of CBRN (Chemical, Biological, Radiological & Nuclear) disasters issued by Ministry of Home Affairs,Disaster Management Division vide letter no.32-35/2003 NDM-IIdated 21.07.2017.

DOs:

1. Chemical Disaster:

In case of accidental release of a quantity of toxic chemicals into environment, resulting in death or injury to workers or members of nearby communities, then it is a case of chemical disaster. In the event of a chemical disaster, the District Magistrate should immediately contact-

a) The Nodal Ministry for chemical disasters i.e. Ministry of Environment, Forest and Climate Change. Contact details: Shri Bishwanath Sinha, Joint Secretary, Tel No. +91-11-24695274(O), Fax No. =91-11-24695277, +91-11-26160515 (R) Mob: 9999711816, or to Shri Manoj Kumar Gangeya, Director, Telephone: +91-11-24695337 (O), +91-11-24695387 (F), +91-11-22246550 (R).

b) MHA control Room: [1070(Toll Free), 011 23093563].

c) NDRF Control Room 011 24363260.

2. Biological Disaster:

Biological disasters are events caused by microbial agent or its toxin in humans, animals or plants that is beyond the coping ability of the State. Such an event may occur due to (i) epidemic of infectious diseases caused by a microbial agent or toxin in humans, animals or plants (ii) Non-intentional accidental release of microbial agents such as from laboratories or during transportation of samples (iii) Intentional use of microbial agents to cause harm such as use of biological agents or toxins as weapons of mass destruction (biological warfare) or (iv) microbial agents or toxins used by terrorists to cause panic/harm to humans, crops or livestock (bioterrorism/agro-terrorism).

In the event of Biological disasters, the District Magistrates should immediately contact:

a) The nodal Ministry for Biological disasters i.e the Ministry of Health & Family Welfare. The contact details: Shri LavAgarawal, Joint Secretary, Tel. No. 011-23061195 (O), 011-26889166 ® mob: 9818778177, or to Dr.P. Ravindran, Addl, DDG & Director EMR. Tel No. 011-23061302 (O), 011-45639559 ®, Control Room-23061469.

b) MHA control Room: [1070 (Toll Free), 01123093563].

c) NDRF Control Room 011 24363260.

3. Nuclear/Radiological disasters-

Any radiation incident resulting in or having a potential to result in exposures and/or contamination of the workers public or environment in excess of the respective permissible limit can lead to a nuclear/radiological emergency.

In case of theft/loss of radioactive source from the institution/industrial unit/hospital premises/during transportation, it would normally be noticed first by the field person responsible for handling the same. The head of the concerned organization would be next person to get this information from his

own field person. He in turn, would bring the incident to the notice of the local police station as well as to the Atomic Energy Regulatory Board (AERB) who is the regulator (as per Radiation Protection Rule 2004 under the Atomic Energy Act) for transportation, storage and use of radiation sources in the public domain. This will be the trigger mechanism for initiating any mitigation process by state agencies.

Further in case of loss/theft of radioactive sources, the recommended response plan/SOP for recovery/retrieval and disposal of the radiological source would be as follow:

a. AERB will inform the Crisis Management Group (CMG), DAE through DAE Emergency Control Room (DAE-ECR), Contact Details of 24*7 operational DAE-Emergency Control Rooms are – main DAE-ECR [022-22023978, 022-22021714,(Mobile) 09969201364] & alternate DAE-ECR [022-25991070, 022-25515283,(Mobile) 099692013651]. In addition, it is envisaged that the concerned public officials will follow their own SOP & intimate the concerned agencies for ensuring appropriate response.

(i) MHA Control Room: [1070(Toll Free), 011 23093563].

(ii) NDRF Control Room 011 24363260

b. Expert response agencies (police/NDRF/relevant state authorities) after reaching the incident spot, if feel that they need an expert advice or technical support from nodal ministry (DAE); they should contact CMG, DAE through DAE-Emergency Control Room. While informing, they are requested to provide exact location, contract numbers of concerned DM/SP/local police station and details of incident with brief description of the object (if possible, along with photograph taken from the distance).

c. Upon receipt of such information, the CMG, DAE will get activated and will get in touch with the local authorities to decide about further course of actions.

d. CMG will decide and constitute a team of experts as per requirements. The team of experts will be dispatched to the site by quickest means possible.

e. Member Secretary, CMG (who is also the designated Nodal Officer of DAE) will get regular updates from concerned DAE experts/field agencies and will keep concerned authorities informed and as per scenario, will also keep MHA Control Room updated.

f. DAE experts on recovery/retrieval of the source will examine the integrity of the radiation source & accordingly, AERB will decide about further course of action regarding safe keeping/disposal of the material.

g. Responsibility of source transportation of radioactive material from incident site to a safe storage place should be undertaken by local police.

h. If there is local contamination due to radioactive material, decontamination activities should be taken up by expert response agencies like NDRF and/or be performed under guidance of DAE's technical experts. Local district authorities should provide adequate resources for handling and transportation of the contaminated material to the safe disposal site.

i. In case required, media briefing will be done by the designated state official. He may seek technical inputs from AERB, if he desires.

j. After recovery/retrieval of the source and after completing of activities related with decontamination and safe disposal (as per scenario requirements), with due concurrence of AERB, the closure of radiological emergency scenario will be declared by the concerned DM/SP.

DONTs

For response to CBRN Emergency:

1. Don’t send untrained responders/volunteers.
2. Don’t send trained responders without proper PPEs and detection equipment.
3. Don’t send responders without taking proper guidance from the Nodal Ministry/Department.

CHAPTER - 14

MANAGING CROWDS

14.0 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.

14.1 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 withoutinfringing on the independence of the concerned agencies;
(vii) Integration of community resources in the response effect and
(viii) Proper and coordinated communications set up.

14.2 Crowd control and management:

For effectiveness RPF, GRP and District Police have to act in a synchronized manner in consultation with magisterial authorities. Chapter 10 (Maintenance of Public Order and Tranquillity) 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 flow of the passenger is 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 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.

14.3 Role of responsibility of Division:

Depending upon the past experience, divisions should identify events of mass gathering over their system. The events can be of periodic in nature or onetime events where mass gathering of passengers is expected in the station which is beyond the normal capacity that can be handled at that station.

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.

14.4 Crowd control and Management of rush at Railway Stations:

Vadodara Division have identified certain stations which attract extra ordinarily high crowds on special occasions. Such identified stations are Dakor, Chhuchhapura,Sayama,Adas Raod, Champaner, Derol, Samlaya, Tuwa etc.

Safety is a primary concern for our passengers, especially during festivals, vacations & mela events. Plans should be made in time for the best interests of all people and proper coordination between departments to be ensured.

Large events, such as Janmashtami Melas, Navratri, Ursh, Shivratri Melas, special promotions or celebrity appearances, may require planning two to three months in advance.

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.

14.5 Action to be taken for crowd management on Division:

Adequate deployment of RPF & GRP personnel to be deployed at circulating area, holding area, platforms, booking window, FOBs, extras to monitor the crowd and rush build up.

