

DISASTER MANAGEMENT PLAN

Metro Railway, Kolkata

2026

Issued by: Safety Branch, Metro Railway, Kolkata

Prepared in accordance with:

The Disaster Management Act, 2005 | NDMA Guidelines (April 2024)

Railway Board Safety Directorate Instructions

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TABLE OF CONTENTS

CHAPTER 1 — EXECUTIVE SUMMARY 5

- 1.1 Purpose of this Plan
- 1.2 Scope
- 1.3 Category of Organization
- 1.4 Key Strategic Objectives
- 1.5 Review and Update

CHAPTER 2 — INTRODUCTION 6-10

- 2.1 Background
- 2.2 Legal and Policy Framework
- 2.3 Definitions
- 2.4 Distinction between Accident and Disaster
- 2.5 Scope and Objectives
- 2.6 Disclaimer

CHAPTER 3 — METRO RAILWAY PROFILE 11-13

- 3.1 Organizational Overview
- 3.2 Operational Corridors
- 3.3 System Characteristics
- 3.4 Relevance to Disaster Management
- 3.5 Stakeholder Agencies

CHAPTER 4 — RISK ASSESSMENT AND HAZARD ANALYSIS ... 14-15

- 4.1 Hazard Identification
 - 4.1.1 Internal / Operational Hazards
 - 4.1.2 External / Threat-Based Hazards
- 4.2 Vulnerability Analysis
- 4.3 Classification of Disasters – Metro Railway Context
- 4.4 Risk Prioritization Matrix
- 4.5 Climate Change Considerations

CHAPTER 5 — ROLES AND RESPONSIBILITIES 16-18

- 5.1 Declaration of Disaster
- 5.2 Disaster Management Team (DMT)
- 5.3 Incident Commander at Site
- 5.4 Departmental Responsibilities
- 5.5 Coordination with External Agencies

CHAPTER 6 — PREPAREDNESS MEASURES 19-20

- 6.1 Standing Orders and SOPs
 - 6.2 Communication Preparedness
 - 6.3 First Aid Preparedness
 - 6.4 ART, RCRRVs and Re-railing Equipment Readiness
 - 6.5 Medical Preparedness
 - 6.6 Firefighting Preparedness
 - 6.7 Evacuation Infrastructure Readiness
 - 6.8 Public Awareness
-

CHAPTER 7 — RESPONSE STRATEGIES..... 21-22

- 7.1 Activation of the DMP
- 7.2 Incident Command Structure
- 7.3 The Golden Hour
- 7.4 Power Isolation Protocol
- 7.5 Scenario-Specific Response Guidelines
- 7.6 Communication Protocols during response

CHAPTER 8 — DISASTER RISK REDUCTION & MITIGATION ... 23

- 8.1 Structural and Infrastructure Mitigation
- 8.2 System-Level Safety Measures
- 8.3 Mainstreaming DRR in development plans
- 8.4 Fire Prevention Measures
- 8.5 CBRN Risk Mitigation

CHAPTER 9 — RECOVERY AND BUSINESS CONTINUITY ... 24

- 9.1 Priorities for Service Restoration
- 9.2 Critical Function Continuity
- 9.3 Restoration of damaged Infrastructure
- 9.4 Documentation and Investigation
- 9.5 Passenger Welfare and Ex-Gratia

CHAPTER 10 — RESOURCE INVENTORY..... 25-26

- 10.1 ART/RCRRV and Re-railing Equipment
- 10.2 Firefighting Resources
- 10.3 Medical Resources
- 10.4 Communication Resources
- 10.5 Human Resources for disaster response
- 10.6 External Resource inventory

CHAPTER 11 — PLAN MAINTENANCE..... 27

- 11.1 Annual Review
- 11.2 Triggers for Interim Review
- 11.3 Version Control
- 11.4 Distribution
- 11.5 Training on the DMP

CHAPTER 12 — TRAINING AND CAPACITY BUILDING ... 28

- 12.1 Training Framework
- 12.2 Categories of Training
- 12.3 Disaster Management Drills
- 12.4 Capacity Building with External Partners

CHAPTER 13 — FINANCIAL PLANNING..... 29

- 13.1 Budget Provisions
 - 13.2 Emergency Fund
 - 13.3 Ex-Gratia
 - 13.4 Financing Restoration Activities
-

ANNEXURES 30-112

Annexure A — Contact Directory
Annexure B — Fire Safety Equipment Details
Annexure C — Hospital Directory
Annexure D — PM’s 10-Point Agenda
Annexure E — Detrainment of Passengers
Annexure F — Fire at station, Tunnel, Viaduct, or Train
Annexure G — Flooding of Metro Tunnel
Annexure H — Electric Power Breakdown
Annexure I — Train Accident (Collision/Derailment)
Annexure J — Stampede
Annexure K — Sabotage
Annexure L — Ventilation System Failure in Tunnel
Annexure M — Terrorist Threats and Coordination
Annexure N — Medical Assistance to Disaster Victims
Annexure O — Chemical Disaster
Annexure P — Biological (Pandemic) Disaster
Annexure Q — Natural Calamities
Annexure R — System MAP of Metro Railway Kolkata

EDITORIAL BOARD.....113

APPROVAL AND AUTHORITY TO PROCEED 114

ABBREVIATIONS / GLOSSARY 115-117

CHAPTER 1 — EXECUTIVE SUMMARY

Metro Railway, Kolkata (MRK) is India's first metro rail system and operates under the direct administrative control of the Ministry of Railways, Government of India. Given its unique operational environment — comprising underground tunnels, elevated viaducts, and surface sections — and the high density of passenger traffic it handles daily, the organization is exposed to a wide spectrum of disaster risks.

1.1 Purpose of this Plan

This Disaster Management Plan (DMP) has been prepared in compliance with Section 37 of the Disaster Management Act, 2005, and in accordance with the NDMA Guidelines for Preparation of Disaster Management Plans for Ministries/Departments of the Government of India (April 2024). It establishes the framework for Metro Railway, Kolkata to prevent, mitigate, prepare for, respond to, and recover from disasters of all types that may affect its operations, passengers, staff, or assets.

1.2 Scope

This plan covers all infrastructure, rolling stock, depots, stations, tunnels, viaducts, and office premises of Metro Railway, Kolkata across all operational corridors. It is applicable to all employees, contractors working on MRK premises, and partner agencies. It addresses both internal disasters (train accidents, fire, electrical failure, tunnel flooding, stampede, ventilation failure) and external threats (natural calamities, terrorism, and chemical/biological incidents, pandemic).

1.3 Category of this Organization

In terms of the NDMA categorization, Metro Railway, Kolkata is a Category 2 organization — a Ministry/Department with Extensive Assets and Functions. This DMP accordingly places primary emphasis on: risk assessment and hazard analysis; resource inventory; roles and responsibilities; response strategies; incident command; business continuity and recovery; training and capacity building; and financial planning.

1.4 Key Strategic Objectives

- Ensure the safety of passengers, staff, and the public during any disaster.
- Protect Metro Railway's critical infrastructure and rolling stock.
- Maintain or rapidly restore continuity of essential metro services.
- Establish clear command structures and inter-agency coordination protocols.
- Build and sustain organizational capacity through training, drills, and technology.
- Align with the National Disaster Management Plan and West Bengal State DMP.

1.5 Review and Update

This DMP shall be reviewed and updated annually in January each year, or immediately following any major disaster or significant change in operational environment, in accordance with Section 37(1)(b) of the DM Act 2005. A copy shall be forwarded to the Ministry of Railways/Central Government for onward submission to NDMA for approval as required under Section 37(1)(c).

CHAPTER 2 — INTRODUCTION

2.1 Background

The Disaster Management Act, 2005 represents a paradigm shift in India's approach to disasters — from reactive relief to proactive risk reduction, preparedness, and effective response. All central ministries and departments, including Metro Railway, are mandated under Section 37 of the Act to formulate, maintain, and periodically update their Disaster Management Plans in alignment with national and state disaster management strategies.

2.2 Legal and Policy Framework

This DMP is grounded in the following statutory and policy instruments:

- The Disaster Management Act, 2005 — Sections 35, 36, and 37.
- National Disaster Management Plan (NDMP).
- NDMA Guidelines for Ministry/Department DMPs (April 2024).
- West Bengal State Disaster Management Plan.
- Railway Board Safety Directorate instructions, including letter No. 2003/Safety-I/6/2 dated 29.09.2003 and subsequent circulars.
- Metro Railway General Rules 2019 and Accident Manual.

2.3 Definitions

Disaster (DM Act 2005): A catastrophe, mishap, calamity or grave occurrence arising from natural or man-made causes, or by accident or negligence, which results in substantial loss of life or human suffering or damage to property or the environment, and is of such a nature or magnitude as to be beyond the coping capacity of the community of the affected area.

Railway Disaster (Railway Board): A serious train accident or an untoward event of grave nature, either on the 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, necessitating large scale help from other Government / Non-government and Private Organizations.

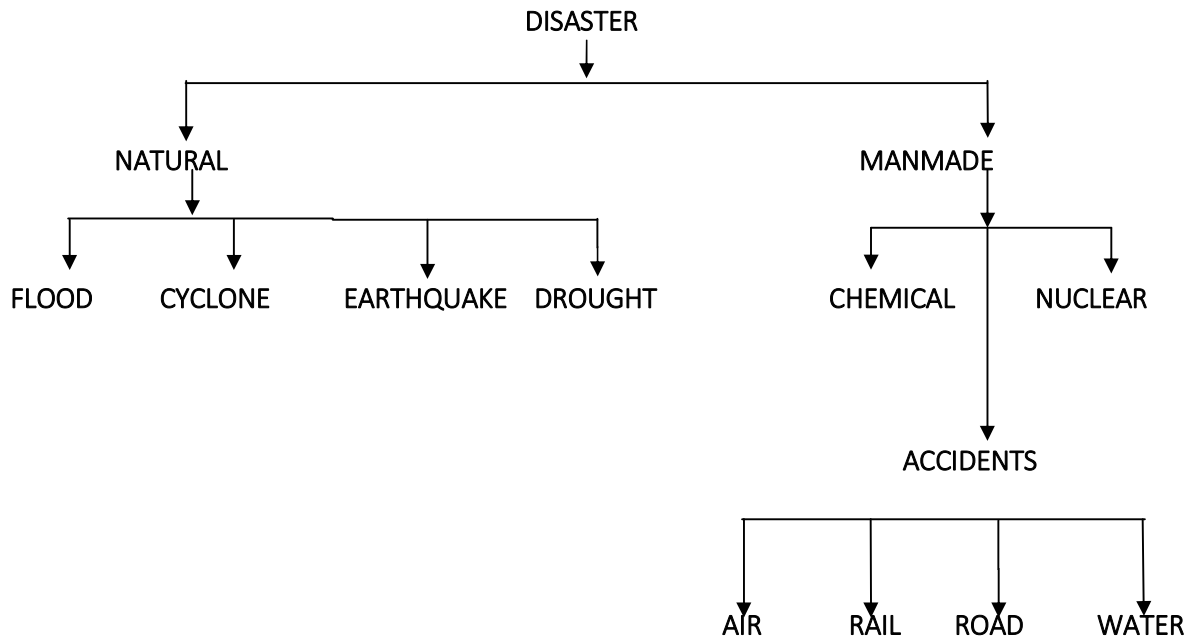
Disaster Management: A continuous and integrated process of planning, organizing, coordinating and implementing measures for prevention, mitigation, preparedness, response, and rehabilitation.

2.4 Distinction between Accident and Disaster

All accidents are not disasters, and all disasters are not accidents. Accidents are occurrences where operational safety is affected, whereas disasters are situations that cause acute distress to passengers, staff, or the public at large and require mobilization of resources beyond routine accident management. The declaration of an event as a 'Railway Disaster' vests with the GM, AGM, or PCSO of Metro Railway, Kolkata.

2.5 Scope and Objectives

The types of 'Disaster' may be classified as under



Types of Disaster in Metro Railways:-

Identified disaster scenarios in Metro Railways:-

- (i) Major fire (station, train, depot, office, tunnel / viaduct)
- (ii) Major Train Accidents (Collision, Derailment)
- (iii) Tunnel Flooding
- (iv) Major failure of Power supply and ventilation
- (v) Terrorist Attacks, Bomb Blasts, Indiscriminate Firing, Sabotage
- (vi) Unmanageable Crowd, Stampede
- (vii) Natural Calamities
- (viii) Chemical, Biological, Radioactive or Nuclear attacks
- (ix) Wide spread Violence and Public Disturbance

Disaster management in the Railway context envisages expeditious, orderly, effective and adequate relief measures in case of a disaster. Given the size and complexity of the Railway network and the uniquely peculiar nature of each Railway disaster, it is very difficult to precisely lay down the exact line of action for every contingency. Continual efforts have been made by the Railways to develop a well-organized and well-planned system for handling different situations based on the experiences gained over time. This booklet represents an effort to take the Metro Railway further ahead in that direction.

Railway disasters affect not only the travelling passengers but also the nation as a whole. It is now a recognized fact that, while the disasters—natural or man-made are sudden and unexpected, putting proper and adequate Disaster Management Plan in place can control the extent of loss and damages due to these disasters. Taking required action in time can mitigate the sufferings and miseries arising out of these disasters. Therefore, a plan of action is needed for the purpose, the aim of which should be to seek avenues for how to mitigate the losses and relieve the distress from the hardship caused by the disasters. Emphasis has been given at the time of preparation of the plan to cover up all the areas of problems likely to develop in the wake of a particular disaster. Therefore, a de-centralized, well-trained group of personnel and a transparent Disaster Management Plan for post Disaster response and preparedness actions can play an important role in reducing the impact of the disasters. Such plan reinforces the internal strengths and improves on perceived weaknesses to avoid criticism and increase credibility of the organization.

Study shows that the psychological impact of Natural Disasters is less than that of Man-Made Disasters. Disasters like Chernobyl, Bhopal or Gaisal are usually the result of human error and when such accidents take place, the credibility of the organization gets eroded leading to adverse impact or criticism that can reduce the market share drastically.

With this objective in mind, this booklet is prepared to incorporate all relevant information about the facilities/services available in the area that can be brought in to supplement the efforts of Railways required to mitigate the impact of any disaster. The details of facilities/services available in the area have been incorporated along with contact telephone Nos. of the service providers. MOU with State Govt. Hospitals, Private Hospitals in the area are planned to be executed so that in case of need, their services can be called for. Similar tie-up arrangements with local NGOs are also planned.

Our target is to focus on transportation disaster particularly “Train Transport Disaster”. In view of that, this plan is chalked out to deal with any such disaster covering the following aspects: -

- 1) Responsibilities of the staff concerned & officers are sketched clearly.
- 2) Sources of emergency supplies are redefined.
- 3) Internal and external communication facilities are outlined clearly.
- 4) Facilities/services available with the Railways within the organization and in the adjacent Divisions have been detailed.
- 5) Resources available with the State Govt. and different Trade & Industries, NGOs and other Private Organizations have been incorporated.
- 6) Availability of Navy frogman units and Boatman has been identified to minimize impact of disaster due to flood and cyclones.
- 7) Availability of soft/cold cutter with portable generator has been identified.

- 8) Arrangement for sending Rescue & Relief on rail cum road vehicle at vulnerable locations where there is no road approach has been planned.
- 11) First-Aid training for the station staff and on-board staff has been made compulsory so that at least one trained First-Aider is available at any time.
- 12) Notices & signs have been designed to convey warnings, instructions for systematic barriers and guidelines to passengers to avoid chaos and panic. Examples of signboard are “WAYS TO HOSPITAL”, “FIRST AID”, “MAY I HELP YOU”, “REFUND”, “NO ENTRY”, “FOOD”, “WATER” etc.

The Objectives of this Disaster Management Plan are as follows:-

- i) Specifies instant trigger mechanism for disaster management.
- ii) Specifies the role of systems, policies and procedures in preventing disasters in order to ensure that risks remain as low as reasonably practicable.
- iii) Specifies the preparatory actions that are to be taken by staff of Metro Railway Kolkata to mitigate the likelihood and consequence of a potential disaster
- iv) Requires that Metro Railway staff and other agencies understand their respective roles and responsibilities while responding to disaster to ensure coordination.
- v) Triggers the disaster management as a quick response mechanism which, on energizing would, spontaneously set the vehicle of management in motion to disaster management process. The process and method of responding are planned in advance, and response activities start as soon as the information is received about a disaster.
- vi) Requires that all possible assistance is provided as necessary to the Fire Services, Police, medical and other medical personnel in reaching the affected area and carrying out their functions of rescue and relief.
- vii) Details the guidelines for immediate response and rendering assistance to the affected persons during any disaster to reduce the casualties to a minimum.
- viii) Provides simple and clear guidance for the agencies involved to protect persons in the event of a terrorist attack or disaster which may involve extremely hazardous events.
- ix) Requires liaison and coordination with officials of Apex/Civic Bodies and other expert teams in handling the disaster.

***Always hope for the best.
However, be prepared for the worst.***

2.6 Disclaimer

*This document is intended as a guiding framework for railway officials. While every effort has been made to ensure its accuracy, in the event of any conflict or ambiguity, the provisions of **the General and Subsidiary Rules, Accident Manual, Codes, and other Manuals** issued from time to time by the Ministry of Railways and Railway Board shall prevail.*

CHAPTER 3 — METRO RAILWAY PROFILE

3.1 Organizational Overview

Metro Railway, Kolkata (MRK) is the first metro railway system in India, inaugurated on 24th October, 1984. It is the only metro system under the direct management of the Ministry of Railways, Government of India, functioning as an independent railway zone since 2010.

3.2 Operational Corridors

SN	Corridor	Color	Route	Status
1	Blue Line (North-South)	Blue	Kavi Subhash – Dakshineswar	Fully Operational
2	Green Line (East-West)	Green	Howrah Maidan – Sector V – Haldiram*	Partially operational
3	Purple Line (Joka-Esplanade)	Purple	Joka – BBD Bagh / Eden Gardens*	Partially operational
4	Orange Line	Orange	Kavi Subhash – Biman Bandar*	Partially operational
5	Yellow Line	Yellow	Noapara – Jain Hind / Biman Bandar – Barasat*	Partially operational
6	Pink Line	Pink	Baranagar – Barrackpore*	Project sanction for construction

**Extensions/full corridors to be updated as commissioning takes place.*

The first corridor of Metro Railway Kolkata which is now called the Blue line (North-South Corridor) was inaugurated on 24th October, 1984 with a short section from Esplanade to Bhowanipur (Netaji Bhawan) with a length of 3.4km. The commercial service was further extended phase wise as under:

BLUE LINE			
Sl.	Section	Length (in km)	Opened on
1	Dum Dum to Belgachia	2.15	12 th Nov, 1984
2	Bhowanipur (Netaji Bhawan) to Tollygunge (Mahanayak Uttam Kumar)	4.24	29 th Apr, 1986
3	Belgachia to Shyambazar	1.62	13 th Aug, 1994
4	Esplanade to Chandni Chowk	0.71	2 nd Oct, 1994
5	Shyambazar to Chandni Chowk	4.33	19 th Feb, 1995
6	Dum Dum to Tollygunge	16.45	27 th Sep, 1995
7	Tollygunge (Mahanayak Uttam Kumar) to Garia Bazar (Kavi Nazrul)	5.83	22 nd Aug, 2009
8	Garia Bazar (Kavi Nazrul) to New Garia (Kavi Subhash)	2.85	8 th Oct, 2010
9	Dum Dum to Noapara	2.09	10 th Jul, 2013
10	Noapara to Dakhineswar	4.14	23 rd Feb, 2021

GREEN LINE			
Sl. No.	Section	Length (in km)	Opened on
1.	Salt Lake Sector-V to Salt Lake Stadium	4.89	13 th Feb, 2020
2.	Salt Lake Stadium to Phoolbagan	1.66	4 th Oct, 2020
3.	Phoolbagan to Sealdah	2.31	14 th Jul, 2022
4.	Esplanade to Howrah Maidan	4.14	15 th Mar, 2024
5.	Esplanade to Sealdah	2.90	22 nd Aug, 2025
*Sanction is available for extension of this line till Haldiram.			

PURPLE LINE		
Section	Length (in km)	Opened on
Joka to Taratala	6.49	2 nd Jan, 2023
Taratala to Majherhat	1.25	15 th Mar, 2024
Further work is in progress in Purple Line from Majherhat to Esplanade / Eden Gardens & Joka to Diamond Park		

ORANGE LINE		
Section	Length (in km)	Opened on
Kavi Subhas to Hemanta Mukhopadhyay	6.37	15 th Mar, 2024
Hemanta Mukhopadhyay to Belegkata	4.39	25 th Aug, 2025
Further work is in progress from Belegkata to Jai Hind / Biman Bandar via IT Center & City Center – II.		

YELLOW LINE		
Section	Length (in km)	Opened on
Noapara to Jai Hind	6.37	25 th Aug, 2025
Further work is in progress from Jain Hind / Biman Bandar to Barasat.		

- A new corridor i.e. Pink Line from Baranagar to Barrackpore is also sanctioned for construction.
- The System Map of MRK as on 31.03.2026 is attached at Annexure- R.

3.3 System Characteristics

The system of working of Metro Railway, Kolkata is different than that of other Zones of Indian Railways. Trains are working under Automatic Block System or Train Protection Warning System (TPWS) or Communication Based Train Control (CBTC) system or One Train Only system with underground, surface and elevated stations. Traction power for all corridors is provided through a 750 V DC third-rail system. Hence special precautions are required during maintenance work and while initiating rescue and restoration operations in case of any accident/disaster.

Keeping in view of the special features of Metro Railway, Kolkata a Disaster Management Plan was issued for the first time in Mar, 2012 (when the commercial operation was from Dum Dum to Tollygunge) containing certain specific guidelines for tactful and efficient handling of the adverse situations which may arise due to any accident, natural calamity, stampede, fire, sabotage or any kind of terrorist activity etc. Subsequently, the commercial services have been extended in phases wise as mentioned above and a revised edition of DM Plan was published in Jan, 2023. There have also been certain up-gradations to the system over the years, and further knowledge and experience on handling breakdowns and disasters has been acquired, because of which it was felt necessary to update the D M Plan. Henceforth the DM Plan will be updated on an annual basis to stay aligned with emerging risks, technological progress, and changes in the operational environment, ensuring that it remains current, practical, and effective based on new data and development like formation of District/State level DM Plan (Ref: Rly. Board letter no. 2009/Safety (DM)/6/14 dated. 12.10.2011)

Metro Railway has issued various Manuals for guidance of its personnel operating and maintaining different subsystems like Track, Rolling stock, Signaling, Tunnel Ventilation and Traction power supply etc. These are available with the respective departmental supervisors. Apart from these, the relevant Rules and Procedures followed by the Indian Railways are also applicable to Metro Railway, Kolkata.

3.4 Relevance to Disaster Management

The unique operational environment of MRK — combining underground tunnels, elevated viaducts, high passenger density, and a live third-rail traction system — creates specific disaster risk profiles not encountered in surface transport systems. The organization's role in disaster management is primarily that of a Category 2 entity: protecting its extensive assets and ensuring continuity of essential services, while contributing resources and coordination to national and state-level disaster response as required.

3.5 Stakeholder Agencies

Key external agencies with whom MRK coordinates for disaster management include:

- National Disaster Response Force (NDRF),
- West Bengal State Disaster Management Authority (WBSDMA),
- Kolkata Police,
- West Bengal Fire and Emergency Services (WBF&ES),
- Ministry of Defense / Army,
- State Health Department,
- Kolkata Municipal Corporation,
- CISF and adjacent railway zones (Eastern Railway, South Eastern Railway).

CHAPTER 4 — RISK ASSESSMENT AND HAZARD ANALYSIS

4.1 Hazard Identification

Metro Railway, Kolkata faces the following categories of hazard, identified on the basis of historical incident data, operational analysis, and NDMA guidelines:

4.1.1 Internal / Operational Hazards

Hazard	Description	Key Risk Factors
Major Fire	Fire at station, tunnel, viaduct, train, or depot	Tunnel confinement, third-rail power, passenger density
Train Accidents	Collision or derailment	Signaling system failure, human error, rolling stock or track defects
Tunnel Flooding	Ingress of water into tunnels	Heavy rainfall, Hooghly proximity, drainage failure
Stampede	Uncontrolled crowd surge at station	Peak hours of festival congestion, large public events
Electric Power Failure	Traction or station power failure	Third-rail failure, substation fault, Grid failures
Ventilation Failure	Failure of tunnel ventilation system	Tunnel getting filled with Smoke & hazardous gases

4.1.2 External / Threat-Based Hazards

Hazard	Description	Key Risk Factors
Terrorism / Sabotage	Bomb blast, arson, sabotage of track/infrastructure	High-footfall public transport system
Chemical/CBRN Attack	Release of toxic chemical, biological, radiological, or nuclear agent	Enclosed underground spaces amplify exposure
Natural Calamity	Earthquake, cyclone, severe flooding	Kolkata seismic zone III; cyclone-prone coastal proximity
Pandemic / Biological Disaster	Mass infectious disease outbreak affecting staff/passengers	High daily passenger numbers in confined spaces
Public Disorder	Violent demonstration, mob action	Station proximity to public gathering points

4.2 Vulnerability Analysis

Underground stations and tunnels present the greatest vulnerability due to limited egress routes, confined spaces, and the presence of live third-rail power. Elevated viaduct sections are exposed to cyclonic wind loads and seismic activity. Stations located in center of the city (Esplanade, Howrah, Sealdah etc.) carry the highest footfall and are most exposed to crowd-related incidents.