The following actions should be planned to monitor and manage the crowd:

- There should be separate entry and exit for smooth movement of crowd. It should be ensured that stairs should be used in one direction i.e. ingoing & outgoing crowd should not share the same stairs.
- The flow of crowd should be in unidirectional. There should be no crisscross movement of crowd to avoid stampede like situation.
- Emergency exits should be planned in advance. Preventive protocols, when laid down footfalls defined separately for important stations become extraordinarily high, as during Melas or other exceptional situations, should be prescribed.
- A holding area should be prepared either in Circulating area or outside station building premises, to monitor access control and movement of crowd.
- Sale of platform tickets should be banned during peak days in order to control unwanted crowd.
- Depending on the magnitude of the event the car & other vehicle parking at stations should be discontinued during the peak days.
- The berthing of the train should be planned well in advance and all relevant information should be displayed in holding area, circulating area and at important visible places in the station building. The empty rakes should be placed on platform in locked condition, so that the passengers waiting on the platform do not run / rush to enter in open coaches.
- There should be no change in platform under any circumstances in order to avoid confusion and stampede like situation. Platform should be designated and earmarked for departure of special trains. Regular announcement should be made before placement of empty rake on the platform.
- Ropes, barricades, queue makers etc. should be used extensively at platform entrances, circulating area, FOBs etc. for smooth movement of the crowd.
- Intelligent video analytics should be used in CCTV surveillance to signal crowd density within station premises when it exceeds a 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.
- During peak days, parcel handling including loading, unloading and stacking on platforms

should be stopped. The loading / unloading may be done in yard / side areas in case of emergency. Movement of handcarts and thelas should be banned.

- The entire station premises should be well lit / illuminated so that miscreant activities are curbed.
- A mini control room which will also act as a Emergency Response Centre should be established close to the premises / area where the crowd is to be monitored. The representatives of RPF, GRP / Police, Commercial, Electrical, Mechanical, Medical and Operating department should monitor the Control room round the clock.

14.6 The Emergency Operations Centre should act as under:

- This Centre will by far possible, be near to the vicinity of the area it is going to control.
- The Centre should be in a safe area where it is not affected by any type of disasters, both man-made and natural, so that it can exercise control over its tasks under all circumstances.
- A Grid Map of the entire area under jurisdiction will be prepared to facilitate accuracy in pinpointing the troubled area and activate appropriate response.
- This map will contain all relevant data like position of volunteers / police, Ambulance, fire services, Medical emergency room, ticket location etc.
- All the staff involved in this activity will have a particular call sign and the grid map person. This will give them leverage in pre-empting a particular activity that ensures safety of the crowd or if they are nearest to the spot. It will aid them in initiating corrective action and feedback to the control centre.
- This Centre will exercise positive control over the crowd movement to and from the event venue.
- This Centre will not act under pressure of any sort from any individual or agency requesting speedy access to event / venue. It will exercise total discretion in allowing the same only if doing so may lead to safety and security concerns.
- The Centre will be the hub for information flow about the crowd movement both inward and outward.
- All emergency support services will be coordinated from this Centre.
- This Centre will exercise direct control over the already parked ambulances, fire services and regulating their movement, in and out of the disaster prone area.
- This Centre will pre-validate and decide the level & distance of accessibility of emergency services in the disaster area to avoid congestion and quick turnaround, there by speeding up movement of aid and vehicles.
- The Centre will also be responsible for validating the main routes for crowd movement and alternative routes (marked as standby for entry and exit.)
- The Centre will exercise / regulate the positioning of food stalls, public facilities, watering points, rest areas and display systems for easing the flow of crowd and their anxiety level.
- The entire communication network i.e. the public address system, wireless setup, display system etc. will be controlled by a dedicated team under the supervision of one competent person, who will in turn report to the Incident commander.

14.7 Duties of Security Department:

Main functions of the Security Department can be broadly classified as:

14.7.1 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.

14.7.2 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. Railwaymen 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 makeshift 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) Provided barricade and ask for additional force to control crowd during VIP visit.

14.7.3 Protection of luggage:

(i) Protect unclaimed luggage of passengers till these are duly taken over by commercial department for safe custody.
(ii) Unclaimed luggage of passengers should be isolated and stacked coach-wise, with proper labelling 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.

14.7.4 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 commercialdepartment.
(v) Preserve all clues and evidences regarding probable cause of the accident and ensure thatthese 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 piecemeal equipment.

14.7.5 General:

(i) RPF personnel should respond to any call for assistance to rescue victims and transportthem to the nearest hospital.
(ii) 3 – hourly Satraps 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.

14.7.6 Security arrangements Mock Drill:

Regular mock drill must be conducted to check the preparedness and iron out the deficiencies, if any, in the role of responsibility mentioned above.

CHAPTER - 15

DISASTER MANAGEMENT TRAINING

15.0 Disaster Management Training on the Railways:

15.1 National Institute of Disaster Management (NIDM):

National Institute of Disaster Management (NIDM) has been envisaged as apex body on Disaster Management training & research in the country under the Disaster Management Act, 2005. NIDM runs several multi-disciplinary training programmes including the programmes on transportation related disasters in which railway officers have also been invited to attend. Services of NIDM may be made use of, if required, for training railway officials in Disaster Management at IRITM, Lucknow. Most of the States also have DM Training Institutes funded by the Centre.

15.2 Training Institutes of Railways

Indian Railway Institute of Disaster Management, Hejalla, Bangaluru has been set up and inaugurated in 2019 to play a crucial role in curbing train-related accidents across the country. The Disaster Management Institute and Safety Village in Hejjala, a first such initiative by the Indian Railways, is a unique Virtual Reality Centre, which will simulate real-life disasters. The institute will train railway officials in responding to any disaster situation using the right techniques. Virtual Reality software is also being installed which will enable officials to evaluate the result of the actions taken by them in an emergency situation. This will enable officials undergoing training to experiment with the various methods and means available to tackle an emergency situation and decide the best course of action to handle it. An action plan has been approved by Railway Board that IRIDM, Bangaluru will impart safety training to all working officers. Each officer would have to undergo training at IRIDM to update and upgrade their disaster management skills.

In view of the utmost importance being given to safety, senior officers of Railways are already being imparted special training on “Safety Management” through regular courses conducted by Indian Railways Institute of Transport Management (IRITM), Lucknow to enhance the safety skills and knowledge. IRITM is conducting this course regularly since January, 2018.

Apart from these, Indian Railways have many Central Training Institute (CTIs), Zonal Training Institute (ZRTIs), Supervisor Training Centres etc. where officers, supervisors and staff are imparted training on different specialised subjects.

15.3 DM Training on Zonal Railways and Divisions:

With the enactment of the Disaster Management Act, Indian Railways have also taken several initiatives to revamp Disaster Management training. Presently, training on disaster management of various tiers of railway officials does not envisage newer concepts like integration of disaster management into developmental planning, leveraging on the strengths of other non-railway agencies etc. Till now any training on the subject of Disaster Management implied subjects connected with Train Accidents only. There was no training given for natural calamities or for terrorism related items.

With the adoption of this concept the training requirements for Lower, Middle and Higher Management officials of the Railways needs to be re-oriented to cover these concepts. Hence the subjects of Disaster Management are more vast and varied. With a viewto strengthen and revamp the Training on Disaster Management being imparted to several tiers of railway officials through Railway Training Institutes, Board has decided the following training schedule:

S.N.	Categories of Officials	New Training methodology and schedule	Action taken
1	Top Level Management (GMs, PHODs, DRMs and other SAG/S4 Officers).	5-day Disaster Management Modules are to be delivered at IRITM/LKO @ once every 3 months. **Frequency of Training:** Once every five years for SG/SAG Officers and above.	Top level management officers will be directed as and when slot for Disaster Management course allotted to this railway from IRITM/LKO.
2	Middle Level Management (SG & JAG officers)	Some of the latest and relevant topics are included in the AMP and MDP programmes being delivered at NAIR/BRC IRITM, LKO is conducting a special module on Disaster Management developed by them **Frequency of Training:** Every SG/JAG officer need to undergo the module once every five years either at NAIR as regular MDP/AMP course or special DM module at IRITM.	Middle level management officers will be directed as and when slot for Disaster Management course allotted to this railway from IRITM/LKO. or NAIR/BRC
3	Lower Level Management (SS & JS officers including serving Group B officers).	Disaster management training to be imparted at IRITM/LKO **Frequency of Training:** Once every five years.	Lower level management officers will be directed as and when slot for Disaster Management course allotted to this railway from IRITM/LKO,NAIR BRC & IRIMEE/JMP.
4	Probationers and Group B officers attending induction courses	Topics listed in annexure 4 of detailed instructions are to be covered during the regular training programme at NAIR/Vadodara. **Frequency of Training:** As part of the course.	Probationers officers including group B will be directed as and when slot for Disaster Management course allotted to this railway from IRITM/LKO,NAIR BRC & IRIMEE/JMP.
5	Supervisors of all frontline departments (Mechanical, Electrical, Engg., S&T, Traffic Comml. &Optg.)	One-week course at ZRTIs **Frequency of Training:** Once every five years.	All frontline supervisors and staff are being imparted training once in every 5 years. Training of Disaster Management has been given to all supervisory staff of Security Department in initial training and promotion course. Disaster Management training will be given to

			the supervisory staff once in a five year. Medical department is giving training to all the staff as and when directed by the Department of training.
6	Railway Staff on board passenger carrying train (TS, Dy.TS, TTEs & catering staff of Commercial Department, Coach attendants and AC Mechanics from Electrical Departments, some of the selected coach cleaners of Mechanical Departments, some of the RPF escorting staff and catering staff of contractor wherever out-sourced).	Disaster Management being a multidisciplinary effort during field operations, training in groups of such on board staff is more desirable and efficient then training them category wise. Role of on board railway staff has been a matter of great criticism in most of the serious train accidents. On board staff are the first railway representatives to respond to any untoward incident and their empowerment will improve railways response in a big way. Such staff is to be trained in appropriate multidisciplinary groups at such locations in the divisions where there is concentration of such staff to obviate the need for their hostel accommodation, non-availability for longer periods, etc. Such training can be imparted at the selected country-wide locations to cover maximum number of staff in short period of time. This training can also be imparted in the Customer Care Institute. Only few select staff of Mechanical, Electrical (AC), RPF is to undergo this training who are deputed to escort trains. This training will be made mandatory in a phased manner for any staff to go on-board a passenger train. The staff of catering contractor is also to be imparted this training in Phase 2 to leverage their physical presence. **Frequency of Training:** Once every three years.	• Traffic and commercial supervisors &front line staff training is being ensured by a 6 days training module at Training institute Udaipur. • Disaster Management training given all RPF staffs at the time of their initial and promotion training course. Staff will be directed as and when slot allotted to this railway. • All Electrical/Mechanical on board railway staff are being inspacted training once in every 3 years.
7	Nominated ARMV and ART staff of Mechanical and Medical	Composite training of Mechanical and Medical Staff for relief and rescue operations is planned to be given at upcoming disaster management	• Composite training of Mechanical and Medical Staff for relief and rescue operations is will be ensured when disaster

	departments	railway institute at Bangalore. Doctors and paramedics nominated for ARMVs and other rescue operations should be exclusively trained on trauma care management either at some nominated specialised institutions or in-house. IRITM is one of the Training Institutes under consideration. Frequency of Training: Once every three years.	management railway institute at Bangalore functional. • All medical officers, paramedics who are nominated for ARMV are well trained in Trauma Care Management. However, there is no separate institute available at present for such training in the railway. • Composite training of Mechanical and Medical Staff for relief and rescue operations has not yet started. Mechanical Department has applied for tie-up with Disaster Management Institute at Bangalore but it isyet to finalized.
8.	Disaster management team of RPF staff & other RPF personnel associated with relief rescue operations.	As per recommendation no. 46 of HLC on disaster management there should be a disaster management team of RPF on each division comprising about 15 men in different ranks. Such teams should be trained in providing necessary support on relief rescue operations. The existing 5 day training module should be appropriately revised to make it suitable to achieve the above objective. Each of the above teams should be trained on this module at RPF Academy at Lucknow. In addition, training module may be appropriately developed separately for RPF Officers and staff and should be imparted at RPF Academy at Lucknow. The respective training modules should include role of RPF at the accident site, security at the railway premises like railway stations, trains etc. **Frequency of Training:**Once every three years for disaster management team of RPF.Once every five years for other subordinate officers and staff (other than disaster management team members. In addition, (i) At least 10% of the RPF personnel may be got trained in a training module of a minimum duration of 15 days with NDRF by GMs/Zonal Railways. (ii) All outdoor instructors of	Training of Disaster Management team of RPF comprising about 15 men as per recommendation no. 46 of HLC on disaster management will be directed once in every 3 years as and when vacancies allotted to this railway by JR/RPF Academy, LKO.

		RPF zonal training centres and RPF Academy, Lucknow, may be trained in training of trainers (ToT) course in disaster management over a period of 2 years by a national training institute nominated as nodal training institute for disaster management like NISA, Hyderabad. Coordination may also be done with NDRF to obtain the list of necessary resources and equipment along with their Quality Regulations & Trail Directives (QR/TD). The RPF Disaster Management Team will be equipped with these equipment and will be imparted the know-how to operate and maintain these equipment in association with NDRF.	
9	RPF Officers	Disaster Management training for RPF officers may be also organized in IRITM till such time the capability in RPF academy is developed. **Frequency of Training:** Once every five years for other RPF officers and staff.	04 RPF officers have already been attended Disaster Management course. Officers will be directed as and when nomination for Disaster Management course received from IRITM/LKO and JR/RPF Academy, LKO.

Mechanical(Traction) is the Nodal Directorate in Railway Board for Train Accident Management which includes all aspects of Policy on ART/ARME/Cranes and rescue, extrication, firefighting equipment etc. A nodal Training Institute for specialized rescue/extrication etc. for officers and for subordinates and a Safety Village are being set up in Bengaluru; the work on this Institute is being coordinated by Mechanical (Traction) Dte. Railway Board.

Respective Training Institutions on each zonal railway will ensure that the modules prescribed above are institutionalized and officials are imparted training to build capacity of human resource in disaster management.

CHAPTER - 16

NDMA GUIDELINES ON INCIDENT RESPONSE SYSTEM

16.1 DISASTER RISK IN INDIA:

India is vulnerable, in varying degrees, to a large number of natural as well as man-made disasters. As stated in the National Policy on Disaster Management, 2009, in India, 58.6 per cent of the landmass is prone to earthquakes of moderate to very high intensity; over 40 million hectares is prone to floods and river erosion; of the 7516 Kms long coastline, close to 5,700 kms is prone to cyclones and tsunami; 68 per cent of the cultivable area is vulnerable to drought and hilly areas are at risk from landslides and avalanches.

16.2OVERVIEW OF INCIDENT RESPONSE SYSTEM:

The Incident Response System (IRS) is an effective mechanism for reducing the scope for ad-hoc measures in response. It incorporates all the tasks that may be performed during DM irrespective of their level of complexity. The main purpose of these Guidelines is to lay down the roles and responsibilities of different functionaries and stakeholders, at State and District levels and how coordinates with the multi-tiered institutional mechanisms at the National, State and District level will be done. It also emphasizes the need for proper documentation of various activities for better planning, accountability and analysis. It will also help new responders to immediately get a comprehensive picture of the situation and go in for immediate action.

16.3IRS ORGANISATION:

The IRS Organization functions through Incident Response Teams (IRTs) in the field. In line with our administrative structure and DM Act 2005, Responsible Officers(ROs) have been designated at the State and District level as overall in charge of the incident response management. The RO may however delegate responsibilities to the incident Commander (IC), who in turn will manage the incident through IRTs. The IRTs will be pre-designated at all levels; State, District, Sub-Division and Tehsil/Block. On receipt of Early Warnings, the RO will activate them. In case a disaster occurs without any warning, the local IRT will respond and contact RO for further support, if required. A Nodal Officer (NO) has to be designated for proper coordination between the District, State and National level in activating air support for response.

16.4FEATURES OF IRS:

IRS is categorized with features like management by objectives, unity of command and Chain of command, Organizational flexibility, span of control, unified command, accountability, Resource management, etc.

16.5SUMMARY OF ACTION POINTS:

IRS constitutes an important part of the Disaster Response at the State and District level. These Guidelines will help the States and the Districts in their disaster response. It will also help to reduce chaos and confusion during response. Everyone will know all has to be done and who is in command. The important thing is to get the team members trained in their respective roles. A time bound strategy with fixed responsibilities is essential to achieve this objective.

CHAPTER - 17

DISASTER MANAGEMENT SYSTEM, STRATEGIES, CRITICAL ACTIVITIES AND AVAILABLE RESOURCES

17.0 Disaster Management system and strategies on Indian Railways:

The Indian Railways is having an organized system of relief for managing accidents with its own resources. Details of procedures and systems have been laid down in the Accident Manuals of the respective Zonal Railways. Each Zonal Railway has its own Accident Manual for dealing with Railway accidents and unusual occurrences. The manual contains various definitions of the terms used in accident management. Accidents have been classified into various types and categories depending upon the seriousness of the accident. Preparedness to manage accidents is also detailed in the Accident Manual by way of details and Accident Relief Cranes their beats, inspection schedules, turnout times, etc. Presently there are 99 Nos. Cranes (76 Nos. of 140 T, 5 Nos. of 120 T and 18 Nos. of 35 T Cranes over Indian Railway system.

Presently in Western Railway there are 7 Nos. of 140 T Cranes are available at UDN, BRC, RTM, KKF, GIMB, BVP & RJT.

17.1 Areas of Focus on Disaster Management:

The main areas of focus on disaster management are:-

a) Faster Response
b) Better facilities and equipment
c) Expanding resources to meet requirements in major accidents
d) Better customer focus
e) Training and Preparedness
f) ART management to undergo major changes covering rolling stock management, status of equipment, monitoring of utilization of assets and availability and consumption of stores etc.

17.2 Critical Activities for Disaster Management:

- 161 ARMVs and 241 Accident Relief trains ARTs, are positioned at strategic locations which cover the entire rail network of Indian Railways for rushing to accident sites on top priority, along with doctors, para medical staff, rescue workers and engineers. 97 of ARTs also have Diesel Hydraulic cranes attached to them.

The details of ARMEs& ARTs with their strategic locations which over entire network of Vadodara Division for rushing to accident sites on top priority, along with doctors, para medical staff, rescue workers and engineers. is as below:

Details of ARMVs, ARTs of Vadodara Division Railway with Rescue workers & Engineer								
Sr. No.	DIVISION	ARMVs			ARTs			
		Location	Class	Max. Speed (kmph)	Location.	Class	Crane capacity	Max. Speed (kmph)
1	Vadodara	BRCP (BG)	SPARMV (Scale-I ARMV)	105	BRCY	A	140T	100

- ARTs and ARMVs are equipped with rescue and relief equipment. These are located so as to cover an area not beyond a distance of 150 to 200 kms within 2 to 3 hours normally. Sometimes, the ARMV may take upto 4 hours to reach the accident site in a remote area. In addition, there are 320 stationary Accident Relief Medical Equipment (ARME) – Scale II consisting of three sets of Portable Medical Kit for Accidents (POMKA) units positioned at identified stations, placed 80-100 kms. Apart in between ARMVs.

- In addition to the recommended list of ART Tools and Equipment, 13 additional items have been recommended by a Committee for adding to the ARMV/ART which includes Life Detector, Scene Tape, Rope manila Nylon, Safety cone, stretcher folding, MFR Kit with Splints, Breathing apparatus set, Portable DG sets, Higher capacity hydraulic, Portable Plasma cutting equipment for cutting stainless steel coaches, Portable Defibrillator, Abrasive cutting equipment and Life Jackets, etc.

  The details & status of recommended list of ART tools and equipment as recommended by committee is as below:

	Details & Status of the 13 additional equipment for inclusion in ART/ARMVs/SPARTs recommended by the HLC review committee				
SN	**Description of Equipment**	**Qty**	**To be kept in**	**Division:- BRC**	**Remarks**

1	Life detector	1 No.	ARMV	Not available	COFMOW has been advised to prepare specification of Life detector including estimate cost for centralized procurement vide RB's letter No. 2003/M(M&P)/7/DM (Status) / Pt Dt .21.06.2013. DME P (II)/ Rly. Bd vide letter No 2003 M (M & P)/7/2/Vol. II dated 22.12.15 advised all ZRs to take assistance of NDRF in case of accidents/emergencies, if needed
2	Scene tape	6 Rolls	ART & ARMV	Available	Already provided as per HLCR No.72 "Barrier Tape"
3	Rope manila Nylon 100m	1 No.	ART & ARMV	Available	----------
4	Safety cone	6 Nos.	ART & ARMV	Available	----------
5	Stretcher folding	9 Nos.	ARMV	Available	----------
6	MFR Kit with splints	5 Sets	ARMV	Available	Pertains to Medical Dept. Board has decided to defer the item at present vide letter No. 2003/M(M&P)/ 7/DM (Status) / Pt Dt.31.12.2012
7	Breathing apparatus	1 No.	ART	Available	----------
8	Suitable portable DG set	1 Set	ART & ARMV	Provided	----------
9	Abrasive cuting Equipment	1 Set	ART & ARMV	Provided	----------
10	Higher cap. HRD for SS Coaches	1 No.	ART & ARMV	Available	----------
11	Portable Plasma Cutting Equipment	1 No.	ART & ARMV	Available	----------
12	Portable defibrillator	1 No.	ART	Available	Pertains to Medical Dept.
13	Life jackets	100 Nos.	ART	Available	----------

- On receiving information of an accident, the ARTs and ARMVs are dispatched to the accident site along with personnel trained in rescue and relief operations. ARMVs and ARTs

are powered by locomotives brought from line in case of accidents/ derailments. To avoid delay in arranging locomotives, Self Propelled ART was developed first time in 2001 indigenously by Rail Coach Factory (RCF), Kapurthala. This concept has been extended to Self Propelled ARMV also. 52 Self Propelled ARTs and 11 Self Propelled ARMVs (manufactured at RCF, Kapurthala and ICF, Chennai), are working on IR network and more are being manufactured at ICF, Chennai so as to provide one per division as per High Level Committee on Disaster Management.

The details of self propelled ART & ARMEs (SPART &SPARME) with their strategic locations over entire network of Vadodara Division is as below:

Details of ARTs & SPARMV (Scale-I ARME) of Vadodara Division, Western Railway.