4.3 Classification of Disasters — Metro Railway Context

For operational purposes, disasters on Metro Railway are classified under the following heads, derived from the Railway Accident Manual:

Category	Type	Accident Classes Covered
Fire	Train / Station / Tunnel / Viaduct Fire	B1, Q4, Q5
Flooding	Tunnel / Station Flooding	R3, R4
Electric Power Breakdown	Traction / Station Power Loss	L1
Ventilation Failure	Tunnel Ventilation System Failure	(Not classified in Accident Manual but treated as disaster)
Stampede	Uncontrolled Crowd Incident	(Treated as disaster)
Train Accidents	Collision, Derailment	A1, A3, D1, D2, D3, F1, F2
Sabotage	Wrecking, Obstruction, IED	N1
Equipment Failure	Rolling Stock / P-Way / Signaling	J1, J3, J5, K3, K5
Natural Calamity	Earthquake, Cyclone, Flood	R3, R4 and beyond
CBRN Incident	Chemical / Biological / Radiological / Nuclear	(Treated as disaster)

4.4 Risk Prioritization Matrix

Hazard	Likelihood	Impact	Risk Level
Major Fire (Station/Train)	Medium	Severe	Critical
Tunnel Flooding	Low–Medium	Severe	High
Stampede	Medium	High	High
Terrorist Attack / Bomb Blast	Low–Medium	Catastrophic	Critical
Train Collision / Derailment	Low	Severe	Medium–High
Electric Power Failure	Medium	Moderate	Medium
Ventilation System Failure	Low–Medium	High	Medium
Natural Calamity (Cyclone/Earthquake)	Low	High	Medium
CBRN Incident	Very Low	Catastrophic	High
Pandemic	Very Low	High	Medium

4.5 Climate Change Considerations

The increasing intensity and frequency of cyclonic storms in the Bay of Bengal, rising incidence of extreme rainfall events, and projections of higher sea levels all heighten MRK's exposure to flooding and storm-related disruption at below-grade stations, and depots in low-lying areas. Climate risk shall be factored into all future infrastructure decisions and this DMP shall be reviewed annually with reference to updated climate projections.

CHAPTER 5 — ROLES AND RESPONSIBILITIES

5.1 Declaration of Disaster

Only the General Manager (GM), Additional General Manager (AGM), or Principal Chief Safety Officer (PCSO) of Metro Railway, Kolkata are authorized to formally declare an incident as a 'Railway Disaster'. Upon such declaration, all instructions contained in this DMP and the Accident Manual come into force automatically, and all departments act as prescribed.

5.2 Disaster Management Team (DMT)

A standing Disaster Management Team (DMT) is constituted as follows:

Role in Disaster Management Team	Designation	Alternate officer if Designated officer is not available
Chairman & Coordinator	Deputy Chief Safety Officer	Consultant Safety
Member (Operations)	Deputy Chief Operations Manager (Operation & Maintenance)	Senior Transportation Manager
Member (S&T)	Deputy Chief Signal and Telecom Engineer (Signal)	Assistant Signal and Telecom Engineer
Member (Electrical)	Deputy. Chief Electrical Engineer (Rolling Stock)	Assistant Electrical Engineer(Rolling Stock)
Member (Civil Engineering)	Senior Divisional Engineer	Assistant Engineer
Member (Medical)	Additional Chief Medical Superintendent	Divisional Medical Officer
Member (Security)	Assistant Security Commissioner/Railway Protection Force	Inspector / RPF

The Traffic Controller shall immediately notify all DMT members upon occurrence of a disaster. The DMT activates the crisis management mechanism and coordinates inter-departmental response.

5.3 Incident Commander at Site

The first officer or supervisor to reach the site assumes command. Thereafter, the senior most officer at site shall be the site in-charge. They shall set up an Incident Post, coordinate rescue and relief, liaise with police and external agencies, and maintain a log of all actions and decisions. The Officer-in-Charge shall not personally engage in manual rescue work but shall focus on organizational and administrative management of the incident.

5.4 Departmental Responsibilities

Traffic / Operations

- Activation of emergency systems and communication of information to Central Control.
- Management of train movements, including stoppage, reversal, and controlled evacuation.
- Coordination of passenger evacuation and dispersal to nearest station.
- Opening and staffing of Enquiry-cum-Information Centres.
- Arrangement of food, water, and comfort facilities for passengers and rescue staff.

- Coordination of bus/taxi shuttle services with civil authorities.

Electrical

- Immediate isolation of third-rail power in the affected section — no rescue work to begin until power is confirmed as isolated and earthed.
- Provision of emergency lighting and auxiliary power supply.
- Management of traction substation switching and restoration.
- Managing ventilation and air supply systems in underground sections.
- Maintenance and deployment of battery-operated locos/ Rail-Cum-Road Relief Vehicles for relief operations.
- Working of water pumps if required for draining out water flooding

Signal & Telecommunication (S&T)

- Establishment and maintenance of communication links between site, Control Office, and external agencies.
- Provision of additional telephones, radios, and TETRA handsets at incident site.
- Restoration of signaling systems as soon as operationally safe.

Civil Engineering

- Structural assessment of affected tunnel, viaduct, or station areas.
- Clearance of debris and provision of access for rescue teams.
- Coordination with dewatering pump operations in tunnel flooding scenarios.

Medical

- Deployment of medical personnel, ambulances, and first aid resources to disaster site within the Golden Hour (first 60 minutes).
- Triage and treatment of injured passengers and staff.
- Coordination with government and private hospitals for admission of casualties.
- Maintenance of casualty records.

Security

- Crowd control and access management at affected stations and nearby areas of MRK
- Protection of evidence and coordination with Kolkata Police for FIR/investigation.
- Assistance to passengers in evacuation and preventing panic.
- Prevention of trespassing or interference at disaster site.

Public Relations

- Release of factually accurate, approved information to media and public.
- Regular updates on train service status through official channels and social media.
- Prevention of misinformation and management of public communication during the crisis.

Finance

- Rapid processing of ex-gratia payments to injured or bereaved as per applicable scales.
- Emergency financial authorizations for procurement of relief materials.

5.5 Coordination with External Agencies

Agency	Role in Disaster Response
NDRF (National Disaster Response Force)	Specialized search and rescue, particularly in tunnel collapses and flooding
West Bengal Fire & Emergency Services (WBF&ES)	Firefighting, rescue from confined spaces
Kolkata Police	Law and order, evacuation, evidence preservation, traffic management
State Health Department / Hospitals	Treatment of mass casualties, provision of ambulances
Ministry of Defense / Army	Large-scale disaster support if civil resources are overwhelmed
Kolkata Municipal Corporation (KMC)	Road clearance, water supply, civic support
WBSEDCL / CESC	External electrical supply coordination
Eastern Railway / South Eastern Railway	Rail connectivity for relief movement. Railway personnel deployment if required by MRK
Doordarshan / AIR / Press	Mass public communication

A comprehensive list of contact numbers for all external agencies is maintained in **Annexure-A** of this DMP and is updated annually.

CHAPTER 6 — PREPAREDNESS MEASURES

6.1 Standing Orders and SOPs

Standard Operating Procedures (SOPs) for each identified disaster scenario are incorporated in the operational chapters of this DMP (Annexures E–Q). All staff are required to be conversant with SOPs relevant to their role. SOPs are reviewed annually and updated as required.

6.2 Communication Preparedness

The following communication systems to be always maintained in a state of operational readiness:

- Control Telephone (selective calling) at every station.
- Railway Auto Telephone (intercom exchange) network.
- Landline / Fixed Cellular Telephone (FCT) for external communication.
- TETRA (Terrestrial Trunked Radio) system
- Public Address (PA) system at stations and on trains.
- CCTV surveillance covering 100% of public areas at all stations.
- Mobile phones issued to all supervisors and key on-board staff.

6.3 First Aid Preparedness

First aid boxes, stocked to the prescribed inventory, are maintained at all stations, on all trains, at all car sheds/depots, and at other vital installations. A minimum of one staff member trained in first aid is required to be available at every station at all times. First aid box contents are inspected by the designated Medical Officer at six-monthly intervals.

6.4 Accident Relief Train (ART) /Rail-cum-Road Relief Vehicles (RCRRVs) and Re-railing Equipment Readiness

ARTs and re-railing equipment are stationed at Kavi Subhash Car Shed (KKVS) and Noapara Car Shed (Blue Line), Central Park Depot (Green Line) and Joka Car Depot (Purple Line). The target turnout time for the ART/RCRRV is 30 minutes for day time & 45 minutes for night time from receipt of hooter signal. Quarterly joint inspections are conducted by competent officers and a report submitted to the PCSO. Rail-cum-Road Relief Vehicles (RCRRVs) are stationed at Joka and KKSO Car Sheds for the Purple and Orange Lines.

6.5 Medical Preparedness

Metro Railway maintains its primary medical facility at the Tapan Sinha Memorial Metro Railway Hospital, Tollygunge (30-bed inpatient, OPD, emergency service 24x7, ambulance). First Aid Posts are maintained at Noapara. Ambulances are available at Tollygunge Hospital, Noapara, and Central Park Depot round the clock.

6.6 Firefighting Preparedness

Mobile and static fire stations are maintained at Noapara Car Shed. Water pipelines with fire hydrants are provided at all commercially opened track sections. Water tanks at every station ensure continuous supply to the fire hydrant network. A total of approx 5000 fire extinguishers of various types is maintained across all corridors, stations, substations, rolling stock, and depots. Automatic Fire Alarm Systems and Automatic Fire Extinguishing (AFX) systems are installed at critical locations and maintained under AMC. Details are available at **Annexure – B**.

6.7 Evacuation Infrastructure Readiness

Emergency evacuation of passengers is carried out from Metro trains either from the ends of the train (through motorman cabs) or through side doors. In the Blue line and parts of Yellow line, end evacuation is done through the track-bed. Side evacuation is feasible in those sections where emergency walkways of about 550 mm width are provided on both tunnel and viaduct sections (new corridors like Green, Orange & Purple lines). Tunnels on these new corridors have cross-passages at intervals of about 250 m (except the Hooghly River tunnel section) for inter-tunnel evacuation. In Blue line, the tunnel portion is generally a common structure for both UP & DOWN tracks permitting crossover. Platform evacuation plans are displayed at stations. AFC gates can be set to free-flow mode by Station Controllers to enable rapid mass egress. Station Master Office carries torch lights, emergency keys, loud hailer for making announcements and PA system access.

6.8 Public Awareness

Metro Railway periodically disseminates safety awareness information to passengers through PA systems, digital information displays (PIDS), websites, and social media. Instructions on evacuation procedures, emergency contact numbers, and conduct in emergency situations are displayed at all stations.

CHAPTER 7 — RESPONSE STRATEGIES

7.1 Activation of the DMP

The DMP is activated upon declaration of a disaster by the GM, AGM, or PCSO. The Traffic Controller serves as the first point of coordination and immediately alerts:

- (a) All DMT members,
- (b) The Officer-in-Charge at site,
- (c) Relevant departmental controllers, and
- (d) NDRF/Police/Fire Services as appropriate to the nature of the disaster.

7.2 Incident Command Structure

Upon activation of the DMP, the following Incident Command Structure is established:

Level	Position	Responsibility
Command	GM / AGM (or delegated to another senior officer)	Overall authority; inter-ministerial coordination; media statements at apex level
Incident Commander	PCSO / AGM (on-site)	Site command; resource deployment; liaison with external agencies
Operations Section	PCOM	Train operations; passenger evacuation; traffic management
Electrical Section	PCEE	Power isolation, emergency power, battery locos, ART/RCRRV, pumping of water
Engineering Section	PCE	Structural clearance; de-watering; access provision
S&T Section	PCSTE	Communications; signaling restoration
Medical Section	PCMO	Casualty management; hospital coordination
Security Section	IG cum PCSC	Crowd control; evidence; police liaison
Public Relations	CPRO / PRO	Media; public communication
Finance	PFA	Ex-gratia; emergency funds

7.3 The Golden Hour

The first 60 minutes following a serious accident — the 'Golden Hour' is critical for saving lives. During this period:

1. On-board staff (DMM/CMM/MRP/RPF/SS/TS) shall immediately pass information to the nearest station and Central Control, renders first aid, and mobilizes volunteer assistance.
2. The senior-most MRK officer on the train (on or off duty) shall assume command at site.
3. Station Masters at adjoining stations shall inform Control and request required assistance.
4. The medical team must achieve definite medical care, arrest bleeding, provide shock relief, and arrange evacuation of casualties to hospital within this window.
5. The ART/RCRRV must be dispatched within 30 minutes for day time & 45 minutes for night time on the hooter signal.

7.4 Power Isolation Protocol

No rescue or recovery work shall commence in the third-rail zone until:

- The relevant Traction Power Controller (TPC) has confirmed power isolation on the affected section.
- Third Rail Earthing Devices (TREDs) have been applied and confirmed.
- Electrical clearance has been issued by the authorized electrical officer.

This protocol is absolute and non-negotiable, irrespective of the urgency of the situation.

7.5 Scenario-Specific Response Guidelines

Detailed response procedures for each disaster scenario — including step-by-step actions for each department — are contained in the Annexures of this DMP:

Scenario	Details at Annexure
Detrainment of Passengers	Annexure- E
Fire at Station, Tunnel, Viaduct, or Train	Annexure - F
Flooding of Metro Tunnel	Annexure - G
Electric Power Breakdown	Annexure -H
Train Accidents (Collision / Derailment)	Annexure - I
Stampede	Annexure - J
Sabotage	Annexure - K
Ventilation System Failure in Tunnel	Annexure - L
Terrorist Threats and Coordination	Annexure - M
Medical Assistance to Disaster Victims	Annexure - N
Chemical Disaster	Annexure - O
Biological (Pandemic) Disaster	Annexure - P
Natural Calamities	Annexure -Q

7.6 Communication Protocols during Response

All actions, decisions, and communications at the Incident Post and Central Control shall be logged with timestamps. The Incident Post shall maintain a dedicated telephone manned by a nominated traffic inspector/supervisor. Updates shall be communicated to the PCOM/GM at regular intervals. External agency communications shall be routed through the Incident Commander. Media communication shall be handled exclusively by CPRO/PRO with approval of competent authority.

CHAPTER 8 — DISASTER RISK REDUCTION AND MITIGATION

8.1 Structural and Infrastructure Mitigation

- All new construction on Metro Railway corridors adheres to applicable earthquake-resistant design codes (seismic zone III provisions for Kolkata).
- Tunnel and viaduct structures are subjected to periodic structural inspections by Civil Engineering department.
- Fire-resistant materials and smoke-suppression systems are specified for all new rolling stock and station fitments.
- Flood mitigation measures include: automatic sump pumps at all tunnel low points with liquid level controllers and duplicate power supply; flood barriers at tunnel portals; regular maintenance of external drainage channels.

8.2 System-Level Safety Measures

- Train Protection Warning System (TPWS), Communication Based Train Control (CBTC) and Automatic Train Protection (ATP) systems provide automated collision avoidance
- Automatic Block Working and One Train Only procedures on other lines prevent rear-end collisions.
- Third-rail power supply provides inherently lower risk of overhead electrocution but requires strict earthing protocols.
- Platform Screen Doors (PSDs) and Platform Screen Gates (PSGs) on new corridors prevent passenger entry onto the track.

8.3 Mainstreaming DRR in Developmental Plans

Metro Railway's capital works programme and projects for corridor extension, rolling stock procurement, and station upgrades integrate disaster risk reduction considerations as a standard component. Environmental Impact Assessments (EIAs) for new corridors include flood risk, seismic risk, and climate resilience analysis. Procurement specifications for rolling stock, tunnelling systems, and electrical infrastructure incorporate applicable safety standards from BIS and international metro safety norms.

8.4 Fire Prevention Measures

- Regular testing and maintenance of all fire detection and suppression systems.
- Strict enforcement of no-smoking and no-open-flame rules across MRK premises.
- Control of flammable and combustible materials in stations and rolling stock.
- Periodic thermographic inspection of electrical installations.

8.5 CBRN Risk Mitigation

Metro Railway has noted the NDMA Guidelines on Chemical Disasters, Chemical (Terrorism) Disasters, and Biological/Nuclear Disasters. Relevant mitigation measures integrated into MRK's operations include- strict enforcement of Railway's Red Tariff provisions for dangerous goods; staff training in identification and reporting of suspected CBRN threats; coordination with Kolkata Police Counter-Terrorism unit; and installation of surveillance systems at station entry points.

CHAPTER 9 — RECOVERY AND BUSINESS CONTINUITY

9.1 Priorities for Service Restoration

As per Metro Railway, Kolkata General Rules-2019, all staff of Metro Railway shall deal with the accidents and emergencies expeditiously and with the following priorities:

- i) Save life, prevent further injury and alleviate suffering
- ii) Protect the Metro Railway property and equipment - Ensure complete safety of the affected section — structural clearance, power restoration, and engineering certification
- iii) Take steps for preservation of clues.
- iv) Inform the public of the effect on train services and the availability of alternative transport facilities.
- v) Restore the safe operation of the train services as quickly as Practicable and Restore normal services.

9.2 Critical Function Continuity

The following functions are identified as critical and should be maintained or restored as a priority:

- Central Control Room operations — back-up power, alternate control facility if primary is damaged.
- Passenger information systems (PA, PIDS) are essential for orderly management.
- Traction power management — required for any train movement.
- Fire detection and suppression systems.
- CCTV and security surveillance systems.

9.3 Restoration of Damaged Infrastructure

Restoration plans for specific infrastructure types are detailed in the departmental SOPs. Following any major incident, a multi-disciplinary Restoration Committee (headed by a Principal Officer) shall be constituted which would be responsible for damage assessment, resource mobilization, restoration timelines, and coordination with contractors and manufacturers. Restoration timelines and progress shall be reported daily to the GM/PCSO.

9.4 Documentation and Investigation

All disasters shall be subject to a formal inquiry as per applicable Railway regulations. Preservation of evidence, collection of witness statements, photography of the site, and maintenance of the log of actions shall be initiated from the first hour of the incident. The PCSO oversees the inquiry process and ensures lessons learned are incorporated in the next annual update of this DMP.

9.5 Passenger Welfare and Ex-Gratia

Ex-gratia payments to injured passengers and next of kin of the deceased shall be made at scales prescribed by the Railway Board (updated from time to time). Payment shall be made through an authorized officer at the Enquiry-cum-Information Centre. Timely communication with relatives through all available means is the responsibility of the Traffic Department.

CHAPTER 10 — RESOURCE INVENTORY

10.1 Accident Relief Trains (ART), Rail-cum-Road Relief Vehicles (RCRRV) and Re-railing Equipment

Location	Equipment	Corridor Served
KSCS (Kavi Subhash)	ART + BEMCO & Lukas Re-railing Equipment	Blue & Orange Lines
KNCS (Noapara)	ART + Re-railing Equipment	Blue & Yellow Lines
Central Park Depot (CPD)	Lukas Re-railing Equipment + RCRRV	Green Line
Joka Car Depot	RCRRV + Re-railing Equipment	Purple Line
KKSO Car Shed (Kavi Subhash)	ART + BEMCO & Lukas Re-railing Equipment	Blue & Orange Lines

- Detailed lists of re-railing, rescue, and lifting equipment are maintained at each car shed and are available in the respective departments. The ART must be turned out within 30-minute in day time & 45 min in night time.

10.2 Fire fighting Resources

Resource Type	Quantity / Coverage
Mobile Fire Stations (MRK)	1(Noapara)
Fire Hydrants — Blue Line (KKVS–KDSW)	917
Fire Hydrants — Green Line (SVSA–HWMM)	302
Fire Hydrants — Yellow Line (Noapara–Jai Hind)	129
Fire Hydrants — Purple Line (Joka–Majherhat)	455
Fire Hydrants — Orange Line (KKSO–Belegkata)	438
Fire Extinguishers (all types, all locations)	Approx 5000 (as per latest inventory)
Automatic Fire Alarm Systems	Installed at all substations and key locations (see Annexure B)
Automatic Fire Extinguishing (AFX) Systems	At telephone exchanges, critical substations (see Annexure B)
Gas Flooding System	At specific Sub-stations & critical equipment rooms

10.3 Medical Resources

Resource	Details
Tapan Sinha Memorial Metro Railway Hospital, Tollygunge	30 beds, OT, emergency 24x7, specialist OPD clinics
First Aid Post, Noapara	Mon–Fri 10:00–17:00, Sat 10:00–13:00
First Aid Boxes	At all stations, all trains, all depots and offices
Ambulances	3 (Tollygunge Hospital, Noapara, Central Park Depot) 24x7
B.R. Singh Hospital (ER)	Metro Ward for critical referrals
Tied-up hospitals (network)	State and private hospitals near all corridors — see Annexure C

10.4 Communication Resources

- Control Telephone (selective calling) all stations
- Railway Auto Telephone intercom — all stations and offices
- Landline / FCT — all stations
- TETRA Radio System —voice, data, direct mode
- Public Address System — all stations and trains
- CCTV System — 100% coverage of all public areas
- On board cameras on new generation trains
- Mobile phones — supervisory and key on-board staff

10.5 Human Resources for Disaster Response

The following standing teams are maintained for immediate deployment:

Team	Composition
Disaster Management Team (DMT)	Dy.CSO (Chairman) + 6 departmental members (see Chapter 5)
Instant Action Team (IAT)	As per standing nominations made by respective departments
ART /RCRRV Crew	SSE/ART /RCRRV + departmental staff at each car shed
Medical Emergency Team	ACMS + duty doctors + paramedics + ambulance crew
Security Response Force	RPF contingent at each station

10.6 External Resource Inventory

Contact details and memoranda of understanding with the following external resources are maintained and updated annually (see Annexure A— Contact Directory):

- NDRF battalions (Kolkata-based).
- West Bengal Fire & Emergency Services — nearest fire stations to each corridor.
- Government hospitals with emergency trauma centres near each corridor.
- Army / Navy resources (for large-scale operations or specialised requirements).

CHAPTER 11 — PLAN MAINTENANCE

11.1 Annual Review

This DMP shall be reviewed and updated annually in January each year. The review process shall be coordinated by the PCSO and shall involve all departments. The review shall consider: lessons learned from incidents and drills during the preceding year; changes in operational environment, network expansion, and rolling stock; updates to NDMA guidelines and Railway Board instructions; and feedback from external agencies and other stakeholders.

11.2 Triggers for Interim Review

- Occurrence of a major disaster or serious near miss.
- Commissioning of a new corridor or major extension.
- Introduction of new train type, traction system, or signaling technology.
- Significant change in external threat environment (new NDMA guidelines, terror incidents, pandemic declaration).

11.3 Version Control

Version	Date	Prepared By	Approved By	Summary of Changes
1.0	April 2001	Safety Branch MRK	GM, MRK	Original issue
2.0	January 2023	Safety Branch MRK	GM, MRK	Original issue
2.0	July 2026	Safety Branch MRK (PCSO)	GM, MRK	Full restructuring as per NDMA Guidelines 2024; incorporation of new corridors; updated resource inventory

11.4 Distribution

This DMP shall be distributed to:

- All Principal Officers of Metro Railway, Kolkata.
- All Divisional/Branch Officers.
- All Station Masters / Station Controllers.
- Central Control Room.
- Car Shed / Depot In-Charges.
- Metro Railway's official website (for public access to the summary/non-sensitive portions).
- Ministry of Railways (for onward submission to NDMA as required under Section 37(1)(c)).

11.5 Training on the DMP

All officers and supervisors shall be briefed on the contents of this DMP within three months of its issue. New employees shall receive DMP orientation as part of their induction training. At least one full-scale disaster management drill per year shall test the activation of this DMP in a realistic scenario.

CHAPTER 12 — TRAINING AND CAPACITY BUILDING

12.1 Training Framework

A structured training programme for disaster preparedness and response is implemented across all cadres of Metro Railway staff. The PCSO is the nodal officer responsible for the overall training programme. The training calendar is prepared annually and issued.

12.2 Categories of Training

Training Type	Target Audience	Frequency
Basic Disaster Awareness	All staff (including contractual)	On induction and refresher in every 3 years
First Aid & CPR	All station and on-board staff	Every station to have minimum 1 trained first aider; refresher in every 3 years
Fire Fighting	All station staff, fire service staff	Annually
ART /RCRRV Operation & Re-railing	ART /RCRRV crew, S&T, Civil, Electrical supervisors	Quarterly inspections; annual drill
Evacuation Procedures	Station Controllers, on-board staff, security	Bi-annual station evacuation drills
CBRN Awareness	Station Controllers, security, medical staff	Annually, in coordination with NDRF/WBF&ES
ICS / Incident Command	Officers and supervisors at all levels	Annually as part of disaster drill
Media Handling	CPRO, PRO, senior officers	As required

12.3 Disaster Management Drills

The following drills are conducted as part of MRK's preparedness programme:

- Table-top exercises — at least annually — involving DMT members and key officers.
- Station evacuation drills — at selected stations, bi-annually, testing evacuation routes, PA communication, and passenger dispersal.
- Full-scale ART mobilization drills — at each car shed, once annually, testing 30-minute for day time & 45 minutes for night time turnout target.
- Joint drills with external agencies — at least one annually, in coordination with NDRF, WBF&ES, and Kolkata Police.
- Fire drills at all stations and depots, twice annually.

All drills are documented, debriefed, and outcomes incorporated in the annual DMP review.

12.4 Capacity Building with External Partners

Metro Railway shall engage with NDMA, NDRF, and State DMA for specialized capacity building in: CBRN response; mass casualty management; Incident Command System (ICS) certification; urban search and rescue (USAR); and use of modern disaster management technology.

CHAPTER 13 — FINANCIAL PLANNING

13.1 Budget Provisions

In accordance with Section 37(2) of the Disaster Management Act, 2005, Metro Railway Kolkata, makes budgetary provisions for disaster management activities. Financial allocations cover:

- Procurement, maintenance, and replacement of disaster management equipment (ART, re-railing, firefighting, medical, CBRN).
- Maintenance of communication and surveillance systems.
- Training, drills, and capacity building programmes.
- MOU-based arrangements with hospitals, ambulance services, and external agencies.
- Annual review and publication of the DMP.

13.2 Emergency Fund

Adequate Fund provision exists within MRK's annual budget for immediate expenditure in the event of a disaster. The Chief Traffic Manager (or equivalent authorized officer) is empowered to sanction emergency expenditure for supply of food, water, transport, and relief materials to staff engaged in disaster response at site, within the limits of the Schedule of Powers. For expenditure beyond these limits, sanction is obtained from GM/AGM through the fastest available means.

13.3 Ex-Gratia

Ex-gratia payments to passengers injured in or killed due to railway accidents are made at scales prescribed by the Railway Board and updated from time to time. The process for payment is activated by the PCOM/CPRO immediately upon occurrence of an event involving passenger casualties.

13.4 Financing Restoration Activities

For major disasters requiring significant restoration expenditure, MRK shall: (a) utilize available internal funds under the approved budget; (b) obtain supplementary grants through the Ministry of Railways; (c) coordinate with NDMA/State Government for any applicable Disaster Relief Fund allocations.

Annexure - A

IMPORTANT TELEPHONE NUMBERS

1	NSG	
	29 Special Composite Group, NSG, Action Area-III, NewTown, Rajarhat, Kolkata-743502	033-29623508
2	NDRF	
	Office of the Commandant, 2BN NDRF Near RRI, Post –Mohonpur, Dist.-Nadia	033-25875032 +91-9474061104 +91-9474116775
3	WEST BENGAL	
	Relief Commissioner (Govt.of WB)	033-2214 3674
	Kolkata Police HQ, Control Room, Lalbazar.	033-2250 5000 033-2250 5090/5099/5188/5265 033-2214 3230/1310/3024 033-2255 5491(Rly hotline)
	Commissioner of police	033-2214 5060
	Joint Commissioner of Police (o) (For Metro Railway Kolkata)	033-2214 5509/5262
	Special Branch Control Room	033-2283 7017/7016 +91-6292257940
	Asst. Security Manager Indian Airlines	033-25116013/2819-4006
	IGP (Law&order)	033-2414 5412/5413
4	Metro Railway Kolkata (CONTROL ROOM)	
	NAME	Railway / FCT phone no. P&T phone no.
	Sec. Controller (Blue+Yellow Line)	55716 033-2226 4817
	Chief Controller (Blue+Yellow Line)	54234 / 55758 -----
	Sec. Controller/Green Line	+91-8100836760 (FCT) 033-2340 5600
	Chief Controller/ Green Line	+91-8100836760 (FCT) 033-2340 5600
	Sec. Controller/Orange Line	+91-9007041842 (FCT) -----
	Chief Controller/Orange Line	+91-9007041842 (FCT) -----
	Sec. Controller/Purple Line	+91-7980035391 (FCT) -----
	Chief Controller/ Purple Line	+91-7980035391 (FCT) -----
	TLC	55734 / 53040 / 54240 033-2288 2248
	TPC	55464 / 54240 -----
	SIGNAL	55526 -----
	ENGG.	55718 -----
	SECURITY CONTROL/RPF	55191 / 55193 / 55690 033-2217 6370
	SECURITY (helpline)	+91-9007041789 -----
	WOMEN's (helpline)	+91-9007041908 -----

ADMINISTRATIVE OFFICERS OF METRO RAILWAY:

Sl.No	Name & Designation	Railway	P&T Phone no.
ADMINISTRATION			
1	General Manager	55000	033-2226 7220
2	Secy.to General Manager	55002	-----
3	DY. SECY	55004	-----
4	PS-I(GAZ)	55000	-----
5	PROTOCOL OFFICER	55055	-----
6	PS-I(GAZ)	55000	-----
TRAFFIC			
5	PCOM	55700	033-2226 4227
6	DY. COM/O&M	55702	-----
7	AOM	-----	-----
8	AOM	-----	-----
9	AOM	-----	-----
10	ASC/FIRE	55680	-----
ELECTRICAL			
11	PCEE	55400	033-2226 4673
12	CEE/HQ	55403	-----
13	CEE/RS	53500/	-----
14	CEE/PROJ	55416	-----
15	DY.CEE/HR	-----	-----
16	DY.CEE/M/ COORD	55424	-----
17	DY.CEE/RS/ CPD	-----	-----
18	DY.CEE/PROJ	55480	-----
19	DY.CEE/Purple line	55407	-----
20	DY.CEE/M/Blue line	55414	-----
21	DY.CEE/Con	-----	-----
22	DY.CEE/RS/ COORD	53517	-----
23	SR.DME/RS/C	53562	-----
24	DY.CEE	55410	-----
25	SR.DME/RS	-----	-----
26	SEE/MAJOR REPAIR	-----	-----
27	SEE/M/G-LINE	-----	-----
28	AEE/RS	-----	-----
29	AEE/M	-----	-----

ADMINISTRATIVE OFFICERS OF METRO RAILWAY: -

Sl.No	Name & Designation	Railway	P&T Phone no.
S&T			
30	PCSTE	55500	033-2226 4720
31	CSTE/PROJ	55502	-----
32	DY.CSTE/T	55506	-----
33	DY.CSTE/C	55512	-----
34	DY. CSTE/SIG	55505	-----
35	ASTE/CON	55518	-----
36	ASTE/TELE	55507	-----
37	ASTE/E-W	-----	-----
38	ASTE/SIG	55514	-----
MEDICAL			
39	PCMO	54422	033-2471 5797
40	ACMS	54451	-----
41	ADMO	54487	-----
42	APHO	54430	-----
43	ADMO	-----	-----
44	ACMS	53626	-----
CIVIL			
45	PCE	55200	033-2217 0675
46	PS-I	55219	-----
47	CE/CON	55203	-----
48	CE/O&M	55208	-----
49	DY.CE/HQ	55211	-----
50	DY.CE/PLG	-----	-----
51	SR.DEN/ NORTH	-----	-----
52	SR.DEN/South	-----	-----
53	DY.CE/CON III	55212	-----
54	AXEN/O&M/ NORTH	55239	-----
55	EA TO PCE & XEN/ SPL	55204	-----
56	AXEN/PLG	55209	-----
57	AXEN/C-III	-----	-----
58	AXEN/PLG/HQ	-----	-----
59	AXEN/CONII	-----	-----
60	AXEN/SOUTH	-----	-----
SAFETY			
61	PCSO	55007	-----
62	DY. CSO	55701	-----

ADMINISTRATIVE OFFICERS OF METRO RAILWAY:-

Sl.No	Name & Designation	Railway	P&T Phone no.
MECHANICAL			
63	PCME	55093	-----
64	CRSE(O&P)	-----	-----
65	DY.CME/ POH	-----	-----
SECURITY			
66	IG CUM PCSC	55370	033-2223 0146
67	DIG CUM CSC	55371	-----
68	SR. SC/RPF	55736	-----
69	ASC/RPF	55730	-----
70	ASC (FIRE)	55680	-----

METRO STATIONS WITH NEAREST POLICE & FIRE-STATION**(a) BLUE LINE**

METRO STATION	POLICE STATION		FIRE STATION	
KDSW	Belgharia	033-2553 1717	Baranagar	033-2510 2101
KBAR	Baranagar	033-2531 9300	Baranagar	033-2510 2101
KNAP	Baranagar	033-2531 9300	Noapara Car Shed	033-2255 3603
			Noapara (Metro)	033-2255 3601
KDMI	Sinthi	033-2530 0853	Dumdum	033-2251 4309
		033-2532 5383		
	Cossipore	033-2543 2100	Cossipore	033-2241 4545
		033-2556 6434		
KBEL	Ultadanga	+91-6292258302	Cossipore	033-2241 4545
		033-2356 6264		
		033-2356 6263		
KSHY	Shyampukur	033-2533 2100	Central Avenue	033-2241 4545
		033-2555 7585		033-2241 4646
		033-2533 5606	CanalWest	033-2350 8898
				033-2360 6999
KSHO	Shyampukur	033-2533 2100	Central Avenue	033-2241 4545
		033-2555 7585		033-2241 4646
		033-2533 5606		
KGPK	Girish Park	033-2219 8041	Central Avenue	033-2241 4545
				033-2241 4646
KMHR	Jorasanko	033-2269 7279	Central Avenue	033-2241 4545
		033-2218 0100		033-2241 4646
KCEN	Bowbazar	033-2215 5100	Central Avenue	033-2241 4545
		033-2211 4813		033-2241 4646
KCWC	Bowbazar	033-2215 5100	Central Avenue	033-2241 4545
		033-2211 4813		033-2241 4646
	HareStreet	033-2211 8760	FireBrigadeHQ	033-2252 1165
KESP	NewMarket	033-2217 7397	Central	033-2241 4545
		033-2283 6100		033-2241 4646
		033-2283 7550		033-2252 1165
KPSK	Shakespeare Sarani	033-2281 2541	FireBrigadeHQ	033-2252 1165
		033-2281 7100		
KMDI	Maidan	033-2223 2462	FireBrigadeHQ	033-2252 1165
		033-2248 0100		
KRSD	Bhowanipore	033-2455 8092	Kalighat	033-2454 4527
KNBN	Bhowanipore	033-2455 8092	Kalighat	033-2454 4527

METRO STATIONS WITH NEAREST POLICE & FIRE-STATION

METRO STATION	POLICE STATION		FIRE STATION	
KJPK	Bhowanipore	033-2455 8092	Kalighat	033-2454 4527
KKHG	Kalighat	033-2454 0176	Kalighat	033-2454 4527
		033-2454 0177		
KRSB	Charu Market	033-2424 9900	Kalighat	033-2454 4527
		033-2499 1996		
KMUK	Regent Park	033-2381 3162	MasterdaSuryaSen	033-2431 0007
		033-2311 0563		
KNTJ	Regent Park	033-2381 3162	MasterdaSuryaSen	033-2431 0007
		033-2311 0563		
KMSN	Bansdroni	033-2410 1022	Bansdroni	033-2431 0007
		033-2311 0595		
KGTN	Bansdroni	033-2410 1022	Bansdroni	033-2431 0007
		033-2311 0595		
KKNZ	Patuli	033-2462 5195	Patuli	033-2436 0685
		033-2462 4122		
KSKD	Patuli	033-2462 5195	Patuli	033-2436 0685
		033-2462 4122		
KKVS	Panchashyor	+91-6292258802	Patuli	033-2436 0685
	Patuli	033-2462 5195		
		033-2462 4122		

(b) GREEN LINE

METRO STATION	POLICE STATION		FIRE STATION	
SVSA	Bidhannagar	033-2359 0849	Bidhannagar Sector-V	033-2357 6026
	East-Electronics Comp	033-2367 9779		
KESA	Bidhannagar	033-2359 0849	Bidhannagar	033-2357 6026
	East-Bidhannagar (North)	033-2337 3343	Sector-V	033-2357 5293
CPSA	Bidhannagar North	033-2337 3343	Sector-V	033-2357 5293
CCSC	Bidhannagar HQ	033-2335 7023	Bidhannagar	033-23576026
	Bidhannagar HQ	033-2341 0465		
BCSD	Phoolbagan	033-2320 0920	Sector-V	033-2357 5293
SSSA	Phoolbagan	033-2320 0920	Manicktala	033-2320 7489
PBGB	Phoolbagan	033-2320 0920	Manicktala	033-2320 7489

METRO STATIONS WITH NEAREST POLICE & FIRE-STATION

METRO STATION	POLICE STATION		FIRE STATION	
SDHM	Muchipara, Entally	+91-6292258007	Manicktala	033-2320 7489
		+91-6292258306		
KESP	New Market	033-2217 7397	Central	033-2241 4545
MKNA	Hare Street	033-2211 8760	WB fire service (hot line)	033-2252 1165 033-2252 7172
HWHM	Howrah	033-2641 1750	Howrah Fire Brigade	033-26668 1111
HWMM	Howrah	033-2641 1750	Howrah Fire Brigade	033-26668 1111

(c) PURPLE LINE

Metro Station	POLICE STATION		FIRE STATION	
KJKA	THAKURPUKUR	033-2493 6680	Behala Fire Station	033-2497 6285
KTKP		033-2461 6004		
KSKB				
KBCR	BEHALA	033-2396 7350	LalBazar Fire Station	+91-7947122273
KBBR				
KTRT	TARATALA	033-2401 1881	Metro Railway Fire Service	033-2255 4411
KMJH		033-2401 2796		033-2377 5430

(d) ORANGE LINE

METRO STATION	POLICE STATION		FIRE STATION	
KKSO	Patuli	+91-6292258606	Patuli Fire station	033-2436 0685
KSJR	Patuli	+91-6292258606	WB Fire service	033-2252 1165
KJNN	Survey Park	+91-6292258803	WB Fire service	033-2252 1165
KKSK	Kasba	+91-6292258601	Patuli Fire station	033-2436 0685
KHMD	Kasba	+91-6292258601	Gariahat Fire station	033-2464 2841

METRO STATIONS WITH NEAREST POLICE & FIRE-STATION

METRO STATION	POLICE STATION		FIRE STATION	
KVIB	Tiljala	033-2343 4693	Pragati maidan Fire service	033-2345 7000
KRWG	Pragati maidan	033-2285 0500	Pragati maidan Fire service	033-2345 7000
KBST	Tangra	+91-6292258607	Pragati maidan Fire service	033-2345 7000
KBGA	Pragati maidan	033-2285 0500	Pragati maidan Fire service	033-2345 7000

(e) YELLOW LINE

METRO STATION	POLICE STATION		FIRE STATION	
KNAP	Baranagar	033-2531 9300	Baranagar fire	033-2510 2101
KDCM	Dumdum	033-2551 4167	Dumdum Cantonment	033-2551 4309
KJRO	Aiport	033-2511 8292	Dumdum municipality	033-2551 4309
KJHD	Aiport	033-2511 8292	Dumdum municipality	033-2551 4309

FIRE EXTINGUISHERS, FIRE ALARMS AND AUTOMATIC FIRE EXTINGUISHERS (AFX)

1.0 All fire extinguishers of Metro Railway are maintained by the Fire Service Wing of the Metro Railway. The locations of the fire extinguishers are given below: -

Summary of Fire Extinguishers in Metro Railway, Kolkata.

S.No		Approximate Nos.
Blue Line		
1.	METRO RAILWAY STATIONS	638
2.	METRO RAILWAY ELECTRIC SUB-STATIONS	478
3.	METRO RAILWAY AV COMPLEXES	165
4.	METRO RAILWAY RAKES	600
5.	METRO RAILWAY OFFICE BUILDING, CARSHEDS AND OTHER PLACES	766
6.	S & T ROOMS	206
Green Line		
1.	METRO RAILWAY STATIONS & SUB-STATION	291
2.	CENTRAL PARK METRO DEPOT BUILDING	164
3.	METRO RAILWAY RAKES	168
Orange Line		
1.	METRO RAILWAY STATIONS, SUB-STATION & KKSO DEPOT	520
2.	METRO RAILWAY RAKES	40
Purple Line		
1.	METRO RAILWAY STATIONS, SUB-STATION & JOKA DEPOT	551
2.	METRO RAILWAY RAKES	40
Yellow Line		
1.	METRO RAILWAY STATIONS & SUB-STATION	351
Other Installations		
	Other Installations	22
	GRAND TOTAL	5000

Fire extinguishers are of CO₂, ABC & Compressed Air Foam (CAF) type etc.

1.1 The locations of the Fire Alarm Systems in Metro Railway are as below: -

Blue Line		
Sl.No.	Location	No. of Systems
1.	KMUK/ASS/Car Shed	01
2.	KMUK/TSS	01
3.	KRSB/TSS	01
4.	KKHG/ASS	01
5.	KJPK/RSS	01
6.	KNBN/ASS	02
7.	KRSD/TSS	01
8.	KMDI/ASS	02
9.	KPSK/TSS	01
10.	KESP/ASS	02
11.	KCWC/Sub-station(ASS)	01
12.	KCEN/Sub-station	01
13.	KMHR/ASS	02
14.	KGPK/Sub—station	01
15.	KSHO/Sub-station(ASS)	02
16.	KSHY/Sub-station(RSS)	01
17.	KBEL/TSS	01
18.	KDMI/TSS	01
19.	Noapara Sub-station(RSS,TSS& ASS)	04
20.	Baranagar (TSS cum ASS)	01
21.	Dakhineswar(TSS cum ASS)	01
Orange Line		
Sl.No.	Location	No. of Systems
1	Kavi Subhash (KKSO) (RSS, TSS, ASS & SCR room)	01
2	Satyajit Ray (RSS, TSS, ASS & SCR room)	01
3	Jyotirindra Nandi (RSS, TSS, ASS & SCR room)	01
4	Kavi Sukanta (RSS, TSS, ASS & SCR room)	01
5	Hemanta Mukhopadhyay (RSS, TSS, ASS & SCR room)	01
6	Vip bazaar (RSS, TSS, ASS & SCR room)	01
7	Ritwik Ghatak (RSS, TSS, ASS & SCR room)	01
8	Barun Sengupta (RSS, TSS, ASS & SCR room)	01
9	Belegatha (RSS, TSS, ASS & SCR room)	01
Purple Line		
Sl.No.	Location	No. of Systems
1	Joka (RSS, TSS, ASS & SCR room)	01
2	Thakurpukur (RSS, TSS, ASS & SCR room)	01
3	Sakherbazar (RSS, TSS, ASS & SCR room)	01
4	Behala Chowrasta (RSS, TSS, ASS & SCR room)	01
5	Behla Bazar (RSS, TSS, ASS & SCR room)	01
6	Taratala (RSS, TSS, ASS & SCR room)	01
7	Majherhat (RSS, TSS, ASS & SCR room)	01

Yellow Line		
Sl.No.	Location	No. of Systems
1	Dum Dum Cantonment (RSS, TSS, ASS & SCR room)	01
2	Jessor Road (RSS, TSS, ASS & SCR room)	01
3	Jai hind (RSS, TSS, ASS & SCR room)	01
Green Line		
Sl.No.	Location	No. of Systems
1	SVSA (RSS, TSS, ASS & SCR room)	01
2	KESA (RSS, TSS, ASS & SCR room)	01
3	CPSA (RSS, TSS, ASS & SCR room)	01
4	CCSC (RSS, TSS, ASS & SCR room)	01
5	BCSD (RSS, TSS, ASS & SCR room)	01
6	SSSA (RSS, TSS, ASS & SCR room)	01
7	PBGB (RSS, TSS, ASS & SCR room)	01
8	SDHM (RSS, TSS, ASS & SCR room)	01
9	KESP (RSS, TSS, ASS & SCR room)	01
10	MKNA (RSS, TSS, ASS & SCR room)	01
11	HWHM (RSS, TSS, ASS & SCR room)	01
12	HWMM (RSS, TSS, ASS & SCR room)	01

Annexure - C

METRO STATION WITH NEAREST HOSPITAL/NURSING HOME & AMBULANCE

Blue Line				
Station	Hospital/Nursing home		Ambulance	
KDSW	Sagar Dutta Hospital	033-2553 1316	Indian Red Cross Society	033-2248 3636
	Baranagar State Gen	033-2531 5021		+91-9432259178
			St. John	+91-9830023653
KBAR	Sagar Dutta Hospital	033-2553 1316	Indian Red Cross	033-2248 3636
	Baranagar State Gen	033-2531 5021		+91-9432259178
			St. John	+91-9830023653
KNAP	South Dumdum Municipality/Hosp.	033-25598387	Noapara Health Unit M.Rly	033-2255 3616
KDMI	South Dumdum Municipality/Hosp.	033-2559 8387	Noapara Health Unit M.Rly	033-2255 3616
	R.G. Kar Hospital	033-2555 8838	Sri Aurobindo Nursing Training	+91-8902176844
		033-2555 7575		
		033-2555 7676		
KBEL	R.G. Kar Hospital	033-2555 8838	Kalindi Bahu Mukhi Jana Kalyan	033-2522 8234
		033-2555 7575		
		033-2555 7676		
KHSY	R.G. Kar Hospital	033-2555 8838	St. John	+91-9830023653
		033-2555 7575		
		033-2555 7676		
KSHO	R.G. Kar Hospital	033-2555 8838	Medical College	033-2255 1614
		033-2555 7575		033-2255 1501
		033-2555 7676	St. John	+91-9830023653
KGPK	Medical College	033-2212 3741	Medical College	033-2255 1614
		033-2255 1614		033-2255 1501
			St. John	+91-9830023653
KMHR	Medical College	033-2212 3741	Medical College	033-2255 1614
		033-2255 1614		033-2255 1501
			St. John	+91-9830023653
KCEN	Medical College	033-2212 3741	Medical College	033-2255 1614
		033-2255 1614		033-2255 1501
			St. John	+91-9830023653
KCWC	Medical College	033-2212 3741	Medical College	033-2255 1614
		033-2255 1614		033-2255 1501
			St. John	+91-9830023653

METRO STATION WITH NEAREST HOSPITAL/NURSING HOME & AMBULANCE

Station	Hospital/Nursing home		Ambulance	
KESP	Medical College	033-2212 3741	Indian Red Cross Society	033-2248 3636
		033-2255 1614		+91-9432259178
	SSKM Hospital	033-2204 1224	St.John	+91-9830023653
KPSK	SSKM Hospital	033-2204 1224	Indian Red Cross Society	033-2248 3636
			St.John	+91-9432259178
KMDI	SSKM Hospital	033-2204 1224	Indian Red Cross Society	033-2248 3636
	Sambhunath Pandit Hospital	033-2302 2819	St.John	+91-9432259178
		033-2302 2820		+91-9830023653
KRSD	SSKM Hospital	033-2204 1224	Indian Red Cross Society	033-2248 3636
	Sambhunath Pandit Hospital	033-2302 2819	St.John	+91-9432259178
		033-2302 2820		+91-9830023653
KNBN	SSKM Hospital	033-2204 1224	St.John	+91-9830023653
	Tapan Sinha Memorial	+91-9831341600	Tapan Sinha Memorial Hospital	+91-9831341600
KJPk	Chittaranjan	033-2476 5101	Indian Red Cross Society	033-2248 3636
			St.John	+91-9432259178
KKHG	M.R. Bangur	033-2473 3354	Indian Red Cross Society	+91-9830023653
			St.John	033-2248 3636
			St.John	+91-9432259178
KRSB	M.R. Bangur	+91-820702070	Indian Red Cross Society	+91-9830023653
			St.John	033-2248 3636
			St.John	+91-9432259178
KMUK	Tapan Sinha Memorial	+91-9831341600	Tapan Sinha Memorial	+91-9831341600
	M.R. Bangur	+91-8820702070	Indian Red Cross Society	033-2248 3636
			St.John	+91-9432259178
KNTJ	Tapan Sinha Memorial	+91-9831341600	Tapan Sinha Memorial	+91-9831341600
KMSN	Tapan Sinha Memorial	+91-9831341600	Tapan Sinha Memorial	+91-9831341600
	M.R. Bangur	+91-8820702070	Indian Red Cross Society	033-2248 3636
			St.John	+91-9432259178
KGtN	Tapan Sinha Memorial	+91-9831341600	Tapan Sinha Memorial	+91-9831341600
	M.R. Bangur	+91-8820702070	M.R. Bangur	+91-8820702070

METRO STATION WITH NEAREST HOSPITAL/NURSING HOME & AMBULANCE

Station	Hospital/Nursing home		Ambulance	
KKNZ	Tapan Sinha Memorial	+91-9831341600	Tapan Sinha Memorial	+91-9831341600
	M.R. Bangur	+91-8820702070	Indian Red Cross Society	033-2248 3636
			St.John	+91-9432259178
KSKD	BaghaJatin Hospital	033-2412 2593	Indian Red Cross Society	+91-9830023653
	Peerless	033-2462 2394	Indian Red Cross Society	033-2248 3636
			St.John	+91-9432259178
KKVS	Peerless	033-2462 2394	Indian Red Cross Society	+91-9830023653
			Indian Red Cross Society	033-2248 3636
			St.John	+91-9432259178