Sr. No.	DIVISION	SPARTs (Scale-I ARMEs)		A-Class ARTs		
		Location of SPARTs & SPARME.	Class of ARMEs.	Location of ART.	Class of ART.	Max. Speed of ART (kmph)
1	Vadodara	BRCP (BG)	SPARMV (Scale-I ARME)	BRCY	A	100

* Status: Service of all SPARTs & SPARME are up to the level to meet an emergency

- Unlike many other countries where local bodies such as Fire Brigade, Police, Health Services and Civil Defence Organizations etc. are responsible completely for rescue and relief operations during railway accidents, Indian Railways has an organized system of relief and rescue operations for managing accidents mainly with its own resources. The local administrations; however has the responsibility to support Railways.
- Preparedness to manage accidents is detailed in the Accident Manual of each Zonal Railway. It also contains detailed procedures, duties of various Railway Officials, details of rail-mounted relief and rescue equipment i.e., Accident Relief Medical vans (ARMVs) and Accident Relief Trains (ARTs) along with items contained therein, their beats, inspection schedules, turnout times, etc.
- ARTs and ARMVs are rail mounted and located at stations where Railways have suitably trained staff. Movement to the site depends upon operational conditions. Many a time Railway doctors, para-medics and other officials reach site of the accident by road, earlier than ART/ARMV.
- Target time for dispatch of ARMVs is a maximum 20 minutes from double exit siding and 30" from single exit siding after their ordering. Target time for dispatch of ARTs is a maximum of 60 minutes in day & 45 minutes in night from their ordering.
- As Accident Relief Train may take up to 3 hours to reach a remote accident site, the resources available near the accident site are very important and pooled for immediate relief and rescue:

1. On board staff eg. Loco Pilot, Assistant Loco Pilot, Guard, Commercial Staff, Pantry staff, Carriage and Wagon/Electric staff etc.
2. Staff nearby accident site eg. Gang men, Station staff etc.
3. Help from local people in nearby vicinity.
4. Local administration eg. Civil administration, Police, Health, Fire etc.
5. National Disaster Response Force
6. Air Force/Military services

It is seen that by pooling the resources of local, state and central government and help from local people, effective disaster management can be done during the Golden Hour. Casualties/injuries is reduced effectively with integration of resources belonging to all the stakeholders for managing disasters.

- The main activities undertaken by Railway administration at accident site are:

  - The medical team participates in rescue and stabilisation of injured passengers, those seriously injured are transported to nearby hospitals.
  - The cost of such treatment is borne by the Railways. Deaths are certified by doctors and dead bodies are handed over to Police for further action such as autopsy etc. for medico-legal purpose.
  - Railway doctors are deputed to the hospitals where the injured are admitted, to render necessary assistance, including supply of required medicines, etc.
  - In addition to the above own resources, nearby ambulances and doctors with paramedics, fire brigades; other necessary resources are also requisitioned as per need for expeditious operations.
  - Information like names, addresses and telephone numbers of nearby hospitals, local police, fire brigade, officials of Civil Administration etc are available at Stations/Divisional controls and immediate relief is sought at the time of accident.
  - In case of serious accidents involving passengers, National Disaster Response Force (NDRF) is also requisitioned. 24X7 control room of Ministry of Home Affairs (MHA) or the control room of concerned ministry is contacted for mustering help from defence services including help of Air Force.
  - Relief trains are arranged for clearing stranded passengers.
  - Arrangements for supply of meals, drinking water, and beverages etc. are made not only for the injured, but also to other passengers of the affected trains.
  - Once affected passengers are attended, accident site is restored back to normal traffic with the help of break-down cranes, hydraulic rescue equipment, etc.
  - The accident inquiries are conducted within a time frame and preventive/corrective actions are taken accordingly.
  - Timely information is given to the press to avoid misreporting and speculation about the casualties and the cause of the accident.

- Disaster Management at Divisional, Zonal and Ministry level are integrated with each other, and are comprehensive and fully prepared to handle disasters.

17.3 Rescue and Relief System on Indian Railways:

The Indian Railways is having an organized system of rescue and relief operations for managing accidents with its own resources. Details of procedures and systems have been laid down in the Accident Manuals of the respective Zonal Railways. Each Zonal Railway has its own Accident Manual for dealing with Railway accidents and unusual occurrences. The manual contains various definitions of the terms used in accident management. Accidents have been classified into various types and categories depending upon the seriousness of the accident. Preparedness to manage accidents is also detailed in the Accident Manual by way of details of Accident Relief Medical vans (ARMVs) and Accident Relief Trains (ARTs), equipment contained therein, their beats, inspection schedules, turnout times, etc. The Accident Manual also lists the information to be maintained at the stations, like names, addresses and telephone numbers of nearby hospitals, local police, fire brigade etc. It also details various records and information to be maintained in the Divisional Control, like railway and non-railway hospitals, ambulance services, fire fighting arrangement, contact information of officials of Civil Administration, road maps etc. for ensuring expeditious mustering of resources at the time of accidents. It also prescribes in details the duties of various railway officials and concerned departments to be discharged in managing accidents. The types of accident inquiries, their procedure and timeframe etc. for holding the inquiry are also detailed. It also prescribes the methodology of acceptance and disposal of the accident inquiry reports.

Steps are taken to provide prompt and effective relief to the affected passengers in the event of any serious train accident involving deaths. The senior-most officer at the accident site takes full charge of the situation, and supervises the overall relief operations. Special inquiry booths are opened at originating, terminating and important stations en route. The affected passengers and their relatives are treated in order to alleviate their trauma and discomfort. Railway doctors are deputed to the hospitals where the injured are admitted, to render necessary assistance, including supply of required medicines, etc. Arrangements for supply of meals, drinking water, and beverages etc. to not only the injured, but also to other passengers of the affected trains are organized. STD-equipped telephones are made available to passengers, to enable them to communicate with their relatives. Officers and Inspectors are also deputed to contact the affected passengers and assist them in their onward travel. Special care is exercised to collect and provide security to the belongings of all passengers. Relief trains are arranged for clearing stranded passengers. A thorough and unbiased investigation into the adequacy of the relief measures is made after every serious accident. Crash courses on ‘Disaster Management’ for officers and staff at all levels are organized to sustain awareness of the importance of the situation. Timely information is given to the press to avoid misreporting and speculation about the casualties and the cause of the accident.

17.4 Responsibility for Rescue and relief Operations:

Unlike India, in many countries, local bodies such as Fire Brigade, Police, Health Services and Civil Defence Organizations etc. are responsible for rescue and relief operations during railway accidents. The Indian Railways has occasionally been criticized that the railway rescue teams reach the accident site later then the local people. As the railways are spread out over a vast geographical

area, it is humanly not possible to maintain rescue and relief equipment and teams at every station. ARMVs can only be located at stations having adequate medical back-up facilities. At times it takes some time for the relief teams and equipment to reach the accident site from the nearest railway rescue facility, depending upon the accessibility to the accident site. Further, consequent to the Disaster Management (DM) Act coming into force, National Disaster Response Force (NDRF) has been constituted at different locations throughout the country. NDRF is a force specialized in handling rescue and relief operations in all types of disasters in the country and Railways take their help in major accidents involving passenger trains.

17.5 High Level Committees on Disaster Management on Indian Railways:

- Constituted by the Ministry of Railway in September 2002.

➢ To review the existing DM system over IR related to train accidents and natural calamities and to suggest improvements.
➢ To identify additional technological and managerial inputs to quicken pace of relief and rescue operations.
➢ To institute a standing arrangement with other central Ministries, State government and armed forces to enable quick and smooth restoration operations without any legal or procedural hurdles.

- All 111 recommendations have been accepted by MR in March, 2003.
- The financial implications of implementing these recommendations were estimated to be around Rs. 400 crores.
- 8 recommendations have been dropped by appropriate authority.
- 104 recommendations have been implemented.
- Balance 07are under implementation.
- 111 recommendations can be broadly grouped in 5 groups.

➢ Faster response.
➢ Better facilities and equipment-technological inputs.
➢ Expanding resources.
➢ HRD
➢ Other logistics.