<u>Green Line</u>				
Station	Hospital/Nursing home		Ambulance	
SVSA	Anandolok	033-2359 2931	RLY. /CPD	+91-9007041352
	ILS	033-4020 6500		+91-9831232569
KESA	Apollo	033-2320 2122	RLY. /CPD	+91-9007041352
				+91-9831232569
CPSA	Bidhannagar Municipality Sub Div	033-2337 3953	Piyali	+91-9007747563
				+91-8420958776
CCSC	Bidhannagar Municipality Sub Div	033-2337 3953	Life-care	033-2475 4628
BCSD	R.G.Kar Hospital	033-2337 3953	Life-care	033-2475 4628
				+91-7908595851
SSSA	I.D Belegkata	033-23032248	Life-care	+91-7908595851
				033-2475 4628
PBGB	Apollo	033-23202122	Life-care	+91-7908595851
				+91-9883388033
SDHM	B.R. Singh Hospital, NRS hospital, Chittaranjan hospital	033-2383 2851	BRSH ambulance	033-2350 4075
		033-2383 2852		033-2383 2851
		22838 (Rly)	St. Jones	+91-9830023653
		033-2286 0033	Indian Red cross society	+91-9432259178
		033-2286 5200		

METRO STATION WITH NEAREST HOSPITAL/NURSING HOME & AMBULANCE

Station	Hospital/Nursing home		Ambulance	
KESP	Medical College	033-2212 3741	Indian Red Cross Society	033-2248 3636
		033-2255 1614		+91-9432259178
	SSKM Hospital	033-2204 1224	St.John	+91-9830023653
MKNA	Medical College	033-2212 3741	Indian Red Cross Society	033-2248 3636
		033-2255 1614		+91-9432259178
	SSKM Hospital	033-2204 1224	St.John	+91-9830023653
HWHM	Howrah Orthopedic Hospital	22800 (Rly.)	Life-care	033-2475 4628
	Howrah Lions Hospital	+91-9038031349	Maa Radhika	+91-9330774842
	Howrah District Hospital	033-2641 8826/2218	St.John	+91-9830023653
		033-2641 2218		
	Central Hospital GRC	033-2439 7828	Sasthitala Barwari	+91-8334926535
HWMM	Howrah Orthopedic Hospital	22800 (Rly.)	Life-care	033-2475 4628
	Howrah Lions Hospital	+91-9038031349	Maa Radhika	+91-9330774842
	Howrah District Hospital	033-2641 8826/2218	St.John	+91-9830023653
		033-2641 2218		
	Central Hospital GRC	033-2439 7828	Sasthitala Barwari	+91-8334926535

PURPLE LINE				
Station	Hospital/Nursing home		Ambulance	
JOKA	Tapan Sinha Mem. Hospital	+91-9831341600	Toll free	102
	Kasturi medical Research Centre	+91-8336925809	St. Jones	+91-9830023653
	Apollo Clinic Thakurpukur	+91-6290251825		
	ESI hospital & Medical college	033-2467 1764	Metro Railway (tollygunge)	+91-9831341600
KTKP	Tapan Sinha Memorial Hospital	+91-9831341600	Toll free	102
	Kasturi medical Research Centre	+91-8336925809	BDL ambulance	+91-9831102486
	Vidyasagar State Govt. Hospital	033-2397 1591	BARISHA Ambulance	+91-9007062918
	ESI hospital & Medical college	033-2467 1764	Metro Railway	+91-9831341600
KSKB	Tapan Sinha Memorial Hospital	+91-9831341600	Toll free	102
	Kasturi medical Research Centre	+91-8336925809	BDL ambulance	+91-9831102486
	Vidyasagar State Govt. Hospital	033-2397 1591	BARISHA Ambulance	+91-9007062918
	ESI hospital & Medical college	033-2467 1764	Metro Railway	+91-9831341600

METRO STATION WITH NEAREST HOSPITAL/NURSING HOME & AMBULANCE

Station	Hospital/Nursing home		Ambulance	
KBCR	Tapan Sinha Memorial Hospital	+91-9831341600	Toll free	102
	Narayana Memorial Hospital	033-6640 0000	BDL ambulance	+91-9831102486
	Kasturi medical Research Centre	+91-8336925809	Lifecare Ambulance	+91-7678037184
	Vidyasagar State Govt. Hospital	033-2397 1591	Metro Railway (tollygunge)	+91-9831341600
KBBR	Tapan Sinha Memorial Hospital	+91-9831341600	Toll free	102
	Narayana Memorial Hospital	033-6640 0000	BDL ambulance	+91-9831102486
	Kasturi medical Research Centre	+91-8336925809	Lifecare Ambulance	+91-7678037184
	Vidyasagar State Govt. Hospital	033-2397 1591	Metro Railway (tollygunge)	9831341600
KTRT	Tapan Sinha Memorial Hospital	+91-9831341600	Toll free	102
	ESI hospital & Medical college	033-2467 1764	Metro Railway (tollygunge)	+91-9831341600
	Kasturi medical Research Centre	+91-8336925809	Red Cross society	033-2248 3636
	Apollo Clinic Taratala	+91-7003668075	St. Jones	+91-9830023653
KMJH	Vidyasagar State Govt. Hospital	033-2397 1591	Toll free	102
	B.P.Poddar Hospital & Medical Research Ltd.	033-4022 6000 +91-8585035846	Metro Railway (tollygunge)	+91-9831341600
	Apollo Clinic Taratala	+91-7003668075	Red Cross society	033-2248 3636
	The Calcutta Medical Research Institute	+91-9007666395		
	ESI hospital & Medical college	033-2467 1764	St. Jones	+91-9830023653

METRO STATION WITH NEAREST HOSPITAL/NURSING HOME & AMBULANCE

<u>Orange Line</u>				
Station	Hospital/Nursing home		Ambulance	
KKSO	Peerless hospital	033-4011 1222	Metro Rly ambulance	+91-9831341600
	Apex Institute of Medical Sciences	033-7125 6666	Peerless Hospital Ambulance	+91-9038224000
	Bangur Hospital	+91-8820207070	Apex hospital Amb.	033-7125 6666
KSJR	Peerless hospital	033-4011 1222	Metro Rly ambulance	+91-9831341600
	Apex Inst. of Medical Sciences	033-7125 6666	Red Cross	033-2248 3636
	Baghajatin state general	+91-9073592482	Rai Ambulance	+91-9432059771
KJNN	Baghajatin state hospital	+91-9073592482	Toll free	102
	Medica Superspeciality Hospital	033-6652 0000	Red Cross Society	033-2248 3636
	R. N. Tagore Institute for Cardiac Science	+91-9903335544	Metro Railway (tollygunge)	+91-9831341600
		+91-8067506860		
	Bangur Hospital	+91-8820207070	Rai Ambulance	+91-9432059771
KKSK	National Medical College	033-2284 4834	Toll free	102
	Desun Hospital	+91-9051715171	Red Cross society	033-2248 3636
	Baghajatin state hospital	+91-9073592482	Metro Rly ambulance	+91-9831341600
	Ruby General Hospital	033-6687 1800 033-6601 1800	Maa tara ICCU ambulance	+91-9064663781
			Welcome ambulance	+91-7679870562
KHMD	National Medical College	033-2284 4834	Toll free	102
	Desun Hospital	+91-9051715171	Red Cross society	033-2248 3636
	Baghajatin state hospital	+91-9073592482	Metro Rly ambulance	+91-9831341600
	Ruby General Hospital	033-6687 1800 033-6601 1800	Maa tara ICCU ambulance	+91-9064663781
			Welcome ambulance	+91-7679870562
	Fortis Hospital	033-6628 4444		

METRO STATION WITH NEAREST HOSPITAL/NURSING HOME & AMBULANCE

Station	Hospital/Nursing home		Ambulance	
KVIB	Calcutta National Medical Collage	033-2301 8101	Toll free	102
	B. R. Singh Railway Hospital	033-2350 4075	Ambulance Sathi	+91-9832533101
	Beleghata General Hospital	+91-8961395063	Red Cross Society	033-2248 3636
		033-2303 2204	Rai Ambulance	+91-8017970336
	Ruby General Hospital	+91-9748932100	Metro Railway (tollygunge)	+91-9831341600
KRWG	Calcutta National Medical Collage	033-2255 1633	Ambulance Sathi	+91-9832533101
	B. R. Singh Railway Hospital	033-2350 4075	Rai Ambulance	+91-8017970336
	Beleghata General Hospital	+91-8961395063	Metro Railway (tollygunge)	+91-9831341600
		033-2303 2204	Red Cross Society	+91-9432259178
	Ruby General Hospital	+91-9748932100		033-2248 3636
KBST	Calcutta National Medical Collage	033-2255 1633	Ambulance Sathi	+91-9832533101
	B. R. Singh Railway Hospital	033-2350 4075	Red Cross Society	033-2248 3636
	Beleghata General Hospital	+91-8961395063	Rai Ambulance	+91-8017970336
		033-2303 2204	Metro Railway	+91-9831341600
KBGA	Calcutta National Medical Collage	033-2301 8101	Ambulance Sathi	+91-9832533101
	B. R. Singh Railway Hospital	033-2350 4075	Red Cross Society	033-2248 3636
	Beleghata General Hospital	+91-8961395063	Rai Ambulance	+91-9432059771
		033-2303 2204	Metro Railway (tollygunge)	+91-9831341600

<u>Yellow Line</u>				
Station	Hospital/Nursing home		Ambulance	
KNAP	Barannagar state hospital	033-2531 5921	Noapara Health Unit Rly.	033-2255 3616
	South Dumdum municipality	033-2559 8387		+91-9830023653
KDCM	DumDum Municipality hospital	033-2551 5159	DumDum Municipality,	033-2551 5159
			KNAP ambulance	+91-7449754969
KJRO	DumDum Municipality, Phoenix hospital	033-2551 5159	DumDum Municipality,	033-2551 5159
		033-2512 8114	Red Cross society	033-2248 3636
KJHD	DumDum Municipality, Phoenix hospital	033-2551 5159	DumDum Municipality,	033-2551 5159
		033-2512 8114	Red Cross society	033-2248 3636

Annexure – D

Hon'ble Prime minister's 10-point Agenda for renewing efforts towards disaster risk reduction:-

- 1) All development sectors must imbibe the principles of Disaster risk management.
- 2) Risk coverage must include all, starting from poor households to SMEs to multi-national corporations to nation states.
- 3) Women's leadership and greater involvement should be central to disaster risk management.
- 4) Invest in risk mapping globally to improve global understanding of Nature and disaster risks.
- 5) Leverage technology to enhance the efficiency of disaster risk management efforts.
- 6) Develop a network of universities to work on disaster-related issues.
- 7) Utilise the opportunities provided by social media and mobile technologies for disaster risk reduction.
- 8) Build on local capacity and initiative to enhance disaster risk reduction.
- 9) Make use of every opportunity to learn from disasters and, to achieve that, there must be studies on the lessons after every disaster.
- 10) Bring about greater cohesion in international response to disasters.

Annexure– E**DETRAINMENT OF PASSENGER**

Detrainment of passengers is required when a train cannot move further due to unusual circumstances such as:-

- (a) Long power failure in 3rd rail system (As per Accident manual 1.08 and G & SR 150, 151, 152, 157,229, 230,231,232)
- (b) Break down of train or derailment (As per Accident manual 1.08 and G & SR 134, 145, 146, 150, 151, 152, 156, 163, 158, 229, 230,231,232, 233)
- (c) Obstruction of track leading to suspension of train services (As per Accidentmanual 1.08 and G & SR 150, 151, 152, 161, 244, 245)
- (d) Other disasters classified under Para1.7 (As per Accident manual 1.08 and G & SR 160, 161, 234, 235, 52,250)

PREPARATION FOR DETRAINMENT

When a train is not in a position to continue its journey and it is at a station platform fully, or partially, the Driving Motorman will inform the Traffic Controller and seek his permission for detrainment of passengers. If the train is partially on platform, then Motorman shall manually open the platform side door(s) to detrain the passengers with the help of station staff.

Station Evacuation:-

- The stations are adequately sized to meet emergency egress and fire service access requirements.
- All stations are provisioned with stairs of sufficient width. Escalators from ground to concourse and concourse to platform or platform to ground are provided at stations wherever possible.
- These stairs and escalator together provide an escape capacity adequate to evacuate passengers in emergency from platform to street. While calculating the waiting passengers on the platform in emergency, 02 missed headways are assumed and the train arriving is assumed to be carrying full section load.
- Lifts have been provided on many stations to provide access for elderly and specially-abled.
- In case of emergency the AFC/PC gates are opened from SCR or booking counter remotely and barrier gates are opened for quick egress of passengers.

Prescribed time schedule for Detrainment of passenger in MID section				
Reason for train becoming IMMOBILE	Line/corridor	Troubleshooting		Detrainment start time
		Action by Motorman	Action by Traffic Controller	
Traction (Power)failure	NON CBTC lines	If the fault is not expected to be rectified within 10 minutes, the detrainment should start immediately but in any case not later than the 11th minute.		
	CBTC lines			
Rolling Stock failure	NON CBTC lines	01-15 minutes	10-15 minutes	16 th minutes
	CBTC lines	01-10 minutes	01-10 minutes	11 th minutes
Other than above	NON CBTC lines	No delay	No delay	Immediate
	CBTC lines	No delay	No delay	Immediate

Mid-Section Evacuation:

In case of emergency evacuation between two stations on the viaduct or tunnel section, adequate space is available on walkway for safe evacuation towards eitherside stations. The width of walk way is sufficient to ensure that people can pass each other along the route. The route is kept free of any steps or sudden changes in level and is being kept free from obstacles. Orientation and directions signs are installed along the evacuation route and are continuously monitored internally. In emergency situation passengers will be first de-trained on pathway and then station staff will guide them to platform. In BlueLine midsection passenger evacuation is done through emergency ladder of cabs. Passengers are detrained at trackbed and evacuated to station(s) under the guidance of station staff as directed by traffic controller.

DETRAINMENT WHEN TRAIN IS FULLY ON THE PLATFORM

After receipt of the approval of detrainment from the Traffic Controller, the Driving Motorman will inform the Conducting Motorman/Conductor about the decision of detrainment. The Conducting Motorman/Conductor will there after make an announcement through the Public Address system to the passengers to detrain and he will open the platform side doors for evacuation of passengers. On complete evacuation, he will close the doors again and inform the Driving Motorman. The Driving Motorman will then contact the Traffic Controller and convey the message of completion of detrainment action and wait until further orders. Station Superintendent/Shift-in-charge will make similar announcements over the station PA system informing passengers of traffic disruption. In case a train is held up in between two stations and cannot be moved further within the period as laid down in **GR & SR 150**.

TRAIN DETAINED BETWEEN STATIONS AND EVACUATION OF PASSENGERS FROM ONE/BOTH ENDS (e.g. Blue Line)**Procedure for detainment of passengers in the mid-section.-**

Pursuant to the condition for detrainment of passenger in mid-section stated vide GR & SR 150 when it becomes apparent that the train cannot be moved within prescribed time limit, decision for initiating emergency evacuation will be taken by Traffic Controller on duty.

In either of the events of Motorman seeking permission for detrainment of passengers or the Traffic Controller deciding suo-moto after expiry of prescribed time limit following actions will be taken:

1. Evacuation of passengers from cab(s) of the disabled train.
2. The Conducting Motorman/Conductor will explain the circumstances to the passengers on the on board P.A. system and request them not to be panicked and to wait for further advice. He shall also play the specific announcement in the PA system especially recorded for Disaster Management.
3. Evacuation of passengers is to be done normally to the nearest station by opening of both the cabs and lowering of both the emergency ladders. In all cases evacuation of passengers shall be done from both cabs of the disabled train to both the adjacent stations or to the nearest station through the pathway by the side of the disabled train or through the unaffected adjacent line after taking necessary power block and fixing earthing rods for both the lines, except for the sealed tunnels where there is no space by the side of disabled train, passengers evacuated from rear end of the train shall be guided to the station in rear and those detraining from the front cab shall be guided to the station in advance.
4. Traction Loco Controller (TLC) will advice both Driving and Conducting Motorman/Conductor regarding detrainment of passengers from both end of the train.
5. The Traffic Controller before granting permission for evacuation of passengers will get confirmation from the Traction Power Controller (TPC) on duty that the third rail power supply of all the running lines for the relevant section have been switched off, under exchange of private number.
6. The TPC on duty in the Central Control shall “switch off” third rail power supply of both UP & DN track of the concerned section through remote control operation and in case of failure of remote control, he will get the power “switched off” through substation, operator/SBA (switch Board Attendant) of traction substation, under exchange of private number. The TPC will then inform

the Traffic Controller on duty, under exchange of private number that the traction power supply to third rail of both the lines, as demanded has already been switched off. Traffic Controller will inform the TLC on duty and station-in-charges of the adjacent stations, where passengers are to be evacuated, confirming the power block, under exchange of private number. The Train Loco Controller shall then inform the Driving Motorman of the disabled train, under exchange of private number, confirming power block of the section.

7. The Driving/Conducting Motorman/Conductor shall secure the disabled train properly by applying parking brake and skids available in the cabs after receipt of confirmation of the power block.
8. The Traffic Controller shall inform the Station-in-charges of both adjacent station of the disabled train and instruct to proceed personally or to depute competent Railway personnel(s) with hand torch(es) and loudhailers to escort the passengers from the midsection to the platform(s) at the station(s). A minimum of two Traffic staff (one of which should be at least of the rank of Sr.TA) should proceed from both end stations with instructions about the procedure to be followed for detrainment and escorting the passengers from the midsection to the station(s). Before proceeding, earthing of third rail at platform end (affected side both lines) should be ensured by station-in-charge.
9. Before the passengers are allowed to get down on the trackbed, the Driving Motorman shall short circuit the Third Rail to the running rail (occupied by the disabled train) by means of short circuiting device supplied in the cabs to ensure de-energisation of the traction current. The Conducting Motorman/Conductor shall shortcircuit the Third Rail to the running rail (unaffected line in opposite direction) by means of short circuiting device supplied in the cabs to ensure de-energisation of the traction current. Under no circumstances the Driving/Conducting Motorman/ Conductor shall allow the passengers to get down on the track-bed unless the Third Rail has been so earthed.
10. The Station-in-charge(s) shall ask the remaining Traffic staff and Security staff of the station(s) to position them on the platform(s), to receive the evacuated passengers and to render all sorts of assistance.
11. The Driving and Conducting Motorman/Conductor should render all assistance to the passengers & ensure continuous announcement on the P.A System to the passengers of the train about the arrangement being made/already made for their detrainment from both the cabs of the train and the station(s) to which they will be escorted by station staff.
12. In the mean time, the Traffic Control shall inform nearest police Station and Metro Railway Security Control about the incident and request them to attend at the concerned station(s) to maintain law and order.

13. Central Control may advise adjacent station(s) staff to proceed to the station(s) concerned to assist detrainment/evacuation.
14. Central Control may also ask Railway Doctors and nearest Hospitals for Ambulance and other medical assistance at the station(s) where evacuation of passengers have been planned.
15. Normally the Cab exit will be opened to lower the step ladder at both ends. After testing that the stepladder(s) are properly secured, the Driving and Conducting Motorman/Conductor shall open the door(s) of the cab(s) and announcement shall be made to the passengers to start detrainment and also inform them that the third rail power supply has already been switched off and there is no danger involved. However during extreme emergency Motormen can start evacuation even before arrival of station-in-charges after confirmation of power block ensuring earthing of both lines.
16. The passengers would be guided further on the ground by the Station-in-charges or by the deputed Traffic staff who shall also escort them to the concerned station(s). Special care should be taken particularly of ladies, senior citizens and children. The passengers should be advised to walk on the center of the track as far as possible and follow the Station-in-Charge(s) or the deputed Traffic staff who will be escorting them to the station(s).
17. While the passengers are detrainment, the Driving as well as Conducting Motorman/Conductor should keep watch on them. They should continue announcement through the on board PA system.
18. On arrival of the two Traffic staff from the station in advance, one staff will lead the passengers and the other competent staff will follow the last passenger. The Driving Motorman will remain in the cab. On arrival at the station in advance or rear as the case may be, complete arrival of passengers is to be confirmed by the competent Traffic staff, in writing, to the Shift-in-Charge/Station in-charge of the concerned station. Shift-in-Charge/Station in-charge shall intimate the same to the Traffic Controller through exchange of Private number.
19. On arrival of Traffic staff from the station in rear, the Conducting Motorman/Conductor will advise the Traffic staff to lead the passengers and he will follow the last passenger to the station in rear or in advance as the case may be. On arrival at the station in rear or in advance as the case maybe, complete arrival of passengers is to be confirmed by the Conducting Motorman/Conductor, in writing, to the Shift-in-Charge/Station Superintendent of the concerned station. Shift-in-Charge/Station in-charge shall intimate the same to the Traffic Controller through exchange of Private number.
20. The Driving Motorman will ensure that there is no passenger left over in the disabled train and that the last passengers moving towards the station in advance and the station in rear are followed by the Traffic staff and the

Conducting Motorman/ Conductor respectively.

21. Traffic Controller will inform the Driving Motorman regarding complete arrival of all passengers to the station in advance and rear under exchange of private number.
22. The Conducting Motorman/Conductor shall walk back to the disabled train. On arrival he will talk to the Driving Motorman. They will thereafter remove shorting link between third rail and running rail, normalise the step ladder(s), close the cab exit(s) and remove the skids.
23. The Driving Motorman shall inform the Traffic Controller about the successful completion of detrainment, safe return of the Conducting Motorman/Conductor, closing of cab exit(s) removing of shorting links, skids and ask the Traffic Controller to take further action to “switch on” power supply to third rail, under exchanging of private number. He will take further course of action as directed by the Traffic Controller through TLC. Traffic Controller then advice Station-in-charge of both stations to remove earthing of third rail of their stations and confirm exchanging of private number.
24. The Traffic Controller shall inform the Traction Power Controller (TPC) about the completion of the evacuation of passengers and advise him to ‘switch on’ third rail power supply as per requirement, under exchange of private number. The TPC in turn shall restore third rail power supply and will then inform the Traffic Controller about resumption of third rail power supply, under exchange of private number.
25. The Traffic Controller, under exchange of private number, shall inform the TLC on duty and Station-in-charge(s) concerned when third rail power supply is “switched on” again. TLC will inform the Motorman concerned about resumption of power supply under exchange of private number.

DUTIES AND ACTIONS TO BE TAKEN BY VARIOUS PERSONNEL IN DETRAINMENT OF PASSENGERS IN SECTION BETWEEN TWO STATIONS:-

The Driving Motorman will do the following:-

- (i) The Driving Motorman and Conducting Motorman/ Conductor of disabled train will discuss about the situation promptly. The Driving Motorman will advise the Conducting Motorman/ Conductor to secure the train by applying parking brake/skid available in the cabs after receipt of confirmation of power block under exchange of private number with the Traffic Controller.

- (ii) He will advise the Conducting Motorman/ Conductor to explain the circumstances to the passengers through PA system and request them to wait for further advice. He will also advise the Conducting Motorman/ Conductor to connect running rail and third rail through shorting links provided in both cabs.
- (iii) The Driving Motorman will open the emergency door as well as lower the step ladder and properly secure the same.
- (iv) He will then open the door between driving cab and passenger compartment.
- (v) He will ask the Conducting Motorman/ Conductor to announce thorough PA system and explain the circumstances to the passengers and request them not to be panicked and to get down through front end emergency door. In case the PA System of Conducting Motorman/Conductor fails, the Driving Motorman himself will make the announcement and extend all help to enable them to get down on the track safely. He should specially take care of children, ladies and old men.
- (vi) The Driving Motorman should ensure that there is no passenger left behind in the disabled train and the last passenger is moving towards the station.
- (vii) On arrival of the Conducting Motorman/ Conductor to the disabled train, the Driving Motorman will advise the Conducting Motorman/ Conductor to remove the shorting link between third rail and running rail, to normalize the step ladder, to close the cab exit and will wait for further instruction from the Traffic Controller.

The Conducting Motorman/ Conductor will do the following:-

- (i) He will explain the circumstances to the passengers through the PA system and request them to wait for further advice.
- (ii) On receipt of instruction from the Driving Motorman, he will announce through PA system to the passengers about the circumstances and request them not to be panicked and to get down on the track through the emergency door of front cab. In case the PA system fails, he will ask the Driving Motorman to make the announcement.
- (iii) The Conducting Motorman/ Conductor should keep watch on the passengers, particularly on ladies, children and old men and ensure that all passengers have been detrained. Thereafter he will follow the last passenger towards the nearest station as per TC.
- (iv) He will inform the Traffic Controller from station Superintendent / Shift-in-charge's room at the station along with the Station Superintendent / Shift-in-charge that detrainment is complete in writing.

- (v) He will come back to the train and inform the Driving Motorman about the completion of detrainment and thereafter he will remove the shorting link between 3rd rail and running rail, pull back the step ladder and close the emergency door. He will wait for further instructions from the Driving Motorman.

The following action has to be taken by Station Superintendent / Shift-in-charge of the adjacent stations of the disabled train:-

- (i) He will ensure from the Traffic Controller that power supply has been switched off under exchange of private number.
- (ii) Frequent announcement shall be done over the station PA system by the Station Superintendent /Shift-in-charge of the affected station.
- (iii) He or his nominated staff will go to the site of the stationary train from where passengers will be detrained. Before proceeding, earthing of third rail at platform end (effected side both lines) should be ensured by station-in-charge.
- (iv) The staff that is proceeding towards the site must be equipped with **LOUDHAILERS** for establishing mass communication with detraining passengers.
- (v) He or his nominated staff will guide the passengers through staircase provided at the end of the platform (and where staircase is not available the aluminium ladder shall be placed at the platform end) to come on to the platform to get out of the station, as required. He will inform the Control along with the Conducting Motorman / Conductor about the completion of detrainment after the last passenger has reached station..
- (vi) After completion of evacuation of passengers, he will remove the aluminium ladder(s), if the same has been provided at the platform end.
- (vii) He will wait for further instruction from the Traffic Controller for movement of the train.

The Traffic Controller will do the following:-

- (i) On receipt of information from Driving Motorman about the inability of the train to proceed further, necessitating evacuation of passengers, he will ask the TPC to switch off power supply of the 3rd rail for both the lines under exchange of private number.
- (ii) The Traffic Controller shall then inform the Driving Motorman of the disabled train, under exchange of private number, confirming power block of the section. He will also inform the station-in-charge of the station, where passengers are to be evacuated, confirming the power block, under exchange of private number.

- (iii) He will inform the Station Superintendent /Shift-in-charge of adjacent station of the affected train for deputing their staff with an advice to go towards the disabled train to help detrainment of passengers and bring them to the station.
- (iv) In the mean time the Traffic Controller shall inform to the nearest Police Station and Metro Railway Security Control about the incident and request them to attend the concerned station to maintain law and order and he may also ask railway doctor and nearest Hospital and ambulance and for any other medical assistance.
- (v) After receiving the confirmation from Shift-in-charge in respect of completion of detrainment of passengers and on receipt of information as to safe return of the Conducting Motorman / Conductor, closing of cab exit, removing of short links, skids etc from Driving Motorman, being supported by private number, he will ask TPC to switch on the third rail power supply, under exchange of private number, if situation so permits.
- (vi) The Traffic Controller under exchange of private number shall inform the Station-in-charge concerned and Driving Motorman that third rail power supply has been “switched on” again and he will give instructions to the Driving Motorman to start the train cautiously up to the next station and restore normal service after the section has been cleared.

The Traction Power Controller will do the following:-

- (i) On receipt of request information from Traffic Controller about the necessity of detrainment of passengers from disabled train, TPC will switch off 3rd rail power supply through remote control system by operating necessary HSCB controlling the power supply of the section.
- (ii) In case of failure of remote control system, he will get the power supply to 3rd rail switched off through the substation n operator by giving necessary message.
- (iii) In case of communication failure to the substation, he may have to switch off power supply by switching off power to the rectifier transformers from either side of the section in question.
- (iv) After switching off 3rd rail power supply/getting power supply switched off by substation operator, he will give the message about switching off of power to the third rail to the Traffic Controller on duty under exchange of private number.
- (v) He will also inform the TLC that the power has been switched off from the 3rd rail of the section.
- (vi) He will arrange to turn-on 100% tunnel lights/parapet lights in the affected section.

- (vii) In case of tunnel section, he will arrange to run both the mid-point exhausts in the section and the tunnel intake fans at the stations on either side.
- (viii) After detrainment of passengers is completed and message to the effect is received from Traffic Controller, he will, if situation so permits, restore 3rd rail power, normalize the ventilation system, tunnel/parapet lighting system and advise the Traffic Controller under exchange of private number for resuming further movement of train as required.

TRAIN DETAINED BETWEEN STATIONS & EVACUATION OF PASSENGERS THROUGH SIDE PATHWAY OPENING SALOON DOOR (s) (e.g.Green Line):-

Train stopped between stations and evacuation of passenger on foot:-

1. If a train stops between the stations due to Rolling stock failure, Traction power failure or any other reason for which train can't move, the Motorman of stranded train shall inform the Traffic Controller about the location i.e. kilometer age, particulars of the train and his identity within one minute.
2. Traffic Controller after getting initial information from Motorman shall inform the shift-in-charges of the adjacent stations as well as Traction Power Controller (TPC) to remain in readiness for evacuation of passengers from the stranded train. The shift-in-charges of the concerned station will suitably manage the station in such occasion
3. If the cause for such hold up is failure of traction current and there is reason to believe that restoration of traction current is not possible within **10(ten) minutes**, the Traffic Controller shall initiate the procedure of passengers' evacuation from the stranded train.
4. If the reason for such hold up is other than traction current failure all trouble shooting efforts shall be completed and its status shall be informed to Traffic Controller over TETRA within ten minutes, so that the actual evacuation starts from eleventh (11th) minute of occurrence. The reason for such hold up shall be suitably informed to the passengers inside the train by Traffic Controller and Motorman.
5. In case of derailment or any other eventuality such evacuation shall be started earlier. Following procedures shall be followed for evacuation of passengers from mid-section -
6. Traffic Controller shall obtain power block of the concerned section (both lines covering platform zones) from the TPC by exchange of private number and relay the same to the shift-in-charges of the adjacent stations as well as Motorman by exchange of private number.
7. The shift-in-charges of adjacent stations, after opening manual secondary door (MSD) shall earth both lines of the affected sections by using earthing device and shall inform such earthing to Traffic Controller by exchange of private number. Subsequently the Traffic Controller shall confirm the earthing of both lines to

- Motorman of the said train by exchange of private number over TETRA.
8. The Motorman shall inform the passengers that evacuation shall start from the selected door and passengers to follow the next announcement.
 9. Shift-in-charge of the nearest station shall send at least two traffic staff.
 10. Motorman shall open the selected door and place the ramp between the train door and the walkway by securing its fixation. Passenger shall be detrained on the walkway after arrival of the station staff. One staff shall lead the passengers to the station and the Motorman shall ensure that all the passengers have left the disabled train.
 11. After detraining of last passenger from the train, the second traffic staff shall follow them from the rear.
 12. After all the passengers have reached the station the second traffic staff shall confirm completion of evacuation in writing to the shift in-charge.
 13. Shift-in-charge shall confirm to the Traffic Controller that the evacuation has been fully completed by exchange of private number over TETRA and accordingly the Traffic Controller shall relay the same to the Motorman.
 14. The Traffic Controller shall inform the Shift-In-Charge(s) of the station/adjacent stations to remove the earthing device.
 15. When all the earthing devices are removed by the concerned personnel and MSD is closed, Motorman shall inform the Traffic Controller by exchange of private number, so that power block can be cancelled.
 16. The Traffic Controller shall confirm the TPC about the completion of passenger's evacuation and then ask for cancellation of power block by exchange of private number.
 17. After cancellation of power block, TPC shall inform Traffic Controller and Traffic Controller shall inform the Motorman and shift-in-charge(s) as well by exchange of private number.
 18. Such evacuation of passengers to the other station except the nearest one may be considered in case of non-availability of ventilation system in the tunnel section or any structural obstruction.
 19. If a train becomes disabled between stations at such a place, evacuation of passengers to both stations may be considered by the Traffic Controller.
 20. In twin tunnel section if it is not possible to move on the walkway of the tunnel of disabled train due to fire or any other reason, the passenger may be evacuated using the cross passage present at intervals of about 250mt. The whole tunnel section if provided with illuminated tunnel evacuation signage system (ITESS) to guide the passengers to move in desired direction.

Train stopped between stations and evacuation of passenger by Assisting Train is required–**A) Motorman of disabled train will do the following:-**

- (i) If a train stops between the stations but its mobility has not been lost, the Motorman of the stranded train shall inform the Traffic Controller about the location i.e. kilometrage, particulars of the train and his identity within one minute.
- (ii) All trouble shooting efforts shall be completed and its status shall be informed to Traffic Controller within ten minutes over TETRA so that the evacuation, if required, starts from eleventh (11th) minute of occurrence.
- (iii) The reason for such hold up shall be suitably informed to the passengers in side the train.
- (iv) If Motorman cannot isolate a defect in his train and is unable to move it under its own power, he shall secure the train and request the Traffic Controller for assistance.
- (v) He shall isolate traction connections to his train.
- (vi) Once the assisting train has arrived and coupling of trains is confirmed, he shall release the brakes of his train.
- (vii) After complete arrival of the combined consists at the platform of the next station, he shall then detrain all the passengers at the station.
- (viii) He shall exchange communication to the Motorman of assisting train over TETRA until the combined consist completely arrives at depot.

B) Motorman of assisting train will do the following:-

- (i) On receipt of information from Traffic Controller that his train will be utilized as an assisting train, he shall de-train all the passengers at the station. He will drive as close to the disabled train as permitted under Coded Manual mode under cab signaling.
- (ii) He shall suitably inform to the passengers inside the train about the situation through PA system.
- (iii) He shall proceed with Restricted Manual mode, at reduced speed and stop about ten meters short of the stalled train.
- (iv) In case it is more convenient to provide assisting train from the leading end direction, he shall detrain the passengers at the station, change the cab and proceed in the direction of the disabled train under Coded Manual mode as far as limit of authority under cab signaling and thereafter change to Restricted Manual mode and stop short of about ten meters of stalled train.
- (v) He shall couple his train to the defective train by mechanical means only.
- (vi) Motorman of the assisting train, if in front, shall once again change the cab and shall drive forward in Restricted Manual mode at slow speed while exchanging communication with the front cab of defective train until the assisting train has completely reached at platform of the next station.

- (vii) All passengers of assisting train shall then be de-trained at the station and the combined consist worked to the depot in Restricted Manual mode at a speed not exceeding ten kilometer per hour.
- (viii) He shall exchange communication with the Motorman of disabled train over TETRA until the combined consist train is completely arrives at depot.

C) The Traffic Controller will do the following:-

- (i) On receipt of information from Driving Motorman about the inability of the train to proceed further necessitating evacuation of passengers, the Traffic Controller shall utilize the following train as an assisting train and the same shall be informed to the Motorman of the following train.
- (ii) Detrainment of passenger is compulsory when the assistance is provided from front side of the disabled train & the assisting train will move towards the disabled train in opposite direction of the normal movement of the working line.
- (iii) But if in the tunnel section if a train is stalled and assistance is provided from the rear end by the following train the detrainment of passenger is dependent on the situation and position of the train as per GR/SR 232.
- (iv) The Traffic controller will take the decision for the detrainment of the passengers of the following train as per GR/SR 232 and as per the situation.
- (v) He shall instruct the Motorman of the following train to drive as close to the stalled train as permitted under Coded Manual mode under cab signaling.
- (vi) He shall then instruct the Motorman of the assisting train to change to Restricted Manual mode, and to proceed at reduced speed and stop about ten meters short of the disabled train.
- (vii) If the following train is at station he shall instruct the Motorman of the assisting train, to detrain the passengers at the station.

D) The Station-in-Charge/Shift-In-Charge will do the following:-

- (i) He will ensure from the Traffic Controller that station under him is nominated for evacuation of passenger by combined consist train under exchange of private number.
- (ii) Frequent announcement shall be made over the station PA system at the affected station.
- (iii) He or his nominated station staff and/or platform supervisor shall open the platform screen Door/Gate manually of the affected lines by exchanging private number with Traffic Controller.
- (iv) He or his nominated staff will go to the site of the stationary train from where passengers train will be coupled by Assisting train to assist the Motorman.
- (v) The staff that is proceeding towards the site must be equipped with **LOUDHAILERS** for establishing mass communication with detraining passengers.

Annexure-F**FIRE AT STATION, TUNNEL, VIADUCT, OFFICE OR TRAIN**
(GR/SR 50, 51, 234)

Fire in Metro Railway can take place at various locations adversely affecting the system in different ways. The reasons may be unforeseen or anticipated. Fires in station area, underground tunnel, viaducts, on track and in trains can cause acute distress to passengers and require prompt disaster management to bring the situation under control.

Fire can be due to electrical short circuit in cables, wires or in electrical equipment. It can be due to failure of cable joints in the tunnel or due to failure of the cable itself. In Metro Coaches it can be due to short circuit faults. Fires can also be due to sabotage including bomb blasts.

Universally accepted measures for fire prevention include:-

- (i) Rigid observance of non-smoking regulations
- (ii) Total ban on carriage of inflammable/ explosive substance within metro premises and in trains.
- (iii) Non accumulation of garbage in the metro station premises and inside trains
- (iv) All staffs posted at stations must ensure instructions are rigidly enforced by regular checks.

Fire and Smoke:-

In the event of fire and / or smoke either in train, station premises, right of way or other Metro premises, every Metro Rail official whether on duty or not shall,

- (i) Report the occurrence to the nearest station or OCC.
- (ii) Take all possible steps to extinguish fire.
- (iii) Disconnect electric supply, if required.
- (iv) Prevent the fire from spreading.
- (v) Seek assistance of adjoining Fire stations.

Fire in office building:-

In case of fire in the office buildings do as follows:-

- a) Do not waste time in finding out the cause of fire.
- b) Alert everyone without hesitation in your floor.
- c) Pull alarm to alert others in the building.
- d) Report the matter to the nearest Fire station.
- e) Quickly leave the floor.
- f) Crawl low if there is smoke in the pathway.
- g) Do not use lifts.
- h) Before opening any closed door along your escape route, touch the door handle or the door itself with the **back** of your hand. If it feels hot, do not open it—fire is likely on the other side. Find an alternative route.
- i) Do not try to lock yourself in a closed room without window.
- j) If you are trapped within the floor try to avoid smoke.
- k) If trapped inform any known person about this as soon as possible with exact direction, floor and view you see from your window.
- l) Proceed directly to the assembly point.
- m) Do not **RE-ENTER** the building until it is declared safe by the authorities.
- n) Attempt shall be made to extinguish fire only taking suitable precautions only if
 - ❖ fire is in preliminary stage and controllable
 - ❖ there is a clear vision
 - ❖ Provision to backout & escape if extinguishing failed and fire increases.

Inform to OCC or nearest station immediately for external help as required.

Fire in Electrical Equipment:-

In case of fire in electrical equipment, attempt shall be made to extinguish fire taking suitable precautions and report the matter to the nearest Station Controller/OCC. No water should be used to extinguish electrical fire. If required power supply shall be cut off immediately by ending information to Traction Power Controller. Inform to OCC or nearest station immediately for external help, if required.

Fire in a Train:-

The guidelines set out below to handle fire in Train and minimize the damage of property and also casualty of passenger. Since every fire incident is unique, the Motorman is to exercise quick judgment based on

- (i) The nature of fire whether localized or widespread in passenger area.
- (ii) The extent of occupation of the train-number of passengers-if the number is manageable he will ask passengers of the affected coach to move away to other coaches.
- (iii) Proximity of the next station – passenger evacuation and handling of emergency is much easier at station than in between stations. Motorman has to exercise his judgment about those extreme cases where the train has to be stopped forthwith to save life by prompt evacuation or taken to the next station expeditiously.

DUTIES OF MOTORMAN:-**a) Fire in Train in between Stations:-**

- (i) In case of fire on train detected by passengers and made known to the Motorman on any of the sides or noticed by the Motorman of either side, first attempt should be to take the train, if it is in motion, to the next station without stopping it in mid-section. In case the train is unable to move due to the fire within the train, immediate action should be taken for evacuation of passengers from select side doors as per the procedure laid down for Detrainment of passenger. He should immediately inform OCC about the matter giving the details of km no., train no., rake no., coach no. etc. so that OCC may take quick and appropriate majors to deal with the situation.
- (ii) When fire or continued tripping in any equipment occurs in a train between station or the Motorman is informed by passengers about fire or smoke emission on any part of the train, he shall immediately inform OCC and The Motorman will assess the nature and extent of fire to decide whether the train can be safely taken to the next station. In which case he will again inform OCC and proceed to the next station addressing the passengers on board not to panic but be in readiness to vacate the train at the next station in an orderly manner giving precedence to aged, Infirm handicapped, women and children.
- (iii) He will also request Metro Staff travelling on the train to assist in relief work.
- (iv) In case it appears unsafe to proceed to next station, or the train itself has become disabled, the Motorman will advise OCC of the circumstances, Fire extinguishers provided in the train shall be used to extinguish the fire.

- (v) In case the fire has been extinguished, he may cautiously proceed to the next station under instruction of OCC Traffic Controller.
- (vi) At the next station the passengers shall be detrained and the train withdrawn from revenue operation after the fire is finally put off.
- (vii) If fire cannot be controlled, he will make preparations to evacuate passengers keeping OCC informed.
- (viii) OCC to stop movement of trains on the adjacent line to facilitate safe passenger evacuation.

b) Fire in Train at the Station Platform:-

The Motorman shall open all train doors on the platform side and ask passengers to vacate the train immediately. He will inform OCC and nearest Station and take assistance from station staff as required.

Duties of Shift in Charges of station:-

- (i) Station **Shift in Charge** will inform the Traffic Controller immediately about the fire so that train services can be suitably regulated if the fire is likely to affect the running of trains including adjacent line.
- (ii) Suspend selling of tickets and announce through Public Address System to passengers not to get on to the platform. If PA system is not working then please use **LOUDHAILERS**.
- (iii) If needed, inform OCC and evacuate station.
- (iv) Guide the passengers for exit from station area till such time the fire is extinguished and normalcy is restored.
- (v) Fight the fire if possible with the help of station staff using the available firefighting equipment's keeping himself safe.
- (vi) Station shift in charge will ensure the proper working of TVS Fans. If not working inform to the concerning department for quick action.

Duties of Traffic Controller:-

- (i) In case of fire on train, the Chief Controller should inform the fire fighting personnel as well as the Medical Team for rushing to the station where the train has stopped, or on the stations on either side if the train has stopped in midsection for necessary assistance.
- (ii) In case of train stopping at the mid-section, he should inform the TPC to switch off the third rail power on both sides for quick evacuation of passengers.
- (iii) He should control all train services on both the lines.

- (iv) He should inform TPC about the fire for taking necessary steps in respect of ventilation system.
- (v) He should inform Station controller of station on either side and arrange for announcements over PA system to waiting passengers and also to guide detained passengers to safety.

Duties of Traction Power Controller:-

- (i) He should switch off traction power in case of stoppage of train in mid section due to fire on train.
- (ii) If the power is likely to affect the high tension cable, laid on tunnel walls he should switch off the power of the particular feeders, but ensure lighting in tunnel [all time] and viaduct [in night] through alternate supply.
- (iii) He should contact the Traffic Controller and exchange Private Number stating the power has been switched off and evacuation of passengers can be started as laid down in the procedure for evacuation of passengers.
- (iv) He should inform AV staff at the station on either side, to continue running station intake fans, the tunnel intake fans and both midpoint exhaust fans.
- (v) He will co-ordinate with concerned Section Engineer/Works & Section Engineer (Elec. Pump) to ensure availability of water by running all concerned pumps for firefighting purpose.

Duties of Inspector/RPF and OCC:-

- (i) He will co-ordinate from Control with the available SI-RPF/ASI on spot, obtain details of fire and ask for necessary assistance from State Police/Fire Brigade.
- (ii) He will coordinate with Traction Power Controller to ensure proper running of water pumps and availability of water in fire hydrants.

Fire Suppression System:-

A Fire hydrant Main System (water/wet type) covers all the areas of station. In addition, there are automatic sprinklers, smoke detector, heat & smoke detector, MCP (Manual Call Point) and portable fire extinguishers at various locations. If there is fire on running trains between stations then the Motorman should inform OCC immediately and announce in the train to make safe distance from fire in the train and tried to bring the train on the next station where additional staff, first aid, ambulance and other facilities shall be available easily.

ON GREEN LINE (East-West) Corridor:-

In Rakes portable fire extinguishers are provided two in each cab and two in passenger area of each coach which can be used whenever required. The MR600 rakes are equipped with audio visual addressable fire detection system which alerts the motorman in his cab.

Via duct and tunnel section is provided throughout with continuous fire hydrants with readily available water supply.

The station building, sub-station (ASS/TSS/RSS), TER, SER, UPS etc rooms are designed and installed to detect the presence of fire/smoke. The system consists of addressable fire detection and alarm system. The system consists of fire/smoke detectors at various locations such as roof, false ceiling, under platform etc. for detection of fire. Audio fire alarm is installed at various locations to warn passengers. Fire Alarm Control Panel (FACP), MIMIC Panel, Integrated Station Management System (ISMS) and console for fire in Station Controller Room (SCR) are provided for detection of location and quick response.

Inert Gas based fire suppression system (Gas flooding and panel flooding) is used in these locations which can be used automatically or may be used manually in case of failure of the auto system.

Fire at Metro Station Premises:-

The fire can be at the following locations:-

- (i) In areas where the passengers enter for purchasing tickets or leaving the station after performing their train journey including staircases (and escalators/lifts, where provided). For underground stations this area includes the ground surface entries/exits. It also includes the escalators connecting the surface level to Concourse level and the Concourse level to platform floor level except for Central Park station which does not have a separate Concourse level. In Esplanade areas there are two Concourse level, lower Concourse and Upper Concourse. For all elevated Stations, it is the area where Metro tickets are sold and where the passengers disperse including the staircases/escalators/ Lifts connecting the ground surface areas to the platform areas.
- (ii) The service rooms and the installations housing the ventilation and air-conditioning equipment including the station air intake/exhaust locations which are situated on the ground surface or mezzanine level and are approachable through these areas.
- (iii) In platform areas including the service rooms and installations housing the ventilation and air-conditioning equipment, station air intake/exhaust locations

which are situated at the platform level and are approachable from the platform. This also includes cases of fire within the station limits in the tunnel/ viaduct/ portion of track surface.

- (iv) Traction and Auxiliary electrical substations situated at platform level.
- (v) In case of fire in areas where passengers enter/leave the station premises, the endeavor of the station staff should be to cordon off the area so that it is not approachable by intending Metro users or by Metro passengers leaving the station area.

Duties of the Station Shift-in-Charge :-

- (i) Inform the OCC about the fire and also appraise the requirement of medical assistance, if necessary.
- (ii) Close the station entry and the exit from the platform near the fire location, to prevent access to the area by persons not connected with the salvage operations.
- (iii) Announce through PA system to passengers to get out of the platform and use the other mezzanine or other entries for entry and exit. In some underground stations there are areas which, if affected by fire would block all the exits from the stations. In such cases the passengers should be requested to be on the platform and board the next available train for detraining at the adjacent station.
- (iv) Inform fire personnel for fighting the fire.
- (v) Use fire extinguishers available at the station with the help of other staff and try to extinguish the fire.
- (vi) Inform the TPC about the location of the fire so that TPC takes immediate action for rushing staff for control of ventilation and power supply.
- (vii) Inform electrical staff/Traction Power Controller to cut off power supply to the affected area in a manner that it does not affect PA system and signaling and train control system.

Duties of Traffic Controller:-

- (i) After receipt of the report of fire, Traffic Control should inform the Fire Brigade personnel and the Medical Team for fire fighting and medical assistance (if required).
- (ii) Regulate the Train service, as required. If the fire is at a station in an area blocking all exits from the mezzanine, the Motorman of trains approaching the station should be advised to inform his passengers that they should not detrain

at the affected station. The doors of the coaches would however be opened to take the waiting passengers from the platform.

- (iii) After clearing the passengers available on the platform the Traffic Controller should inform the Traction Power Controller to take necessary precautions about electrical equipment available at the station and regulate the ventilation system as required, depending upon the situation of the fire.

Duties of Traction Power Controller:

- (i) The entire station intake fan should continue to run except in case of fire in station intake duct itself. The intake fan should be switched off till the fire is extinguished in the case of fire in station intake duct itself.
- (ii) At first both the UPE fans should be 'Switched OFF'. After changing the damper position to outward direction, both the UPE fans should be 'Switched ON' to exhaust the smoke generated inside the station.
- (iii) 2nd midpoint exhaust fan should also to be put in service in addition to first midpoint exhaust fan which is already running.
- (iv) Depute the concerned AV staff and power supply staff immediately to the station and advise them for cutting of power supply to the affected location and to fight the fire with the available firefighting equipment with them.

Section working under Non-CBTC System and Fire in the tunnel, viaduct, track, surface outside limits of stations:-

Fire in Platform Areas:-

If the fire is at a station in an area blocking all access to the platform, the Motormen of trains approaching the station should be advised to inform passengers that they should not detrain at the affected station. The doors of the coaches would however be opened to take the waiting passengers from the platform. The endeavor of the station staff should be to prevent access of persons on to the platform and to disperse existing passengers from the platform.

Duties of the Station Master / Station Controller / Shift –in – Charge:-

- (i) He should inform the Traffic Control immediately about the fire so that train services can be suitably regulated if the fire is likely to affect the running of train.
- (ii) Suspend selling of tickets and announce through Public Address system to passengers not to get on to the platform.

- (iii) Guide the passengers to go out of the station till such time the fire is extinguished and normalcy is restored and for the purpose all the gate shall be kept free for quick dispersal of the passengers from the station.
- (iv) Inform the TPC about the location of the fire so that TPC takes immediate action for rushing staff for control of ventilation and power supply.
- (v) Fight the fire with the help of available station staff with the available fire fighting equipments.

Duties of Traffic Controller:-

- (i) The Controller should regulate the train services depending on the situation on either side of the affected station.
- (ii) Make announcement on the train and other stations (through Motorman and the Shift-in-charge(s)) about the incident giving reasons for the regulation of train services.
- (iii) In case the fire does not affect running of the trains, the passenger on the platform of the affected station can be taken to the next station by running the train services and announcement should be made to that effect.
- (iv) Inform the fire fighting personnel and Medical Team for assistance depending on the gravity of the situation.
- (v) Fire Brigade personnel of the state Govt. may also be informed for assistance.