Another Disaster management review committee was appointed on 27.02.07 under the chairmanship of Shri Gajendra Narain, an ex-IPS officer with the following terms of reference:

i) Comprehensive study and audit of current preparedness and management practices referring to all types of disasters/hazards for different phases of disaster management i.e. prevention, mitigation, rescue, relief and rehabilitation;
ii) Suggest ways and means for integration of disaster reduction concept into development planning;

iii) Identify the recommend areas needing development of multi-stakeholder partnership and citizen participation with a view to establish a coordinated mechanism for disaster reduction, response and rehabilitation;

iv) Study existing statutory provisions for effective disaster management on IR and suggest changes, if any;

v) Suggest best suited management structure for effective delivery along with enabling tools; and

vi) Suggest any other measures which committee may consider appropriate within the scope of disaster management.

The Committee gave 106 recommendations, out of which recommendation no. 2 has three parts (A, B & C), thus actually there are 108 recommendations, out of which 41 recommendations have been accepted and 67 have not been accepted. Out of the 41 accepted recommendations, 40 have already been implemented and only 1 is under implementation.

An Expert Group committee for Modernization of Indian Railways was constituted by Ministry of Railways which submitted its report in February, 2012. The Committee recommended for up gradation of Disaster Management facilities which inter-alia included provision of high speed self-propelled Accident Relief Trains and Medical Vans, Road Cum Rail Vehicles for accident relief, 175 T cranes, setting up of Disaster Management and other Training Centres.

17.6 Disaster Management Plans:

The High Level Committee on Disaster management over Indian Railway stipulated that each Zonal Railway and Division must write its disaster Management Plan dovetailing the same with concerned State Government/District. The Disaster Management Plans are to be prepared to ensure proper coordination and mutual co-operation among Divisions and Zonal Railway Authorities with the state/District authorities in managing severe accidents in the Indian Railways and disasters in general. The Railway should also be fully aware of the local, civil, army and other resources available for supplementing the Disaster Management efforts as and when required. The Disaster Management Plan must include who is responsible for what activities in detail, to ensure the basis steps as below:

- Rapid access to the site of the accident.
- Effective site management by making best use of on-board and locally available resources.
- Quick extrication of victims.
- Speedy transportation of victims to hospital.
- Proper communication system both for assisting the stranded passengers as well as giving out timely information to the media.

In compliance to the above instructions of the Railway Board, all 17 Zonal railway Headquarters and 68 divisions have prepared their respective Disaster Management Plans. Zonal Railways have also hosted their Disaster Management Plans on the Rail net for the widespread sharing.

CHAPTER 18

DISASTER MANAGEMENT PLAN OF RAILWAYS – PERIODICAL REVIEW

18.0 Background

Regular maintenance is critical to ensure the relevance and effectiveness of the DM plans. Plan maintenance is the dynamic process. The plan must be periodically updated to make it consistent with the changes in Government policies, initiatives, and priorities as well as to incorporate technological changes and global experiences. Development in Railways, Location of Relief trains contact details etc should also be updated. Evaluating the effectiveness of plans involves a combination of training events, exercises, and real-world incidents to determine whether the goals, objectives, decisions, actions, and timing outlined in the plan led to a successful response. In this way, the emergency preparedness exercises become an integral part of the planning process. The DM planners must be aware of lessons and practices from various parts of India as well as lessons from across the world. The trainings, mock drills and exercises are crucial. Mock Drills conducted with NDRF/Local bodies and lessons learnt from actual train accidents will help in evaluating the operational aspects of the plan, rectify gaps, and improving the efficiency of the plan. The likelihoods of emergencies and actual occurrences are also occasions for evaluating the plan, making innovations, and for updating the plan, SOPs and guidelines. At times, operations experience setbacks due to outdated information, ineffective procedures, incorrect role assignments, and outdated norms. Further, the priorities for a jurisdiction may change over time as the makeup of the included communities change, as resources expand or contract, and as capabilities evolve.

18.1 Preparation of DM Plans on Vadodara Division:

Vadodara Division prepared Disaster Management Plan at Divisional Level as per the provision of Disaster Management Act, 2005 as detailed in the earlier chapters. These Plans will encompass the National Policy of Disaster Management (NPDM) and Guidelines issued by NDMA; as also all types of disasters that can occur on the Railway system. It is reiterated that the High Level Committee on Disaster Management Constituted in 2003 had mainly dealt with the up gradation of Railways relief/rescue facilities to handle train accidents. These are, therefore, only of limited use and relevance in the DM plan now DMP framed based on the new concept of a Disaster as given in the DM Act, 2005. The Plan of the Western Railway details for all types of disasters, the preventive, and mitigation and preparedness measures being taken by this railway and also the rescue, relief and restoration systems in place to meet with them.

NDMA guidelines, instructions issued by the Boards office from time to time and the action plan framed by Western railway will form the backbone of the DM Plan.. This plan will be dovetailed with the State and District Disaster Management Plans wherever the same have been prepared.

18.2 Divisional Disaster Management Plan is incorporated for dealing with all types of Railway disaster. Action items along with their progress detailed for all type Railway disasters. This Divisional Management Plan is more centric towards prevention, mitigation and preparedness, rescue and

relief. Information like formation of relief and rescue teams at the accident site, Disaster Management Control Cell, Duties of various officers/officials etc.

18.3 Divisional Disaster Management Plans:

Divisional Disaster Management Plans will contain division specific information. It will generally contain divisional action plan for dealing with all types of railway disaster. It is not restricted only to detailed inventory of Railway and non-Railway resources as envisaged in High Level Committee's Report on Disaster Management. It should focus mainly on further new developments of sharing of resources with all stake holders. It should also have, thereafter, divisional specific information like road maps, etc. Information common to all divisions of a Western Railway may be replicated uniformly in DM Plans of all divisions. Divisional DM plan should contain information about the following:-

1) Role and responsibilities of officers and other stake holders at the accident site and in thedivisional control room.
2) Site Management plans
3) Do's and don'ts in handling various types of accidents involving chemicals, oil and naturalgas, nuclear materials etc.,
4) Precautions to be taken in case of fire accidents.
5) Action plan for Management of Crowd at stations during festivals and events of massgathering.
6) Details of Incidence Response System.
7) Passenger care and Managing of Dead Bodies.
8) Media Management.
9) Vulnerability profile of the division from various natural disasters like Earth Quakes,Tsunami, Floods, Avalanches, Landslides, Cyclones etc.,
10) Details of Vulnerable bridges and their location.
11) Telephone Nos. including Mobile Nos. of all important railway officials at Divisional level andtelephone Nos. of all stations, blocks etc.
12) Location of ART&ARME/SPART and of adjoining division and of adjoining Zonal Railways.
13) Inventory of medical facilities within Division, Doctors, Hospitals including theirspecialisation/No of beds, Nursing Home, Ambulances etc.,
14) Details of District & State Officials.
15) Details of Fire service stations.
16) Details of Defence establishment including Army, Navy & Air Force.
17) Details of Helipads/location where a small plane or helicopter can land.
18) Contact details of Oil and Gas companies and Chemical industries.
19) Details of social organisation/NGOs.
20) Inventory of agencies with earth moving equipment like road crane, bulldozer, boats, divingequipment etc.
21) Details of skilled divers with their name and contact details.
22) Details of road transport facilities, distance map superimposed on division map, detailedroad maps etc.
23) Details of forensic personal.
24) List of materials in ART&ARME.
25) Details of para-military establishments.