Duties of the Traction Power Controller:-

- (i) The entire station intake fan should continue to run except in case of fire in station intake duct itself. The intake fan should be switched off till the fire is extinguished in the case of fire in station intake duct itself.
- (ii) At first both the under PF Exhaust fans should be 'Switched OFF'. After changing the damper position to outward direction, both the UPE fans should be 'Switched ON' to exhaust the smoke generated inside the station.
- (iii) 2nd midpoint exhaust fan should also to be put in service in addition to first midpoint exhaust fan which is already running.
- (iv) Depute the concerned AV staff and power supply staff immediately to take action and advise them for cutting of power supply to the affected location and to fight the fire with the available firefighting equipment with them.

Duties of Security Staff:-

- (i) Coordinate with OCC
- (ii) Inform & coordinate with Security / Metro Rail Police / Local Police
- (iii) Make available staff to the station, to assist in passenger evacuation, crowd control and fire fighting.

Section working under CBTC System and Fire in the tunnel, viaduct, track, surface outside limits of stations:-

- (i) This covers the areas along the metro track inside the tunnel, over viaducts, and on surface. It also includes the mid-point shafts which can be approached through tunnel including the sump areas.
- (ii) In case of fire areas in the area mentioned above, the incident should be immediately reported to the traffic controller by the person who locates the fire.
- (iii) In case of viaduct the fire fighting will be done through the fire tenders from the nearest fire station as the entire stretch of viaduct is accessible by road.

Duties of Motorman:-

- (i) In case of fire in the tunnel, the Motorman will observe the fire to assess whether he can run the train in the affected area and take his train to the next station, if possible, or stop the train short of the fire in case it is not possible to go to the next station.
- (ii) When the train is stopped at the mid - section due to fire in the tunnel, he should immediately inform his Motorman about the incident and ask him to get prepared for evacuation of passengers through the selected door. In case of curve Motorman has to ascertain the doors to be opened depending on the gap between coach floor and the emergency pathway and fix the extendable ladder if necessary.
- (iii) He should inform the OCC through Train Radio system and ask for switching off the third rail power;
- (iv) The Traffic Controller, on receipt of such information, will inform TPC and get the power switched off. The TPC will exchange Private Number with the Motorman after switching off power, as required, for detrainment of passengers. There after detrainment of passengers will be undertaken by the Motorman as laid down procedures.

Duties of Traffic controller:-

- (i) On getting information of fire in the tunnel, train service should be regulated and trains should be stopped at the stations on either side of the location of the fire.
- (ii) Passengers at the stations on either side as well as on trains should be informed on Public Address system, through Motorman and Station shift-in-charge, about the incident. If necessary, they should be asked to vacate the train and get out of the Metro system.
- (iii) The fire fighting personnel should be informed for fighting the fire.
- (iv) Traction Power Controller should be informed about the situation for taking necessary steps in respect of ventilation system and switching off of power supply equipments, as required.

Duties of Traction Power Controller:-

- (i) In case of fire in tunnel, due to cable failure or cable joint failure, switching operation should be done to isolate the faulty section immediately and to restore power supply through alternate sources so that lighting and traction system power can be maintained.
- (ii) Inform the AV staff and other Power supply staff concerned to take necessary steps for identifying the fire and fighting the fire with the equipments available with them.

In GREEN LINE metro tunnel ventilation system(TVS) is an effective means of controlling smoke flows during emergency conditions so that a) Both passengers and employees could evacuated safely and b) Fire fighting personnel could reach an incident location without traversing a smoke filled path. In each station track way exhaust fans (TEFs) connected to the over track way exhaust (OTE) system and under platform supply fans connected to the under platform supply system are installed. During a track way fire the OTE will extract smoke above the track way. In the event of track way and tunnel fire the OTEF & TVF system will be operated.

- (iii) At the station intake fan shall continue to run.
- (iv) At first both the UPE fans should be 'Switched OFF'. After changing the damper position to outward direction, both the UPE fans should be 'Switched ON' to exhaust the smoke if any coming from the tunnel inside the station.
- (v) 2nd midpoint exhaust fan should also to be put in service in addition to first midpoint exhaust fan which is already running.
- (vi) The nearest tunnel intake fan to be 'Switched ON' from both sides.

FLOODING OF METRO TUNNELS

(GR/SR – 48)

Flooding of Metro Tunnel:-

A) Water level is below Rail Fastenings:-

- a) When a Motorman or staff finds that permanent way is likely to be affected by water, he shall immediately inform the stations and the traffic controller about the water level and the location of flooding over available means of communication.
- b) The Traffic Controller shall inform all the Motormen in the section to be vigilant about the location specified and look out for the flow and level of water.
- c) If the water level is flowing below the rail fastenings the Traffic Controller shall instruct the Motorman to run at a speed not exceeding 25 kmph and be prepared to stop short of any obstruction.
- d) Further movement of train over the affected section to be stopped till the level of water comes down to normal by pumping out the ingress water by concerned department intervention.

B) Water level is above Rail Fastenings but below rail level:-

- a) Whenever water has risen above the fastenings level, in ballasted track the trains shall be stopped until the water level recedes below the fastening level. In ballast less track, the Motorman shall move the train at restricted speed of 5 kmph to the next station, if water level is up to the track plinth level.
- b) After the water level recedes the track shall be examined by SSE/JE (P.Way), SSE/JE (Traction) & SSE/JE (Sig) after ensuring power block. If it is found to be safe for the passage of the train necessary fit certificate to be given to the Station Shift In-Charge and inform the Traffic Controller who shall authorize the movement of train.

C) Water level is above rail level: –

- a) If water has risen above the rail level no attempt shall be made to pass the train over the location. Motorman to stop the train & inform the Traffic Controller for its safe return to station in rear.
- b) After the safe return of the said train at the station Traction power shall be switched off.
- c) Now the SSE / JE (P.Way), SSE / JE (Traction) & SSE / JE (Sig) will inspect the affected track length after receding water level and ensuring power block. When the track is fit in all respect to their satisfaction a joint fit certificate shall be issued to the Station Shift- in-Charge who shall inform the Traffic Controller for resumption of normal train service.

Persons involved in tackling the Disaster

- a) Motorman
- b) Traffic Controller
- c) Station Shift in Charge
- d) Traction Power Controller (TPC)
- e) SSE/JE (P.Way/P.Works)
- f) SSE/JE - Electrical (pump)
- g) Security Staff - RPF

Duties of Motorman:-

- a) As soon as the Motorman finds that the water level inside the tunnel at any location between stations has come above the drain, he should observe the same and note the km of the flooded location and the time of passing the location.
- b) Message of such flooding should be passed on by the Motorman to the OCC Traffic Controller immediately through the TETRA/Radio Telephone. In case the TETRA/Radio Telephone is defective the message should be transmitted by other means or on arrival at the next station.
- c) In case the Motorman finds that the water level is very high and is almost touching the bottom of the Third Rail, or the extent of flooding is such that the water level may touch the Third Rail before he is able to negotiate the flooded area, he should stop short of the location and contact the Traffic Controller through TETRA/Radio Telephone and be prepared for special instructions for detrainment of passengers by bringing back the train to rear station if possible or through the rear end of the train.
- d) While contacting the Traffic Controller or the Station Controller the Motorman should give the assessed depth of the water level below the bottom of the Third Rail.

Duties of Traffic Controller:-

- a) On receipt of any message of flooding inside the tunnel, the Traffic Controller should inform the Traction Power Controller about the situation. He should also inform the concerned section engineers in charge of the section for immediate action, requesting an urgent feedback regarding the safety of running trains.

- b) The Traffic Controller should control the train services depending on the level of water reported by the Motorman. If the location is near the station, he should ask the SCs concerned or any other responsible staff available at the station to visit the site and inform the details of flooding condition so that train services can be controlled accordingly.
- c) In case of stoppage of train services, the Traffic Controller should inform the various stations the reason for stoppage of train services and ask the Station Controllers to announce the same over PA system at the respective station.
- d) In case the train, which has reported the flooding, is not able to proceed, the Traffic Controller should initiate action for switching off Third Rail power and order detrainment of passengers by bringing the train back to the station in rear, if possible, or detrain the passengers from the rear end of the train as per procedure.
- e) The Traffic Controller shall inform GM/PCSO/PCOM about the situation.

Duties of Station Shift-in-charge:-

- a) On receipt of information regarding flooding from the OCC, the SC shall arrange for suitable announcement through the station PA system for information of the passengers waiting at the station.
- b) In case of detrainment he shall send suitable staff to platform to guide the passengers to safety.
- c) He should arrange to get it verified whether the source of flood water is in the station area. In case it is so, the fact should be intimated to the Traffic Controller with as much detail as is possible.

Duties of Traction Power Controller (TPC):-

- a) The TPC on duty, on getting information from the Traffic Controller, should immediately inform the supervisor and staff of the section responsible for working of the de-watering pumps to proceed to the site without delay to ensure working of pumps.
- b) He should also ensure that power supply to the pumping installation is intact.
- c) In case of any power failure detected by him, staff of the respective section should be deputed for restoration of the power supply immediately for working of pumps.

- d) He should inform the concerned officers of the Electrical Department for proper Working of pumping installation.
- e) He should mobilize staff from the nearest location by arranging transport if required to reach the site at the earliest.

Duties of SSE/JE (P.Way/P.Works):-

- a) On receipt of information from the OCC about the flooding, the Civil Engineering supervisor in charge of the section should immediately proceed to the site with staff and necessary tools.
- b) On reaching the site he should assess the reasons for flooding and shall then inform the Traffic Controller whether or not it is safe to run trains and the action taken by him and the time required for repairs/restoration in case train service is stopped.
- c) He should ensure that the outflow at the ground level is functioning properly and that water is being pumped out from the sump. He should keep a constant watch to keep the inlet to the sumps free of all obstructing materials.

Duties of SSE/JE - Electrical (pump):-

- a) On receipt of information from TPC, Supervisor in-charge of the pumping installation of the section will mobilize his staff to the site of flooding and then to the pumping installations from where water of that particular section is pumped out.
- b) He should ensure working of the pumps and as required he will ensure that all the sets of pumps installed are in working condition and are pumping water satisfactory.

ELECTRIC POWER BREAK DOWN **(GR/SR :- 51,71,202,203)**

ELECTRIC POWER BREAKDOWN:-

Kolkata Metro Railway uses electrically operated rolling stock for carrying passengers. Electric power is also required for lighting, air conditioning & ventilation, pumping (drainage water and water required for firefighting), escalators & lifts, signage, for functioning of the signalling system, ticketing system, various communication systems and operation of gates and other ancillary uses. Metro Railway takes 33kV power supply from Calcutta Electric Supply Corporation(CESC)/West Bengal State Electricity Board(WBSEB) and distributes the same for its various requirements (through a network of various types of cables) including powering the 3rd rail system. Any breakdown in the power supply from **CESC/WBSEB** or in the network of cables or in the 3rd rail system affects the working of the Metro Railway system adversely.

Reasons for Electric Power Breakdown:-

The various reasons that may lead to Electric power breakdown in the Metro Railway system causing disruption of train service are as follows:-

- a) Power supply failure from supply authorities at the receiving point (from **CESC/WBSEB**).
- b) Fault in the cable system 3rd rail system or in rolling stock leading to tripping of 3rd rail power.
- c) Short circuit of power cables.
- d) Fire in Substations.
- e) Failure of major equipment of the Substation i.e. Receiving Substation, Traction Substation and Auxiliary Substation.

Action to be taken:-

33 KV supply From CESC is received at 5 Metro Receiving Sub-station viz. Masaterda Surya Sen, Jatin Das Park, Central, Shyambazar and Noapara for blue line, 33 KV Supply from WBSEDCL is received at 2 (Two) Metro Station viz. Central Park Depot & Howrah for Green line. 33 KV supply From CESC is received at 2 (Two) Metro Station viz. Joka & Taratala for purple line, 33 KV supply From CESC is received at 2 (Two) Metro Station viz. Satyajit Roy and Hemanta Mukhopadhyaya for orange line and for Yellow line 33 KV power is received through Jai Hind Receiving sub station of Orange line & Noapara receiving sub station of Blue line. Each station is supplied through two separate source. In case of breakdown of supply at a particular receiving point, immediate action for connecting the affected portion with other receiving point has to be taken. In case of total breakdown of supply from CESC/WBSEDCL, suspension of trains is inevitable and all consequent actions have to be initiated including detrainment of passengers from trains stranded in the station/tunnel. Fire in the cable system or 3rd rail system may require suspension of train services either for the full section in all corridors/lines partially keeping the affected section suitably isolated. It may require detrainment of passengers also.

Fire in a substation or failure of major equipment of a substation requires its isolation and diverting power to the cable network and 3rd rail system through alternative routes. This applies to instances of short circuit in cable also.

Persons Involved in Tackling the Disaster:-

- (a) Traction Power Controller (TPC)
- (b) Traffic Controller
- (c) SSE/JE (PD)
- (d) Motorman
- (e) Shift-in-charge/Station Superintendent.
- (f) Security Staff / RPF

DUTIES:-

Duties of Traction Power Controller (TPC):-

- a) In case of any power failure in the Metro Railway system, TPC on duty shall come to know about the same through Supervisory Remote control system as the situation would be displayed in the Mimic Diagram Board provided in the Traction Power Panel. In case of fire in the cable system or 3rd rail system, he may get the information through the Traffic Controller or substation supervisors. TPC on duty will take the following steps in case of different types of power failure.
- b) In case of failure of power from the supply authorities to the receiving point, he will first restore the power in the affected section by resorting to switching operation of the required circuit breakers from his Remote Control panel so that the train services are not affected.
- c) After ensuring that the power supply has been restored through alternate sources, he will contact the supply authorities to ascertain the reasons for the power failure and also the expected time for resumption of power supply. He will ensure that alternate power supply in the affected section is maintained till such time the normal power supply is resumed. On resumption of normal power supply, he will normalize the system by resorting to necessary switching operation through Remote Control or through substation operator as required.
- d) In case of power failure in a particular section due to failure of cable to 3rd rail or fire in cable/3rd rail system, or short circuit, TPC will ensure that the faulty section is isolated immediately. In case isolation does not take place due to failure of required circuit breaker to operate in time, he will isolate the system. After isolation of the system, TPC will inform the power supply supervisor and officers concerned about the incident and ask them to proceed to site to arrange rectification.
- e) He will perform the necessary switching operations from the Traction Power Control Center or through substation operator to ensure alternate power supply for running of train services. In case of failure/breakdown of 3rd rail system, the section concerned will, however, have to be isolated and train services in that particular section will have to be suspended. He will inform the Traffic Controller about such breakdown who should thereafter control train services accordingly.

- f) In case of power failure due to failure of equipments in the substation or due to fire in substation, TPC should immediately isolate the particular substation both on high voltage 11 kV and 33kV supply as well as on the 750V DC traction supply. He will then resort to switching operation at the adjacent substation to ensure that 3rd rail power be restored to the section through alternate arrangement so that train services remain unaffected. He will then inform the Traffic Controller about the situation and request him to regulate train services, as required. He will also inform the supervisor-in -charge of the section and the concerned officers about the incident and request them to proceed to the site of incident.
- g) He shall there after inform higher authorities of the incident.

Duties of Traffic Controller:-

- a) On getting information regarding power breakdown from the Motorman or Shift-in-charge/Station Superintendent he shall immediately contact TPC and ascertain the position regarding gravity of the situation.
- b) If the TPC is able to arrange alternative source of power, train services are not affected. Otherwise, the train services are to be controlled depending on the situation as fed back from the Stations & Motormen.
- c) In case detrainment of passengers is necessary, action for the same has to be initiated taking care to keep the power supply to 3rd rail system switched off.
- d) He shall arrange suitable announcement through the PA system of the station and also in the trains stalled in the sections so that there is no panic among passengers.
- e) He shall thereafter inform his supervisors.

Duties of SSE/JE (PD):-

- a) In case of power failure from the CESC/WBSEDCL, supervisor in-charge of the section should contact the relevant CESC/WBSEDCL substation and find out reason for the failure and the time required for restoration of supply. He will keep the TPC informed of the developments.
- b) In case of failure of 3rd rail system he should proceed to the site of incident along with his staff and rectify the defects and certify to the TPC through a message about the fitness of the 3rd rail for charging.
- c) On resumption of train services after the 3rd rail is charged, he should observe the first train passing through the section to detect any abnormality during train running. In case of any abnormality, further block should be taken and necessary further repair carried out to ensure smooth running of trains.
- d) In case of fire in a substation or failure of any major equipment in a substation he should proceed to the substation with necessary breakdown maintenance staff and attend to failure/fault as early as possible. In case of major failure, alternate power supply should be maintained as long as rectification work is not

completed. When traction receiving substation is out of power due to any failure, adjacent substations should be manned by competent supervisor/staff to ensure continuity of alternate supply till such time normalcy is restored in the affected substation.

Duties of Motorman:-

- a) The Motorman becomes aware of Traction Power breakdown through the stalling of the train. He should immediately get in touch with the TLC and await further instructions.
- b) If there is likelihood of delay in restoration, and on the advice of the Traction Power Controller, he shall arrange for detrainment of passengers as per procedure laid down in Annexure – 3.
- c) He shall frequently make suitable announcement in the train PA system and keep the commuters informed so that no panic is created.

Duties of Shift-in-charge/Station Superintendent:-

- a) The Shift-in-charge/Station Superintendent may become aware of Electric Power breakdown by the situation in his station or through the Traffic Controller.
- b) He shall arrange suitable announcements to the waiting passengers through his station PA system.
- c) He shall assist in the detrainment of passengers as necessary.

Duties of Security Staff / RPF:-

- a) Coordinate with OCC
- b) Inform & coordinate with Security / Metro Rail Police / Local Police
- c) Make available staff to the station, to assist in passenger evacuation, crowd control and firefighting.

Annexure – I

TRAIN ACCIDENTS (COLLISION/DERAILMENT)
(GR/SR:-49 & Accident Man.)

ACCIDENTS INVOLVING TRAINS:-

Disaster causing distress to passengers can take place due to the following reasons involving trains with passengers:

- a) Derailment of a train.
- b) Collision between two trains.
- c) Stalling of a train due to equipment failures.

Action to be taken by the staff in each case is detailed in following paragraphs.

Derailment of a Train with Passengers – as per laid down procedures (refer Annexure - E)**A) Collision**

- (a) At a station (withoutPSG/PSD)
- (b) In between two stations.

Collision of trains at a station:-**(a) Duty of Driving Motorman:-**

- (i) Inform Traffic Control on Radio Telephone/Emergency phone about the incident.
- (ii) Inform and coordinate with Conducting Motormen/ Conductor if he is not injured.
- (iii) Find out the extent of damage and injury to passengers and render First Aid as required with the help of Conducting Motorman/ Conductor.
- (iv) Inform Station staff and ask for their assistance.
- (v) Address the passenger on train PA system to detrain after opening of platform side door and guide the passengers to get out of the Station with the help of station staff and other persons. Arrange for detrainment of passenger as laid down in Annexure - E.

(b) Duty of Conducting Motorman/ Conductor:-

- (i) In consultation with Driving Motorman, assist in detrainment of passengers as laid down in Annexure – E.
- (ii) Communicate with the Traffic Controller as required and make announcement to passengers over Train PA system for detrainment.

(c) Duty of Traffic Controller:-

- (i) Arrange for detrainment of passengers as laid down in **Annexure – E.**
- (ii) Regulate train services as required in consultation with higher officials.
- (iii) Ask for medical assistance as required.
- (iv) Advise Shift-in-charge concerned about the incident and ask them to render necessary assistance for detrainment and First Aid as required.

(d) Duty of Shift-in-charge:-

- (i) Depute their staff for detrainment of passengers as laid down in **Annexure – E.**
- (ii) Assist in rendering First Aid to passengers required.
- (iii) Ask medical assistance if required.
- (iv) Announce over Station PA system to detrain and get out of the station.

Collision of trains between stations (with end evacuation facility):**(a) Duty of Driving Motorman:-**

- (i) Inform Traffic Controller on GSMR (CAB & HAND)/CUG Phone.
- (ii) Should find out the extent of damage and injury to passengers and render First Aid to them.
- (iii) Ask for Medical assistance if required.
- (iv) Arrange for detrainment of passengers to the next station/or to stations on either side of the train and guide them to the station as per procedure laid down in **Annexure – E.**
- (v) Inform the Conducting Motorman / Conductor.

(b) Duty of Conducting Motorman/ Conductor:-

- (i) Assist the Driving Motorman in extending First Aid to injured persons.
- (ii) Arrange detrainment of passengers through his cab, if required.
- (iii) Assist the Driving Motorman in detraining passengers as per Procedure laid down in **Annexure – E.**
- (iv) Assist the Driving Motorman in all other operations, as required.

(c) Duty of Traffic Controller:-

- (i) Contact the officials in charge and inform them about the accident.
- (ii) Arrange medical assistance and assistance from Local Authorities, as required
- (iii) Inform Shift-in-charge/Stations on either side of the place of accident.
- (iv) Inform the Traction Power Controller and ensure switching off the traction power for detrainment of passengers as per procedure laid down in **Annexure – E.**
- (v) Control the train services, as required.

(d) Duty of Station Shift-in-Charge:-

- (i) Alert their staff and assist in helping passengers to get out of the station after detrainment.
- (ii) Arrange for Medical assistance and First Aid, as required.
- (iii) Announce through Public Address system about the accident to the passengers

Collision of trains at a station (With PSG/PSD):-

(a) Duty of Motorman:-

- (i) Inform Traffic Control on TETRA/CUG/GSMR (CAB & HAND) phone about the incident.
- (ii) Inform the no.of casualties if any, condition of train and exact location at platform to the TC.
- (iii) Immediately open the Train doors and PSD (if provided) of platform side.
- (iv) Find out the extent of damage and injury to passengers and render First Aid as required with the help of station staff if any.
- (v) Inform Station staff and ask for their assistance.
- (vi) Address the passenger on train PA system to detrain after opening of platform side door and guide the passengers to exit from station with the help of station staff and other persons. Arrange for detrainment of passenger as laid down procedure.

(b) Duty of Traffic Controller:-

- (i) Inform shift-in-Charge to reach the platform and assist them.
- (ii) Inform to Traffic Controller about the collision and need of external help if required.
- (iii) Arrange for detrainment of passengers as laid down procedure.
- (iv) Regulate train services as required in consultation with Traffic Controller.
- (v) Ask for medical assistance if required.
- (vi) Advise Station Superintendent/Station shift-in-charge concerned about the incident and ask them for rendering necessary assistance for detrainment and First Aid as required.

(c) Duty of the Station Shift-in-Charge:-

- (i) Alert their staff and assist in helping passengers to get out of the station after detrainment.
- (ii) Arrange for Medical assistance and First Aid, as required.
- (iii) Announce through Public Address system about the accident to the passengers
- (iv) Announce over Station PA system to detrain and get out of the station.

Collision of trains between stations:-**(a) Duties of Motorman:-**

- (i) In the event of collision taking place involving his train, the Motorman shall inform Traffic Controller by giving as many details as possible.
- (ii) After confirmation from Traffic Controller about Switch off of Third rail and short circuiting of Third rail, he shall seek Permission from Traffic Controller for passenger evacuation as per laid down procedure.
- (iii) He will inform passengers about the incident advising them about rescue and relief arrangements being made.
- (iv) He shall quickly assess the situation particularly in respect of passenger's injury and again inform Traffic Controller with as much details as available seeking medical and other assistance as required.
- (v) He will render first aid to passengers where ever possible.
- (vi) He should await further instructions from Traffic Controller.

(b) Duties of Traffic Controller:-

- (i) On receiving information about train collision the Traffic Controller shall block all movement on both the tracks to protect the site of accident.
- (ii) Instruct TPC to switch off 3rd rail power and make short circuiting to the station shift-in-charge.
- (iii) Inform Disaster Management Team members and other designated Personnel of Metro Railway, Kolkata.
- (iv) Mobilize medical assistance as required.
- (v) Inform the train depot to be in readiness to move ART.
- (vi) Instruct Station Superintendent to depute staff for evacuation of passengers and providing medical aid to the injured.
- (vii) Regulate train services and inform all stations on the route about the likely dislocation in train services.
- (ix) Arrange for Public Address announcements to be made to passengers in trains and at stations.
- (x) The Traffic Controller shall inform the Disaster Management Team members, the Police and security to secure the accident site and Station Superintendent/Station shift-in-Charge and emergency services.
- (xi) Traffic controller shall inform the respective officers, maintenance/emergency team and others as applicable.

(c) Duties of Station Shift-in-Charge:-

- (i) The Station Shift-in-Charge on receipt of information about collision at this station shall inform Traffic Controller.
- (ii) Arrange for immediate medical assistance as required.
- (iii) Mobilize the staff for evacuation of passengers and rendering of first aid to the injured and their hospitalization as required.
- (iv) Inform passengers waiting at the station of the likely delays.
- (v) Station Superintendent/Station Shift-in-Charge will evacuate passengers as per instructions of Traffic Controller.

Annexure – J**STAMPEDE**
(GR/SR: - 35)**Stampede**

Stampede is a sudden rush of a crowd of panic stricken people. It may result in injury to persons, loss of human life or extensive damage to metro property and can be cause acute distress to persons who are caught in rush.

Causes

The probable main cause leading to stampede is:-

- (i) Fire or sabotage or serious accidents inside Metro station and Tunnel leading to passengers rushing out of system for safety.
- (ii) Unusual rush of passengers during night service runs i.e. During Puja festivals and other festivals.
- (iii) Unusual rush of passengers after big matches (Football, Cricket etc.), and political rallies.
- (iv) Unusual occurrence in the Metro services, leading to heavy accumulation of passengers in a particular Metro Railway platform.
- (v) Natural calamity like heavy rains, earthquake etc. leading to a rush of passengers into the Metro Railway stations.
- (vi) Heavy rush of passengers in peak hours due to dislocation of other modes of city transport.

Areas where possible Locations of Stampede can occur:-

- (i) Entry, Exit points leading to Metro stations.
- (ii) Station, concourse in front of ticket counter and
- (iii) Entry/exit gates leading to platforms.
- (iv) Near stairs, lifts and escalators.
- (v) Passenger platforms.
- (vi) Foot overbridges

Action to be taken When Stampede Occurs:-

Stampede can occur anywhere in station premises and as such conditions it is responsibility of station staff to control the situation. In serious cases help of security staff, police need to be taken. Medical attention may be necessary for the injured. Such situations shall be prevented by proper announcements. The security staff shall be vigilant and take prompt action.

Persons Involved in Tackling the Stampede:-

- (i) Station Shift-In charge and his staff
- (ii) Traffic Controller.
- (iii) Motorman.
- (iv) Security and city police.
- (v) Medical Unit.
- (vi) Electrical staff at station.
- (vii) Any Metro employees

Duties:-**Duties of Station Shift-in-Charge and Station Staff**

Whenever the Shift-in-charge/Station Superintendent of a Metro Railway Station, or any of his staff, apprehends a stampede, he shall arrange to take the following steps:-

- (i) He will announce through Public Address system and request the passengers to keep their cool and leave the premises in an orderly manner. If the cause of the stampede is known, that should be explained to the passengers so that misinformation does not spread.
- (ii) He will keep "free" all the entry/exit gates and also open the manual gates to facilitate quick evacuation through ISMS, EM plunger or AFC-PC emergency button.
- (iii) He will direct station staff to guide the passengers out of the station premises.
- (iv) He will stop booking of tickets from his station till situation comes to normal.
- (v) He will inform the Traffic Controller about the situation of his station through Control Telephone or other available means of communication facilities available at station.
- (vi) He will ask for assistance from the Traffic Controller for RPF staff and Kolkata Police for tackling the situation and to prevent further deterioration of the situation. If required, he will request for medical assistance.
- (vii) He may request the Central Control, depending on the situation, to run trains through his station to avoid further accumulation of passengers in his station.

- (viii) He may ask Traffic Controller for deputation of extra staff for assistance and/or run extra trains to clear the rush.
- (ix) The direction of working of escalator shall suitably switched to facilitate early clearing of crowd and if necessary escalators may be stopped to avoid any untoward incident on running escalators.
- (x) The time, duration and details of action taken must be recorded in the Station Log.

Duties of Traffic Controller:-

- (i) On receipt of message from Shift-in-charge/Station Superintendent regarding stampede, he will immediately inform the RPF control and local Police to proceed to the station concerned for control of the crowd.
- (ii) He will inform the Medical Unit for mobilizing medical assistance to the concerned station.
- (iii) He will direct the Motormen of the trains running in the system to run through the station if the situation so demands to reduce further accumulations of passengers in the station. In such a case he shall also inform the adjoining stations so that the over-carried passengers can be suitably informed at these two stations through PA system.
- (iv) He will inform his superior officers about the situation.

Duties of Motorman :-

- (i) The Motorman of the trains running in the system at the time of stampede will act as per instructions given by the Traffic Controller over available means of communication.
- (ii) He will run through the station on receipt of such instructions from Traffic Controller so that further accumulation of passengers into the affected station is avoided.
- (iii) He will announce over PA system of the train, with the help of the Conducting Motorman / Conductor, the situation and the reason for running through a particular station.

Duties of RPF/Kolkata Police:-

- (i) On receipt of information from the Traffic Controller, the RPF control will depute sufficient RPF staff to the affected station without any loss of time.
- (ii) RPF on reaching the station will report to Shift-in-charge/Station Superintendent concerned and render all assistance in controlling the crowd and evacuate the station premises to restore normalcy. For this RPF will co-ordinate with Local Police if situation so demands.

Duties of Medical team of Metro Railway:-

- (i) On receipt of information of any stampede at any station, the In-charge of the Medical Unit will immediately move to the concerned station with his medical team.
- (ii) On reaching the station, In-charge of the Medical Unit should report to the Shift-in-charge/Station Superintendent of the concerned station and help the station staff in rendering First Aid and other medical help as required to the passengers or staff affected by the stampede.
- (iii) At this stage the In-charge of the Medical Unit may request Shift-in-charge/Station Superintendent to announce through the station PA system regarding availability of medical facility.
- (iv) In case of serious injury, the person(s) affected should be removed to the nearest hospital by ambulance or any other vehicle available outside the station.

Duties of Electrical Staff:-

- (i) In case of any stampede or stampede - like situation, Electrical staff on duty will ensure that lights and emergency lights are in working condition and they should remain available at the switch room to ensure that lighting is proper for dispersal of passengers.
- (ii) The direction of working of escalator shall suitably switched to facilitate early clearing of crowd and if necessary escalators may be stopped to avoid any untoward incident on running escalators.
- (iii) All ventilation fans should be kept working normally.

Duties of Telecom Staff at the Station:-

The Telecom Staff at the station should ensure that the following are in working order and they should be available there till the crisis is over:-

- (i) Station PA system;
- (ii) Telephone system and communication with the Central Control;
- (iii) Closed Circuit TV system.

In case no Telecom Staff is available at the station, the Signal Control Staff at the Central Control may be directed to immediately depute a suitable person from any other location where such staff is available to carry out the functions stated above.

Annexure - K**SABOTAGE****(Accident Manual:- 2.08 and Chapter -VI)****Introductory:-**

Sabotage is criminal interference with any part of working machinery of the Metro Railway with the object of rendering it inoperative or any criminal act intended to cause damage to Metro Railway property. Sabotage may occur anywhere in the Metro Railway's jurisdiction of action but its effect in Metro Stations in section between two stations or in running train will have profound impact in terms of human distress.

Action to be taken:-

When sabotage has taken place in the station premises, the following action will have to be taken by the different staff:-

Duties of Station Superintendent /Shift-in-charge:-

- (a) He should visit the affected spot and assess the extent of damage inflicted on Railway property and how that may affect the passenger service.
- (b) He should immediately inform the Traffic Controller about details of the happening, the time when it occurred and how it will affect the train services, passenger movement etc. He should ask for Medical assistance, if necessary and indicate the gate through which the Medical Team should enter.
- (c) He, depending on the seriousness, may announce through the station PA system what has happened and what the passengers are expected to do without getting into panic.
- (d) In case any Railway property is seen to be damaged, he should immediately inform the in-charge of the concerning department to immediately attend the effected spot and take suitable remedial action.
- (e) In case any person is seen to be moving with doubtful intentions, he may be detained for interrogation.
- (f) Passengers found near the affected zone may also be asked about their first hand knowledge of the occurrence.

Duties of Traffic Controller:-

- (a) Immediately on receipt of the sabotage information, Traffic Controller should contact the RPF and ask them to rush to the spot of occurrence and cordon off the area so that total evidence are conserved to the extent possible.
- (b) Inform the Medical Department to reach the spot with necessary medicines, ambulances etc. in case of any injury to any person due to the sabotage act through the gate advised by the Shift-in-charge of the station.
- (c) He should there after inform the COM the details of the occurrence and the action already taken by him and take directions from him for further action.
- (d) Relay such directives to the persons concerned.
- (e) Hold trains at the earlier station in case it is considered that the running of train through the affected station is not desirable and arrange for detrainment of passengers after proper announcements.
- (f) Inform Section in-charge of Civil, Electrical and S&T Department of the incident and ask them to go to the spot immediately.

Duties of RPF Personnel:

- (a) On being informed about the sabotage, they will rush to the spot and immediately cordon off the area to protect and preserve the scene of occurrence.
- (b) Question any doubtful person detected earlier by the Shift-in-charge of the station or by them and if necessary, arrest them.
- (c) In case of fire, immediately inform the Fire Brigade to rush to the spot for combating the fire.

Duties of Other staff:

- (a) The Section Chiefs of all the three service departments viz. Civil, Electrical and S&T Department may visit the site immediately and assess the damage inflicted on equipments under their respective charges.
- (b) Take suitable action, including informing their higher authorities, to restore the damage equipments/installations in least possible time.

Sabotage in Section between Two Stations:-

Action to be taken by Motorman:-

When sabotage takes place in the section between two stations, it is the Motorman of running train who will come to know about it first and his duty will be:-

- (a) On noticing any unusual occurrence on track or other installation, he should immediately report to the on duty Traffic Control about the unusual sight with its location.
- (b) In case it is possible to run through the spot, he should continue the journey.
- (c) In case he notices a situation where train running will not be safe, he should stop the train and inform the Traffic Controller for further directive.
- (d) Similar action should be taken by the Motorman in case he notices abnormality in the other track also indicating to the Traffic Controller whether passage of a train over the affected section will be safe.
- (e) Take further action as per the directive of the on duty Traffic Controller.

Action to be taken by the Traffic Controller:-

- (a) On receipt of such information the Traffic Controller should immediately take action to regulate trains to prevent their running over the affected section.
- (b) Inform the RPF about situation and take action to enable the RPF to make an immediate on the spot inspection.
- (c) Inform the superior officers about the situation and get directive from them for further action.
- (d) Take necessary action as per the directive of the superior officers.
- (e) Inform Section-in-charge of Civil, Electrical and S&T Department to make an on the spot inspection to assess loss/damage etc.
- (f) In case running of the train to Crashed is unsafe, control trains in earlier stations and arrange for detrainment of passengers after proper announcement.

Action to be taken by the RPF:-

- (a) On being informed, they should go to the affected spot and make a detailed assessment of loss and modus operandi adopted for sabotage. To reach the spot, they should ask the on duty Traffic Controller for power block and go to track bed only after confirming that 3rd rail power has been switched off.

Action to be taken by other staff:-

- (a) Other concerned staff of Civil, Electrical and S&T Departments should make an immediate inspection of site, assess loss/damage and organize their repair as early as possible.
- (b) Inform their superior officers about the situation and the action they are taking to rectify the situation. In case of any specific directive from superior officers, they should act according to those directives.

Sabotage in Train:-

Of all the sabotage actions, those happening inside a train will have most disastrous consequences and very prompt action will be necessary to restrict the damage to men and material. The following are envisaged towards sabotage activities:-

- (a) Bomb in track which detonates under a train.
- (b) Detonation of bomb inside a coach.
- (c) Criminal interference with train running equipments which causes fire to the coaches, while on run.
- (d) Other sabotage activities incapacitating the train in the section.

Bomb blast on track:-

There may be derailment of the train with large scale damage to the train, tunnel structure as well as injury to the passengers in the train. In case of derailment, the train will immediately come to a stop. The Driving Motorman (and in case he is already injured, the Conducting Motorman/ Conductor), will try to contact the other Motorman and try to assess the situation and immediately inform the Traffic Controller about the occurrence and ask for immediate assistance of RPF and Medical Department. At the same time the Motorman should seek permission for detrainment of passengers.

For detrainment of the passengers, action, as indicated in **Annexure – E**, should be immediately taken. In case, the situation does not permit detrainment from one end, it should be arranged from both ends. The injured passengers will have to be treated locally or transferred to hospital as soon as the Medical Team arrives at the spot. In case, the motormen cannot communicate with each other, both of them should independently try to assess the situation and take action to inform the Traffic Controller and take action, as indicated above.

Bomb blast inside the train:-

It will be the endeavour of the Driving Motorman to run the train to the next station as quickly as feasible. In case he is not able to take the train to the next station, he should stop the train and contact the Conducting Motorman/ Conductor to ascertain from him, if he has any knowledge of the situation. Immediately thereafter he should contact the Traffic Controller and inform him about the blast. He should seek from the Traffic Controller the assistance of RPF and Medical Department.

He should now ask Conducting Motorman / Conductor to make an on the spot assessment of the situation including injury/death of passengers. The Conducting Motorman / Conductor will inform the same to the Traffic Controller for immediate appropriate action. At the same time, he should take the permission of the Traffic Controller to detain the passengers. In case one of the Driving Motormen is incapacitated or the communication between them is disrupted, then the other Motorman should take all the above actions himself. After assessing the situation and informing the Traffic Controller, the Motorman should make announcement to the passengers through train PA system about the station and should repeatedly ask them to remain calm indicating that action has already been taken to arrange for detrainment of passengers.

On arrival of the RPF and Medical Team, they should be brought inside the train through emergency cab door and the step ladder and they should be shown the affected coach/coaches so that immediate medical assistance may be given to the passengers in distress. The Motorman will thereafter arrange to de-train the passengers with the help of the RPF staff and other staff which may have already arrived at the site by this time.

Criminal Interference with Train Running Equipment which Cause Fire:-

In case of a fire in the train due to any criminal interference with train running equipment, the matter should be dealt with as in the case for fire in a train dealt in Chapter-IV of A.M.

Other Sabotage Activities Incapacitating the Train in the Section:-

In this case, arrangement should be made to detain passengers as given in **Annexure – E (Detrainment of passengers in a section).**

Sabotage Activity in any other Area than the Station Premises or in Tunnel:-

In this case sabotage activity has taken place in any other place than the station or tunnel, action will have to be taken by the official/officer in-charge of the place of occurrence. In that case, he will have to deal with that situation like, a Shift-in-charge, when the sabotage occurs in station area.

VENTILATION SYSTEM FAILURE IN TUNNEL
(Treated as emergency situation)

Ventilation Arrangement at Station and Mid-Section:-

At all underground station ventilation is effected by pumping of intake air through intake shaft one and each end of the station. Two sets of intake fans are provided in the ventilation mezzanine for intake of air through an intake shaft and air is thereafter pumped into station and tunnel areas through a ducting network. For this purpose, each intake shaft has 3 nos. of intake fans, out of which 2 are for feeding the station and one for feeding the tunnel. Thus ventilation fans are provided for intake of ventilation air from outside into the station. Before the air is forced into the ducting system, it is marginally cooled to a temperature of about 27°C by use of air-conditioning plants. This cool intake air, after being drawn into the station and tunnel, gets gradually heated up. It is then exhausted by under platform exhaust ventilation fans, two in number, one at either end of the platform, and through two exhaust ventilation fans provided at the mid-section between two stations. The failure of the ventilation system for a prolonged period of time creates an unhealthy, humid hot environment inside the tunnel causing acute distress to commuters. Failure for short periods can be ignored.

The system has been designed so that intake and exhaust air quantities balance. In case of failure of any one of the ventilation fans, an imbalance is created and the pressure heads at different points change. There cannot however be a total failure of the ventilation system normally. In case of total power failure both at station and in mid-section, there can be a total failure of the ventilation arrangement. In such a case alternate power supply arrangement has to be made for working the ventilation system. The chances of total failure of ventilation system are therefore very remote.

Failure of Tunnel Ventilation:-

At all underground stations ventilation is effected by pumping of intake air through intake shaft one at each end of the station. Two sets of intake fans are provided in the ventilation mezzanine for intake of air through an intake shaft and air is thereafter pumped into station and tunnel areas through Air Nozzle/Dampers.

Fans are reversible, so same vent shaft at each end can be used for pumping the air into tunnel and also can exhaust the smoke from same shaft in case of Fire. Same set of fans will be used for supply/Exhaust.

In tunnel ventilation system in case of Normal/Congested/Fire mode, air at ambient temperature is used. The atmospheric air will be supplied to tunnel and there is no provision of cooling. If Environmental Control System plant is in operation, then only ventilation air temperature can lower by mixing with it.

This system prime objective is for Human Safety and Safe Evacuation of passengers in case of train fire in tunnel. So during operating hours the system should not be in break down and in case of Emergency can be started immediately.

On each side of station, there are two fans and in case of one fan failure, second fan can be operated and will be sufficient for supply/exhaust to one shaft in underground stations, there are two source of Power supply fed from sub stations. In case of failure one source, it is fed by other source. In any case if break down is at both sources means Grid trip. D.G set will start automatically and will fed power to ventilation fans and two Nos. fans can run in case of any emergency. The chances of total failure of ventilation system are therefore very remote.

Causes leading to Failure of Ventilation System:-

The various causes leading to failure of ventilation system are as follows:

- a) Failure of power to ventilation panel.
- b) Defective ventilation panel.
- c) Defective motor of ventilation fan.
- d) Abnormal sound or breakage of ventilation fan

Action to be taken:-

For defective ventilation panel or defective motor of ventilation fan or abnormal sound or breakage of ventilation fan action has to be initiated for rectification of defective/damaged parts. In case of power failure, alternative sources have to be tried. In case of prolonged stoppage of the ventilation system at a station, arrangement for closing the station to traffic has to be initiated. Persons involved in tackling the situation:-

- a) TPC
- b) Traffic Controller
- c) Station Master/Shift-in-charge

Duties of TPC:-

- a) In case of failure of ventilation due to loss of power, he should ensure resumption of power to the particular ventilation system from an alternative source so that power supply to the ventilation system is available. He should also ensure availability of power supply from alternate source at the midsection shafts. After ensuring such availability of power supply, he will inform staff concerned at the station responsible for operation of the ventilation system to resume running of fans. Even running of either intake or exhaust fan will give partial ventilation.
- b) If intake and exhaust fans of a particular station/section cannot be started, it is a case of total failure of the ventilation system in that station/section i.e., failure of all the mid-section fans at both the mid-section points on either side of the station, Failure of both the under-platform exhaust fans at the station and Failure of all the six intake fans of the station tunnel intake. TPC should inform the Traffic Controller about the failure and if the ventilation system cannot be restored within half an hour, arrangements for closing the station for passenger entry should be initiated. Even if the station is closed to traffic, train services need not be stopped as natural ventilation through station entry points and the piston action of train movement will ensure partial ventilation in the tunnel and normal detrainment of passengers in the station can continue.
- c) TPC shall then inform power supply supervisor in-charge of the station/section to proceed to site to find out the reasons for the total failure of power supply and

take remedial measures for resumption of power even if partial. Once the power supply is resumed through one of the auxiliary transformers the ventilation fan should be fed by necessary switching operation. If need be, other services like air-conditioning, escalators etc. can be kept suspended to ensure that there is no shortage of power for working of the ventilation fans. Once the ventilation system is partially resumed (i.e. even 50%) TPC will inform the Traffic Controller for re-opening of the station for entraining passengers.

- d) In case of failure due to defects in ventilation fans, the supervisor in-charge of the ventilation system will be informed by the TPC to mobilize his gang for rectification of defects. Partial ventilation will, however, be continued and no stoppage of train services or booking of passengers need be resorted to.
- e) In case of total failure of intake fans at the station, the TPC shall arrange to operate both exhaust fans at either side of the station. All the station entries shall be kept open to ensure sucking of fresh air through station entries as well as through intake shafts due to suction head created by exhaust of air through mid-section ventilation. Both the under-platform fans should also be made operative to ensure partial ventilation and intake of air through station entry points.
- f) In case of failure of both exhaust fans at any mid-section, intake fans on either side of the mid-section exhaust are to be kept operative for intake of fresh air and drawing the same from station area in time. This will create natural exhaust of air through the station entries as well as through mid-section ventilation shaft. Under platform fans should also be made operative for exhaust of stagnant air from the station area.

Duties of Traffic Controller:-

- a) In case of prolonged total failure of ventilation system in a station and on receipt of such information from TPC, the Traffic Controller will inform the stations concerned and also officers concerned to stop booking at the particular station. Train services however need not be stopped for such failure.
- b) He shall inform the Shift-in-charge to announce stoppage of booking over PA system. Passengers arriving at the station should also be requested to quickly leave the station premises due to ventilation problem.

Duties of Station Shift-in-Charge:-

- a) He will inform the Traffic Controller of the prolonged ventilation failure and the extent of distress. On advice by the Traffic Controller, he shall arrange for closure of the station by closing the Booking Office followed by frequent announcements over PA system.
- b) He shall arrange for suitable announcements through the PA system to guide the passengers.
- c) During this time, the "next train time" indication boards should be kept off.

Annexure – M**TERRORIST THREATS AND COORDINATION**
(Accident Manual:- 10.16(Q) and treated as emergency situation))

The various terrorist related threats that may be faced by the Kolkata Metro Railway shall be elaborated upon so as to highlight the tasks and actions to be taken by agencies/ organization other than Kolkata Metro Railway in succeeding paragraphs.

Security Threats and Terrorist Attacks:-

Increase in terrorist actions against public transport worldwide, indicates that public transport systems are becoming more vulnerable and potential targets for terrorists. It is clear that preventing terrorist activities is the primary responsibility of security agencies and State Police. However, concern for passenger well being and their security and adverse effects of such mishaps on the public image of the Transport System itself, requires best possible level of preparedness for prevention of such threats within Metro premises.

Key components of such preparatory and preventive action include:-

- a) Encouraging and guiding passengers to be cautious themselves.
- b) An Awareness Programme – appealing users to be on the alert and report any suspect package.
- c) Well thought out crisis communication to prevent misinformation, confusion, panic and shock.
- d) Clear procedures and systems of communication need to be established for emergencies and regularly tested, in order to ensure a working communication during crisis situations.
- e) Frequent mock drills to test effectiveness of passenger evacuation systems including the collaboration and response of passengers.
- f) Training all front line staff to prevent dangerous situations and handle incidents.
- g) Once they have happened, act with courage, promptitude and alertness, reassuring the passengers and providing regular information for their guidance.

Duties:**Duties of Shift-in-charge/Station Superintendent in case of Terrorist Attack at Station:-**

- a) The Shift-in-charge/Station Superintendent should visit the affected spot to assess the extent of impact on human life and also how it may affect train services.
- b) He should inform the Traffic Controller about details of incident.
- c) Inform Kolkata Police and Kolkata Metro Police and depute station security staff to cordon the site to preserve the clues and leave the site undisturbed for police investigation.
- d) Record the time it occurred.

- e) Assess the extent of injuries.
- f) Observe any presence of smoke/fire.
- g) Ask for medical assistance and, fire services as required indicating the gate through which the Medical Team/Fire Services should enter. He should depute a uniformed staff to receive and guide them.
- h) Sound the whistle to draw the attention of the passenger for vacating the station premises.
- i) Depute staff to announce at 5 minutes interval, through the station PA system what has happened and what the passengers are expected to do without getting into panic.
- j) Mobilize resources to protect and Cordon the site, render first aid, evacuate the injured.
- k) In case any Metro Rail property is seen to be damaged, he should immediately inform the Section-in-charge of the Department to attend the affected spot to take suitable remedial action.
- l) In case any person is seen moving in a suspicious manner, he may be detained for interrogation.
- m) Passengers found near the affected area may also be asked about their first-hand knowledge of the occurrence and their statement with name and addresses recorded.

Duties of Traffic Controller/Chief Controller:-

Immediately on receipt of the information about terrorist attack, Traffic Controller /Chief Controller shall:-

- a) Inform Metro Police and Security Personnel and ask them to rush to the spot of occurrence.
- b) Inform the NSG official immediately to attend the site of terrorist attack and take necessary measure.
- c) Mobilize Medical Assistance and/or Fire Services to reach the spot.
- d) Inform the Kolkata Metro Railway Officials of the incident.
- e) Hold trains at stations.
- f) Train movement shall only be resumed after confirming that the running of train through the affected station is safe. Till the position becomes clear regular announcements to be made to passengers in train and at station of the likely delay and evacuation procedures started.

Duties of Security Staff:-

- a) On being informed about the terrorist attack, they will promptly move to the spot and immediately cordon off the area and retaliate, if possible.
- b) Flash the message to all concerned.
- c) Escape route should be closed.
- d) The Disaster Management Team of RPF should be in place immediately.
- e) Re-enforcement should be arranged immediately.
- f) Assist station staff in passenger evacuation and crowd control.
- g) Assist Metro Police/Local Police in investigation and de-briefing, if required.
- h) Question any doubtful persons detected earlier by the Shift-in-charge or by them and, hand them over to Kolkata Metro Police.
- i) In case of fire, immediately inform the Fire Services to rush to the spot for combating the fire.
- j) Assist Station Staff in combating fire with available means.

Duties of Other Staff:-

- a) The Section in charges of Civil, Electrical and Signal departments should proceed to the site immediately and assess the damage to equipment under their respective charges.
- b) Take suitable action informing higher authorities, to restore the damaged equipment/ installations promptly.

Annexure – N**MEDICAL ASSISTANCE TO DISASTER VICTIMS**
(GR/SR :- 161 & Accident Manual:-Chapter VII)**Immediate Steps to be taken prior to Arrival of Medical Team:-**

In case of disaster involving passengers or staff, the Station Master / Motorman or any Metro staff who are present at the site of such a disaster should take the following immediate steps:

- a) First Aid should be given to the disaster victim as per First Aid training given to staff. For this purpose, a first aid box will be available at every station and other installations. If after First Aid, the victim is in a position to leave Metro premises, he should be allowed to do so after recording his name and address.
- b) When the condition of the victim requires higher level of attention, he should be removed from the disaster site to the nearest available Doctor or Hospital for medical attention. The list of such Hospitals/Doctors should be available at each station in a conspicuous place in SM's room.
- c) In case a number of disaster victims are involved, medical help from Metro sources should be called through the available communication system, such as Railway Telephone, DOT telephone, Control Telephone, TPC's telephone, TLC or emergency telephone as the case may be. In case of a running train, TLC should be informed through Train Radio communication system for such assistance. On receipt of such call for help, the Controller should inform the Metro Railway Medical assistance unit about the situation and mobilize medical team suitably.
- d) Announcement should be made by Motorman through Train PA system in case of a disaster involving a Metro train in a section between stations, to the passengers traveling by that train for help of a Doctor who may be available on the running train, to attend to the disaster victims.
- e) In case of disaster victims at a station, the station PA system should be used for announcement for help of a Doctor, if available in the station premises for immediate medical assistance.