26) List of Government and private helicopter service providers/their contact numbers.
27) Contact numbers of Scouts and Guides.
28) Contact details of St.John Ambulance services

18.4 Periodical Review of Disaster Management Plans:

Review of Disaster Management Plans should be a recurring activity. It should also be reviewed and updated as indicated below:

- Major review and revisions after each major incident
- After significant change in operational resources (e.g., policy, personnel, organizational structures, management processes, facilities, equipment)
- Subsequent to any notification or formal update of planning guidance or standards
- After every case of plan activation in anticipation of an emergency
- After the completion of major exercises
- A change in the district's demographics or hazard or threat profile
- Enactment of new or amended rules, laws or ordinances

On BRC Division the DM Plans are reviewed and updated at least once a year, i.e. January. The DM Plans of the State Governments and of the Districts need to be gone into periodically and changes incorporated in the respective DM Plans of Divisions.

18.5 Nodal Department for Compilation/Updating of DM Plans:-

The Hospital DM plans and the Security arrangements (drills etc) shall be prepared and coordinated by the Medical and the Security department respectively.

The Management of Floods, Cyclones, Earthquakes, Landslides, etc, and preventive action/ mitigation shall be coordinated by the Civil Engineering Department.

The Rescue and Restoration centric DM including preparation of plans and procurement of specialized equipment and rescue centric training of personnel has to be coordinated by the Mechanical Department.

Safety department on the Western Railway is responsible for compilation of DM Plans at HQ and Divisional Levels which will be reviewed in January every year. These Plans will also to be hosted on the rail-net server of the Western railway and on Safety Information Management System (SIMS) in an interactive format so that the information can be shared and its retrieval is simpler.

18.6 Mock Drills/Exercises and Training

For coordination and management during Disaster/major train accident, Indian Railways conducts mock drills with NDRF and each NDRF battalion carry out at least one or two exercises/coordination meeting with each Zonal Railways every year. Coordinating DIG/NDRF and ED/Safety(M), Railway Board finalise the calendar and circulate to concerned Zones/Divisions for conducting Full Scale Disaster Management Exercise with NDRF. Such programs are crucial to ensure full preparedness and to maintain operational readiness of the disaster response operation teams, institutional mechanisms, and the equipment. These drills are organized to test their readiness to deploy within the shortest possible time. Various courses on Safety and Disaster management are also conducted at training institutes of Railways. The trainings are crucial

because they go beyond concepts and guidelines into inculcating in the individuals the critical importance of working as a coherent team for emergency response with a clear chain of command. The workshops and drills will also provide an opportunity to practice SOPs.

Division conduct Mock drills quarterly utilising the resources of Railways i.e. accident Relief Train (ART), Accident Relief Medical Van (ARMV) etc. Shortcomings noticed and lessons learnt during the mock drill should be documented for corrective action and to improve SOPs.

18.7 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.

18.7.1 Full Scale Mock Drill:

Disaster Management essentially necessitates a state of preparedness under all circumstances and only conducting periodical full-scale mock drills therein, can assess the efficacy of arrangements. As per Bd's letter 2003/Safety (DM)/6/3 dated 13.06.08. Railways may also associate NDRF in full scale exercise held once a year.

(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) On a division, the first mock drill should be conducted within 3 months of issue of the Zonal DM plan.

(iii) On a division, the second mock drill should be conducted 3 months after the first one, in order to correct all shortcomings noticed during the first mock drill.

(iv) Thereafter, mock drills shall be conducted once every year.

(v) It should be conducted during the day and in a branch line section.

(vi) 6 hours traffic block shall be taken and the ARME/ART run out to the accident site.

(vii) UCC and CAC should be setup 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 drill, following aspects shall be closely watched:

- Turning out of ARME/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-aides and availability of medical equipment.
- Preparedness of commercial department to mobilise adequate manpower.

(x) On completion of the drill, a detailed report shall be prepared detailing deficiencies noticed, corrective measures initiated and improvements required.

18.7.2 Testing the Plan and Learning to Improve

Evaluating the effectiveness of a plan involves a combination of training events, exercises and real-time incidents to determine whether the goals, objectives, decisions, actions and timings outlined in the plan led to a successful response. The purpose of exercises and drills is to promote preparedness by testing the plan with equal participation of all relevant stakeholders. The process of evaluation and remedial actions will identify, illuminate, and correct problems with the DMP. This process must capture information from exercises, post disaster critiques, self-assessments, audits, administrative reviews, or lessons-learned processes that may indicate that deficiencies exist. Members of the planning team should reconvene to discuss the problem and to consider and assign responsibility for generating remedies across all mission areas. Remedial actions may involve revising planning assumptions and operational concepts, changing organizational tasks, or modifying organizational implementing instructions (i.e., the SOPs/SOGs). Remedial actions may also involve reassessment of capabilities, revisiting assumptions made in the DMP, and finding solutions to overcome the deficiencies. The final component of a remedial action process is a mechanism for tracking and following up on the assigned actions. As appropriate, significant issues and problems identified through a remedial action process and/or the annual review should provide the information needed to allow the planning team to make the necessary revision(s) to the plan.

CHAPTER – 19

CRISIS MANAGEMENT PLAN – CMP

19.1 Difference between a Crisis and Disaster:

A Crisis indicates either an impending calamity, or the occurrence of an incident which would adversely affect the society and human population. A Disaster is a much bigger occurrence of an event which would cause large scale devastation, damage to property and loss of human life etc. While a Crisis may or may not turn into a Disaster, the opposite is normally true, but with the condition the crises situation is more in the initial stages.

19.2 Crisis Types:

There can be broadly four types of crisis situation which the Ministry of Railways may be confronted with:

(a) National level crisis developed in the Railways and is specific to railways, which is to be managed with the help and assistance of other Ministries. All India Railway Strike is only such crisis identified in the CMP 2015for which Ministry of Railways is the nodal ministry.

(b) National level crisis affects the country including Railways and different ministries/departments have to help and assist each other based on their strengths. Cyclone, Earthquake etc. can be such crisis where Railways have to assist by running special trains. Ministry of Home Affairs has to assist railways under security related crisis situations like sabotage, bomb blasts, etc.

(c) Crisis situation which is not a national level crisis affects Railway system, which is to be managed with the help and assistance of other Ministries/departments. Chemical explosionin train, fire in train, train falling in river, etc may be such situations.

(d) Crisis situation which is not a national level crisis affects Railway system, which can be managed with the help of internal resources from the Railways only.

19.3 NATIONAL CRISIS MANAGEMENT COMMITTEE (NCMC):

The NCMC is the apex body comprising senior officials of the Government of India to deliberate on the problems at national level. The following officers will represent the Ministry of Railways (Railway Board) in NCMC for the various crisis situations:-

1)	**All India Railway Strike:**	**i. Chairman & CEO** **ii. Member traction & Rolling Stock(Alternate)**
2)	**Terrorism/Security related Crisis:**	**i. Chairman &CEO** **ii. Member (Operation & Business Development) (Alternate)**
3)	**Natural Factor(s) related crisis:**	**i. Member(Infrastructure)** **ii. Member (Operation & Business Development) (Alternate)**

4)	**Major Train Accidents:**	**i. Member (Operation & Business Development)** **ii. Member(Traction & Rolling Stock) (Alternate)**
5)	**Crisis where railways have to help other ministries:**	**i . Member(Operation & Business Development)** **ii. Chairman & CEO(Alternate)**

19.4 National Level Crisis:-

The Crisis Management Plan deals with National level crisis situations as under:

(i) **All India Railway Strike** – Ministry of Railways is the nodal ministry

(ii) **Terrorism/Security related Crisis** – Ministry of Home Affairs is the nodal ministry but Railways have to maintain liaison and flow of information.

(iii) **Natural Factor(s) related Crisis leading to traffic disruption** - Ministry of Home Affairs is the nodal ministry but Railways have to maintain liaison and flow of information for assistance to restore the affected railway system.

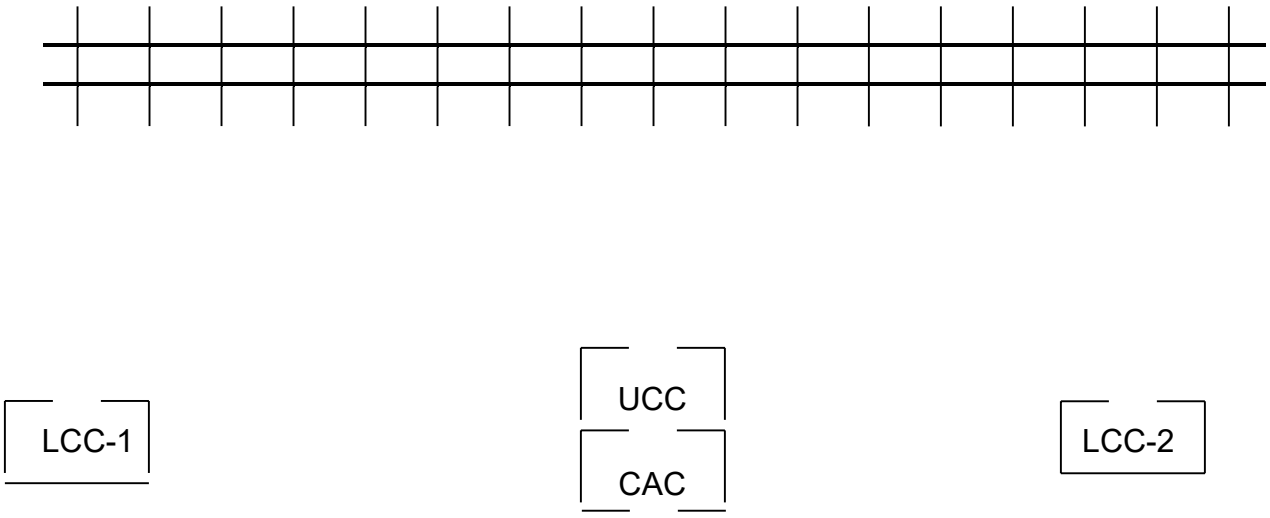
(iv) **Crisis where Railways have to help other ministries** by way of rail transport. Ministries concerned will make their own Crisis Management Plans bringing out the assistance that the Railways will be required to provide to them.

19.5 Drill for handling Crisis:

The Crisis Management Plan (CMP) is intended to deal with the afore-mentioned crisis situations only. The drill to be followed in the Ministry of Railways (Railway Board) as well as on the Zonal Railways in respect of crisis group, functioning of the Control room, communication etc., are basically the same for all crisis situations and the same general drill will follow, to be supplemented by the special instructions depending upon the nature of the crisis.

Annexure – 1

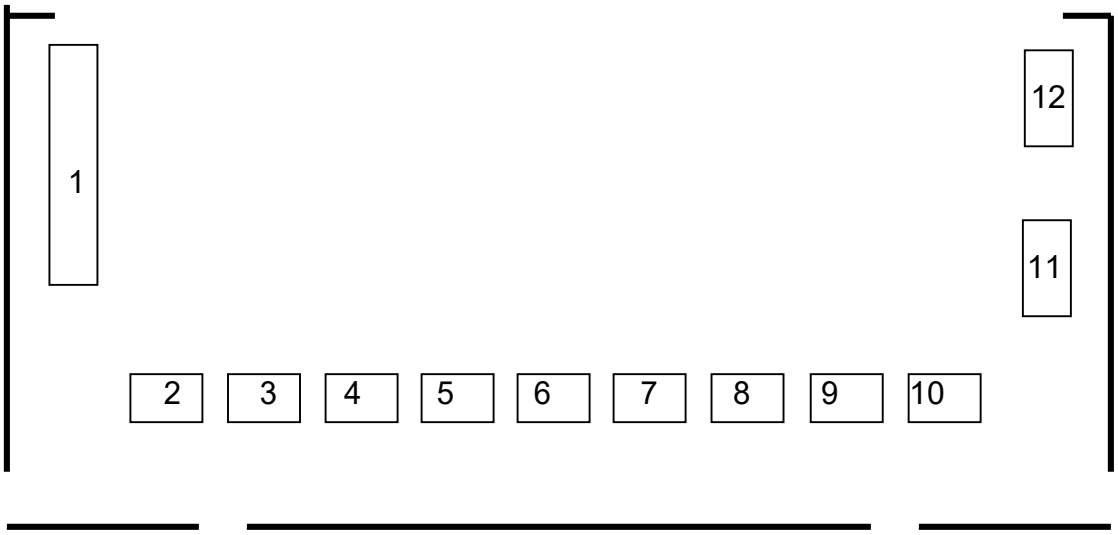
OUTLINE SCHEMATIC PLAN OF UCC/CAC/LCCs



UCC	:	Unified Command Centre
CAC	:	Combined Assistance Centre
LCC-1	:	Local Command Centre-1
LCC-2	:	Local Command Centre-2

Annexure – 2

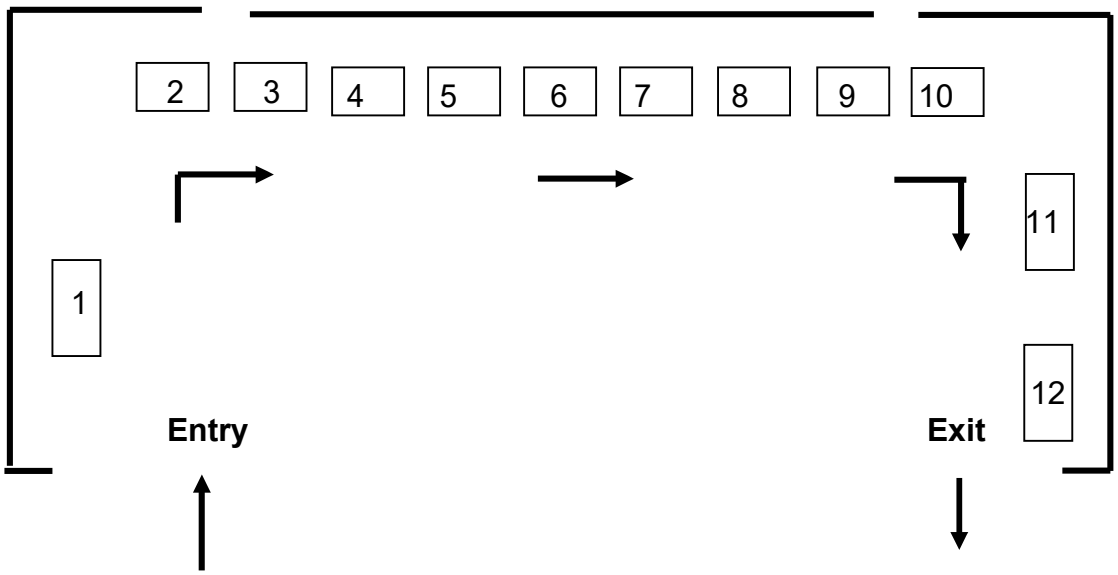
DETAIL SCHEMATIC PLAN OF UCC



1. Medical
2. Commercial
3. Operating
4. Safety
5. Security
6. Public Relations
7. OC Site and Officers
8. Mechanical
9. Electrical
10. S & T
11. Civil
12. Spare

Annexure – 3

DETAIL SCHEMATIC PLAN OF CAC



1. Commercial – Reservation Chart Official
2. Medical – List of dead and injured.
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 Authority for handing over dead body.
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.

REGISTER OF AMMENDMENT SLIPS **ANNEXURE -4**

SR. No.	Date of Issue	Chapter No.	Page No.	Subject Add/ Replace	Initials of Person in charge of book