Steps to be taken for transfer of disaster victims:

- a) After arrival of the Metro Railway Medical Team at the site of the disaster, the supervisor/Motorman/Station Master available at site, should inform the team about the condition of the disaster victims and give all assistance to the medical team, as necessary.
- b) On the advice of the Doctor of the medical team, the victims should be removed, if required, by hiring a taxi or any other vehicle to the nearest Hospital for attention.

CHEMICAL DISASTER

Introduction:-

Transportation or carrying of Chemical is prohibited in Metro Railway, Kolkata. In Metro Railway, Kolkata Terrorist can attack by using Chemical agents. This Chemical agent includes poisonous Gases, liquid or solids that have a deleterious effect on the biotic and non biotic environment. Due to the relatively easy availability of hazardous chemicals, Terrorists can procure chemical or even try to sabotage the facilities or passengers trains as it offers them an easier and often more catastrophic method anti national activity. Chemical incident and uncontrolled release of Chemical form its containment that either threatens to, or does, expose people to a chemical hazard.

Effective chemical disaster Management (CMD) is possible by the adoption of preventive and mitigation strategies as most chemical disaster are preventable in comparison to natural disaster that are difficult to predict and prevent.

Areas where chemical incident can occur:-

Chemical Disaster may take place by terrorist attack at various locations. Chemical incident can occurs on the following areas of the Metro Railway system.

- a) Entry and exit points leading to Metro Stations.
- b) Stations concourse, in front of ticket counter, entry/exit gate and leading to platforms.
- c) At train.

Action to be taken when chemical incident occurs:-

Chemical incidents can occurs accidentally or deliberately anywhere in station premises or passenger train. As such it is the primary duty of front line staff to protect, detect and de contaminate the incident site. In this cases the help of NDRF, local Police and RPF needs to be taken as well as medical attention may be necessary for the affected passengers.

Staff involved tackling the Disaster:-

- a) Shift-in-Charge/ Station Superintendent and station staff.
- b) Traffic Controller.
- c) Motorman.
- d) RPF and Kolkata Police.
- e) Medical Unit.

Duties:-**Duties of Shift-in-Charge/ Station Superintendent and station staff :-**

Whenever the Shift-in Charge, Station Superintendent of Metro Railway station gets information regarding chemical occurrence from any office staff or on duty RPF or from any vulnerable sources, he shall arrange to take the following steps.

- a) He will announce through Public address system and request the passengers to keep cool and leave the premises in an orderly manner. If the cause of chemical incident is known that should be explained to the passengers so that panic does not spread.
- b) He will advise on duty operating staff and on duty RPF staff to protect the affected passengers/ site.
- c) He will inform details to the Traffic Controller regarding the incident and for seeking the help from local Police to maintain law and order, Medical team for medical assistance and NDRF for rescue operation.
- d) He may request the Traffic Controller depending on the situation, to run the train(s) through his station and/or not to send further train to avoid further accumulation of passengers in his station.
- e) He will keep “free” all the entry/exit gates and also opened the manual gates to facilitate quick evacuations for unaffected passengers.
- f) He will direct station staff to guide the passenger out the station premises.
- g) He will stop booking of tickets from his station till situation comes to normal.
- h) He will inform the Traffic Controller about the situations of his station through control telephone or other available means of communication.

Duties of Traffic Controller:-

- a) On receipt of message from shift-in Charge / Station Superintendent regarding chemical incident, he will immediately inform the NDRF for rescue operation, RPF and Kolkata Police to maintain law and order and Medical team for medical assistance.
- b) He will direct the Motorman of the trains running the system to run through the station and / or stop the train at the adjacent station, if the situation so demands to reduce further accumulation of passenger in the station.
- c) He will inform the superior officers about the situation.

Duties of Motorman:-

- a) He will run through and /or stop the train at the adjacent station on receipt of such instructions from Traffic Controller so that further accumulation of passenger into the affected station is avoided.
- b) He will announce over P.A system of the train, with the help of Conducting Motorman / Conductor or self, the situation and the reason for running through a particular station.

Duties of RPF/Kolkata Police:-

- a) On receipt of information from the Traffic Controller, The RPF control will depute sufficient RPF staff to the affected station without any loss of time.
- b) RPF on reaching the station will report to the Shift-in Charge / Station Superintendent concerned and render all assistance in controlling the crowd, protect the incident site and evacuate the station premises. For this, RPF will coordinate with Kolkata Police if situation so demand.

Duties of medical team:-

- a) On receipt of information of any stampede at the station, the in-charge of the medical team will immediately move to the concerned station with his medical team.
- b) On reaching the station, In-charge of medical unit should report to the shift-in-Charge/ Station Superintendent to the concerned station. This team should rendered medical help as required to the passenger and medical team will coordinate with NDRF if situation so demand.

Rescue operation by NDRF team:-

On reaching the station, in-charge of the NDRF team should collect details information from Shift-in Charge and starts the rescue operation for the chemical affected victims.

National Disaster Response Force (NDRF):-

Ministry of Home affairs, Government of India has formed National Disaster Response Force at the Eight selection location in the country for dealing with relief and rescue operation related to all type of disaster.

As per disaster management act 2005, various Ministry and department under Government of India should joins hand for mutual assistance in case of disaster. Assistance of local Government and non Government agencies are in variable required by the railway administration from prompt relief and rescue operation.

Coordination with NDRF:-

Zonal Railway 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 the expose them to issues relevant to the rescue and relief of passengers during railway accident. It has also been advised associate NDRF in full exercise that is held once in every year. There are no charges for availing the services of the NDRF except the rail transportation which railways may provide at their cost for attending to rail disaster.

Annexure – P**BIOLOGICAL (Pandemic) DISASTER****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 existence of infectious diseases has been known among human communities and civilizations 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.

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.

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 Medical Doctors in each Divisional Railway Hospital to manage CBRN casualties is to be planned.

Causes of Biological Disaster:-

A Biological Disaster is the disaster, which causes sickness and fatalities in human being when they come in contact with Biological hazards in the form of living organisms such as bacteria, virus, fungi etc. All communicable diseases, either of human beings or livestock are potential biological disasters. They spread widely; affect huge number of people in communities, sometimes across the geographical limits of provinces and

nations. Biological Disaster has caused havoc in human settlements in form of communicable disease since times immemorial.

Biological disaster essentially appears in the form of epidemics or pandemics, which are caused by microorganisms. Different microorganism cause different types of communicable diseases.

The micro-organisms, which cause communicable disease, could be categorized like as Bacteria, Virus, Rickettsia, Chlamydia, Fungi and Toxins.

Causal Phenomenon:-

Communicable diseases leading to biological disasters often erupt and spread due to unhygienic living conditions and individuals and families within communities. It is very natural that affluent communities are less vulnerable to biological hazards as compared to poor causes for epidemics and pandemics may be generalized as under:

- a) Congested living areas with inadequate hygiene and sanitation arrangements.
- b) Movement of infected personnel to non-epidemic areas carrying micro organism during their incubation period.
- c) Movement of non-immune persons to endemic areas.
- d) Malnutrition particularly among children.
- e) Ecological changes conducive to breeding of vectors.
- f) Poor or insufficient water supply system leading to consumption of contaminants leading to water borne diseases.
- g) Poor Health services and lack of programs for immunization and vector control.

Preparedness for 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 mobilization of investigational and therapeutic counter measures. 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 are as follows:-

- a) Create a pool of well-trained medical professionals.
- b) Ensure availability of vaccines and drugs.
- c) Ensure adequate stocks and ready availability of diagnostic re-agents.
- d) Develop an effective network of surveillance system to detect outbreak of epidemics.
- e) Improve public awareness to enable people to help the administration and medical in disaster management.
- f) Have a reliable and credible public information system for dissemination of fact to avoid fear and panic among masses.

Corona virus (COVID-19):-

Corona virus disease (COVID-19) is an infectious disease caused by the SARS-CoV-2 virus. Most people infected with the virus will experience mild to moderate respiratory illness and recover without requiring special treatment. However, some will become seriously ill and require medical attention. Older people and those with underlying medical conditions like cardiovascular disease, diabetes, chronic respiratory disease, or cancer are more likely to develop serious illness. Anyone can get sick with COVID-19 and become seriously ill or die at any age.

The best way to prevent and slow down transmission is to be well informed about the disease and how the virus spreads. Protect yourself and others from infection by staying at least 1 metre apart from others, wearing a properly fitted mask, and washing your hands or using an alcohol-based rub frequently. Get vaccinated when it's your turn and follow local guidance.

The virus can spread from an infected person's mouth or nose in small liquid particles when they cough, sneeze, speak, sing or breathe. These particles range from larger respiratory droplets to smaller aerosols. It is important to practice respiratory etiquette, for example by coughing into a flexed elbow, and to stay home and self-isolate until you recover if you feel unwell.

Pandemic situation like COVID-19, Railways had played a crucial role in effective management of the pandemic in various ways. But this huge/large no. of transportation carried out in the existing system/procedures to keeping the all precaution to save the officers and employees in Metro Railway, Kolkata. Metro Railway shall be played an important role during pandemic Covid-19 to prevent. They are as follows:-

- a) Staff training / refresher, PME
- b) Sanitizing the Station, Car Shed , Office premises and Rake.Using of Mask of Passengers and Staffs
- c) Maintain distance among the passengers and staff in work.
- d) Passengers are allowed in the station by booking of particular slot
- e) Subsequently increasing to passengers, Metro Authority also increase the head way of train to maintain the Safety protocol of COVID-19
- f) Frequently counseled of staff done regarding maintaining of Covid-19 protocol.
- g) Vaccination of staff and their dependents as well as mass RTPCR test done both for staff & general public.

Annexure – Q**NATURAL CALAMITIES****(Treated as emergency situation and GR/SR: - 48,49,50,51,52)****Introduction:-**

Kolkata is situated at the natural origin of the South West monsoon and therefore is prone to heavy rains accompanied with cyclones, high velocity winds, storms, tempests, earthquake and even Tsunami.

Flood :-

The rail corridor is elevated / at grade and is not likely to be affected by floods. However, Under Ground station, ground level station is more exposed to Flood. Action taken procedure is laid down on **Annexure -G**.

Earthquake :-

Keeping in to account the fact that Kolkata is located in the seismic zone-III. The entire infrastructure of Metro Railway Corridor has been designed to withstand earthquakes of the intensity of 6.5 on Richter scale. If any earth quake tremor takes place in any of the metro station, then the train(s) shall run on the following procedure.

Action to be taken in case of earthquake:-

- a) As soon as the tremor of earthquake is felt, Traffic controller will immediately advise all stations to control the trains at platforms and Motorman will control the train in the section(s). Trains already in sections will than be allowed to move up to stations ahead at 15 kmph with caution ready to stop short of any obstruction.
- b) All panel operators/station-in-charges, who experienced tremor of earthquake, shall immediately inform the Traffic Controller by putting back the departure signal at ON condition in Manual mode. If such a tremor is experienced at platform by Motorman, he will not start train and intimate Traffic Controller.
- c) When the tremor subsides the Traffic controller shall advise the Driving Motorman of the first train with or without passenger to check the section leading to immediate next station at a speed not exceeding 15 kmph and report the status of the section to Traffic Controller.
- d) Thereafter the sections to be declared obstruction free and trains shall run normal with passengers.
- e) Continuous announcement regarding earthquake shall be made from central control, stations or by Conducting Motorman / Conductor in train through P.A. System.
- f) A thorough inspection of entire section may be conducted by concerned departments after commercial service.

Cyclone:-

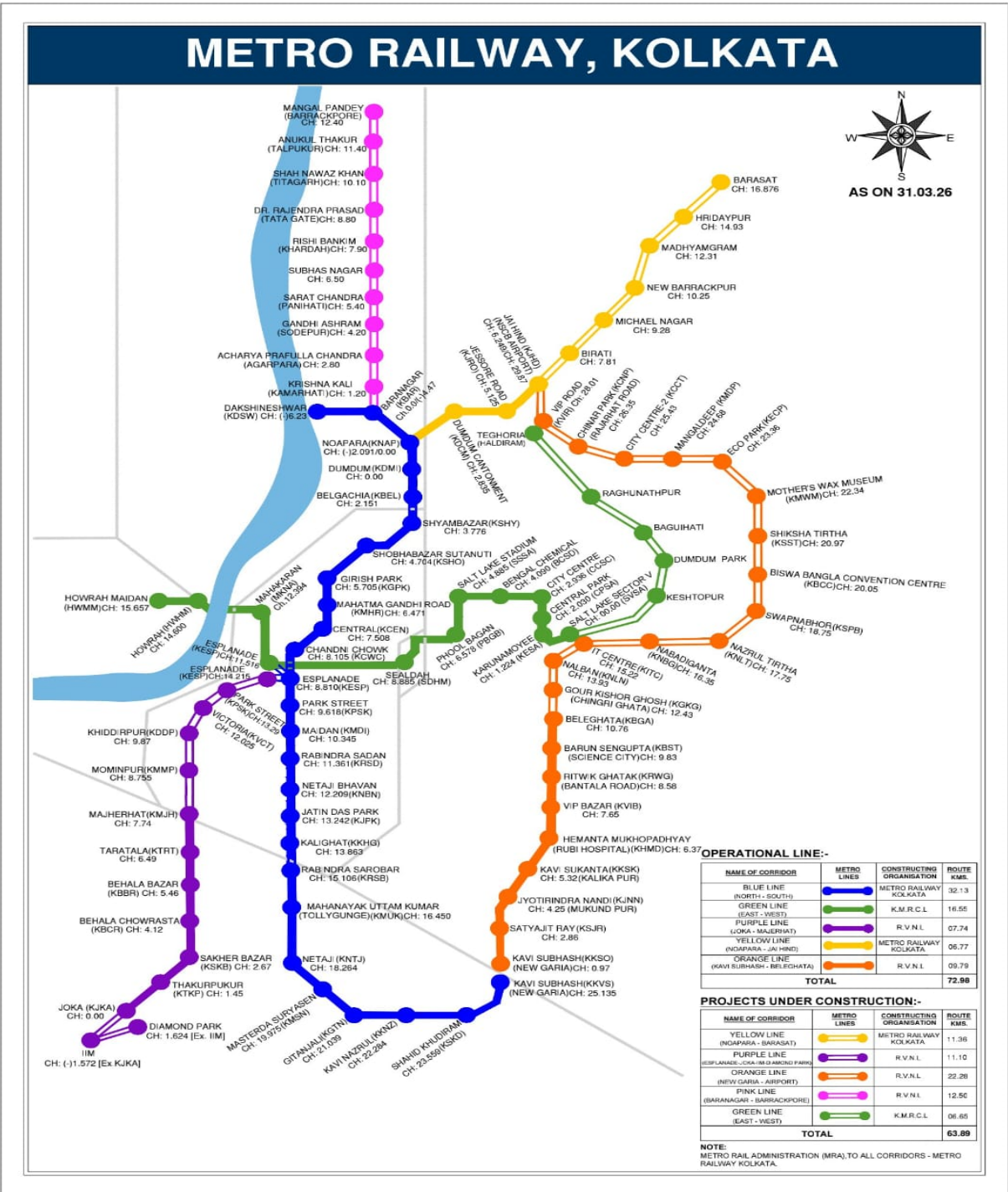
The trains are designed to withstand very heavy wind speeds. As per India Meteorological Department, Kolkata wind zone IS: 875, falls under wind zone 1. In the event of high velocity winds Motorman and/or Shift-in-Charge shall inform Traffic Controller. If Any abnormality observed by Motorman, Shift-in-Charge or any other staff must be immediately informed to OCC/Control. Traffic Controller shall take further step in consultation with concerned department.

Action to be taken in case of cyclone:-

- a) When the Traffic Controller receives information about cyclone on viaduct section and visibility is impaired or it is felt by Motorman himself then the train will proceed cautiously up to the next station. Further movement of the train will be on the judgment of station-in-charge and/or Motorman.
- b) If situation is not permitted for commercial train service due to cyclone, the Traffic Controller shall stop the train service until the normal situation is restored.

Annexure – R

System Map Of Metro Railway Kolkata



EDITORIAL BOARD

Role	Name & Designation
Chief Editor	Shri Manish Jain, Principal Chief Safety Officer
Associate Editor	Shri Surajit Kumar Sikder, Principal/MRTA & Dy.CSO
Associate	Shri Santanu Dey, Safety Counselor/Traffic
Associate	Shri Saumendra Dutta, Safety Counselor/Traffic
Associate	Shri Bipul Debnath, Safety Counselor/S&T
Associate	Shri M. K. Sahoo, Safety Counselor/Electrical
Associate	Shri Amresh, SSE/EIG/Safety
Associate	Shri Amardeep Kumar, SSE/P.Way/Safety
Associate	Shri Puspen Mandal, JE/Elect/Safety
Associate	Md. Aslam/Steno

Signatures of all members of the Editorial Board are to be affixed on this page before formal issue of the document.

APPROVAL AND AUTHORITY TO PROCEED

We approve the Disaster Management Plan for Metro Railway, Kolkata as described in this document and authorize its implementation with immediate effect.

Role	Name	Designation	Signature	Date
Proposed By	Sri Manish Jain	Principal Chief Safety Officer, Metro Railway, Kolkata		
Approved By	Sri Prem Sagar Gupta	General Manager, Metro Railway, Kolkata		
Forwarded To	Director Genertal (Safety)	Director Genertal (Safety), Railway Board, Ministry of Railways, GOI		

A copy of this approved DMP shall be forwarded to the Central Government (Ministry of Railways) for onward submission to the National Disaster Management Authority (NDMA) for its approval, in compliance with Section 37(1) (c) of the Disaster Management Act, 2005.

ABBREVIATIONS/GLOSSARY

AC	Air Condition	AMM	Assistant Materials Manager
ACDB	Alternating Current Distribution Board.	AOM	Assistant Operations Manager
ACM	Assistant Commercial Manager	APB	Authorization Push button
ACS	Access Control System	APO	Assistant Personnel Officer.
ADG	Assistant Director General	ART	Accident Relief Train
ADME	Assistant Divisional Mechanical Engineer	ASS	Auxiliary Substation
ADMO	Assistant Divisional Medical Officer.	Asst.	Assistant
AEE	Assistant Electrical Engineer	ASTE	Asst. Signal & Telecommunication Engineer
AEN	Assistant Engineer	ATC	Automatic Train Control
AFC&PC	Automatic Fare Collection & Passenger Control	ATO	Automatic Train Operation
AGM	Additional General Manager	ATP	Automatic Train Protection
AIR	All India Radio	ATS	Automatic Train Supervision
ALP	Assistant Loco Pilot	AVM	Automatic Vending Machine
BCSD	Bengal Chemical Station	BLS	Blue Light Station
BD	Break Down	BPCL	Bharat Petroleum Company Limited
BEML	Bharat Earth Movers Ltd.	BPEL	Battery Powered Electric Loco
BHEL	Bharat Heavy Electricals Ltd.	BSNL	Bharat Sanchar Nigam Limited
BIS	Bureau of Indian Standards.	CLI	Chief Loco Inspector.
C&CEO/RB	Chairman & Chief Executive Officer, Railway Board	CLS	Color Light Signal
C&W	Carriage and Wagon	CME	Chief Mechanical engineer.
CAC	Combined Assistance Centre	CMM	Coded Manual Mode
CATC	Continuous Automatic Train Control	CMS	Chief Medical Superintendent
CBI	Computer Based Interlocking	CNL	Control.
CBRI	Central Building Research Institute.	CO	Cut Out
CBTC	Communication Based Train Control	CP	Central Park
CC	Chief Controllers	CPD	Central Park Depot
CCC	Customer Care Center	CPR	Cardiopulmonary Resuscitation
CCC	Chief Crew Controller	CPRO	Chief Public Relations Officer
CCRS	Chief Commissioner of Railway Safety	CPSA	Central Park Station
CCSC	City Center station	CRRC	Chiana Railway Rolling Stock Corporation
CCTV	Closed Circuit Television	CRRI	Central Road Research Institute.
CDC	Chief Depot Controller	CRS	Commissioner of Railway Safety
CDMO	Chief District Medical Officer	CSTE	Chief Signal & Telecommunication Engineer

ABBREVIATIONS/GLOSSARY

CHC	Chief Controller.	CISF	Central Industrial Security Force
DATS	Depot Automatic Train Supervision	DC	Depot Controller
DC	District Commissioner	DCC	Depot Control Center
DCOS	Depot Controller of Stores	DCP	Dry Chemical Powder
DEN	Divisional Engineer	DG	Diesel Generator set
DM	District Magistrate	DMA	Disaster Management Authority.
DMO	Divisional Medical Officer	DMT	Disaster Management Team.
Dy.CSO	Dy. Chief Safety Officer	EC	Emergency Control.
ECP	Emergency Call Point	EFO	Excess Fare Office
EFR	Eastern Front Rifle	EKT	Electric Key Transmitter
EMR	Emergency Medical Response	ESM	Electronic Signal Maintainer
ETS	Emergency Trip Switch	ETU	Emergency Train Unit
FA&CAO	Financial Advisor & Chief Accounts Officer	FIR	First Information Report
FOB	Foot Over Bridge.	FOIS	Freight Operation Information System
GM	General Manager	GR	General Rules
GSI	Geological Survey of India.	HFL	Highest Flood Level
HLC	High Level Committee (on Disaster Management)	HM	Home Minister
HOD	Head Of the Department	HRD	Hydraulic Rescue Device
HRE	Hydraulic Re-railing Equipment	HS	Hand Signal
IAT	Instant Action Team	ICF	Integral Coach Factory
IG	Inspector General	IIT	Indian Institute of Technology.
IRCTC	Indian Railway Catering & Tourism Corporation.	IRIMEE	Indian Railway Institute of Mechanical and Electrical Engineering
IRISET	Indian Railway Institute of Signal Engineering and Telecommunication	IRITM	Indian Railway Institute of Transport Management
ISD	International Subscriber Dialing.	ITWC	Indian Tsunami Warning System
IVDU	Interlocking Independent Video Visual Display Unit	JAG	Junior Administrative Grade
LATS	Local Automatic train Supervision system	LC	Level Crossing
LED	Light Emitting Diode	LP	Loco Pilot
MAL	Movement Authority Limit	MASCON	Master Control
MF	Member Finance	MM	Motorman
MM	Materials Manager	MMI	ManMachine Interface
MoR	Ministry of Railways	MOSR	Minister of State for Railways

ABBREVIATIONS/GLOSSARY

MoU	Memorandum of Understanding.	MRP	Metro Railway Police
MSL	Mean Sea Level	NDRF	National Disaster Response Force.
OC	Officer In-Charge.	OCC	Operation Control Center
PAS	Public Address System	PCCM	Principal Chief Commercial Manager
PCE	Principal Chief Engineer	PCMD	Principal Chief Medical Director
PCME	Principal Chief Mechanical Engineer	PCMM	Principal Chief Materials Manager
PCOM	Principal Chief Operations Manager	PCPO	Principal Chief Personnel Officer
PCSC	Principal Chief Security Commissioner	PCSO	Principal Chief Safety Officer
PCSTE	Principal Chief Signal & Telecommunication Engineer	PD	Power Distribution duplicate
PFA	Principal Financial Advisor	PIDS	Public Information Display System
POMKA	Portable Medical Kit for Accident.	PPIO	Progressive Planning & Investigation Office
PR	Public Relations	PRO	Public Relations Officer
PSB	Passenger Supervisory Booth	PSD	Platform Screen Door
PSG	Platform Screen Gates	PTW	Permit To Work
P-Way	Permanent Way	QRT	Quick Response Team.
RCF	Rail Coach Factory	RCT	Railway Claims Tribunal.
RMM	Restricted Manual Mode	ROS	Run on Sight
RPF	Railway Protection Force	RRI	Route Relay interlocking
RSS	Receiving Substation	RCRRV	Rail cum Road Relief Vehicle
SC	Station Controller	S&T	Signal & Telecommunication
SDGM	Senior Deputy General Manager.	SCR	Station Control Room
SOP	Schedule of Procedure	SJAB	St. John Ambulance.
SPKS	Staff Protection Key Switch	SP	Superintendent of Police
SS	Station Superintendent.	SR	Subsidiary Rules
SSO	Senior Safety Officer.	SSE	Senior Section Engineer.
TA	Traffic Assistant	SWR	Station Working Rules
TETRA	Terrestrial Trunked Radio	TC	Traffic Controller
TLC	Traction Loco Controller.	TI	Traffic Inspector.
TPC	Traction Power Controller	TOM	Ticket Office Machine
TRED	Third Rail Earthing Device	TRD	Traction Distribution
TSR	Temporary Speed Restriction	TS	Traffic Supervisor
TXR	Train Examiner.	TSS	Traction Substation
UPS	Uninterrupted Power Supply	UCC	Unified Command Center.
VHF	Very High Frequency.	VDU	Visual Display Unit