

CHAPTER 16

DISASTER MANAGEMENT MEASURES



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CHAPTER- 16

DISASTER MANAGEMENT MEASURES

16.1 INTRODUCTION

“Disaster is a crisis that results in massive damage to life and property, uproots the physical and psychological fabric of the affected communities and outstrips the capacity of the local community to cope with the situation.” Disasters are those situations which cause acute distress to passengers, employees and outsiders and may even be caused by external factors. As per the disaster management act, 2005 *“disaster” means a catastrophe, mishap, calamity or grave occurrence in any area, arising from natural or manmade causes, or by accident or negligence which results in substantial loss of life or human suffering or damage to, and destruction of, property, or damage to, or degradation of, environment, and is of such a nature or magnitude as to be beyond the coping capacity of the community of the affected area*”. As per world health organisation (who):

“Any occurrence that causes damage, economic disruption, loss of human life and deterioration of health and services on a scale sufficient to warrant an extraordinary response from outside the affected community or area.”

A disaster is a tragic event, be it natural or manmade, which brings sudden and immense agony to humanity and disrupts normal life. It causes large scale human suffering due to loss of life, loss of livelihood, damages to property and persons and also brings untold hardships. It may also cause destruction to infrastructure, buildings, communication channels essential services, etc.

16.2 NEED FOR DISASTER MANAGEMENT MEASURES

The effect of any disaster spread over in operational area of Delhi Metro is likely to be substantial as DMRC deals with thousands of passengers daily in underground tunnels, viaducts and stations. Disaster brings about sudden and immense misery to humanity and disrupts normal human life in its established social and economic patterns. It has the potential to cause large scale human



suffering due to loss of life, loss of livelihood, damage to property, injury and hardship. It may also cause destruction or damage to infrastructure, buildings and communication channels of Metro. Therefore there is an urgent need to provide for an efficient disaster management plan.

16.3 OBJECTIVES:

The main objectives of this Disaster Management Measures are as follows:

- Save life and alleviate suffering.
- Provide help to stranded passengers and arrange their prompt evacuation.
- Instill a sense of security amongst all concerned by providing accurate information.
- Protect Metro Rail property.
- Expedite restoration of train operation.
- Lay down the actions required to be taken by staff in the event of a disaster in Delhi Metro Rail Corporation in order to ensure handling of crisis situation in coordinated manner.
- To ensure that all officials who are responsible to deal with the situation are thoroughly conversant with their duties and responsibilities in advance. It is important that these officials and workers are adequately trained in anticipation to avoid any kind of confusion and chaos at the time of the actual situation and to enable them to discharge their responsibilities with alertness and promptness.

16.4 LIST OF SERIOUS INCIDENTS REQUIRING USE OF PROVISIONS OF THE DISASTER MANAGEMENT MEASURES

Metro specific disasters can be classified into two broad categories e.g.: Man-made and Natural.

a. Man Made Disaster

1. Terrorist attack
2. Bomb threat/ Bomb blast
3. Hostage
4. Release of Chemical or biological gas in trains, stations or tunnels



5. Fire in metro buildings, underground/ elevated infrastructures, power stations, train depots etc.
6. Train accident and train collision/derailment of a passenger carrying train
7. Sabotage
8. Stampede

b. Natural Disaster

1. Earthquakes
2. Floods

16.5 PROVISIONS UNDER DISASTER MANAGEMENT ACT, 2005

A. The National Disaster Management Authority (NDMA)

Establishment of National Disaster Management Authority:-

- (1) With effect from such date as the Central Government may, by notification in the Official Gazette appoint in this behalf, there shall be established for the purposes of this Act (*The Disaster Management Act, 2005*), an authority to be known as the National Disaster Management Authority.
- (2) The National Authority shall consist of the Chairperson and such number of other members, not exceeding nine, as may be prescribed by the Central Government and, unless the rules otherwise provide, the National Authority shall consist of the following:-
 - (a) The Prime Minister of India, who shall be the Chairperson of the National Authority, ex officio;
 - (b) Other members, not exceeding nine, to be nominated by the Chairperson of the National Authority.
- (3) The Chairperson of the National Authority may designate one of the members nominated under clause (b) of sub-section (2) to be the Vice-Chairperson of the National Authority.
- (4) The term of office and conditions of service of members of the National Authority shall be such as may be prescribed.



B. State Disaster Management Authority:

Establishment of State Disaster Management Authority:-

- (1) Every State Government shall, as soon as may be after the issue of the notification under sub-section (1) of section 3, by notification in the Official Gazette, establish a State Disaster Management Authority for the State with such name as may be specified in the notification of the State Government.
- (2) A State Authority shall consist of the Chairperson and such number of other members, not exceeding nine, as may be prescribed by the State Government and, unless the rules otherwise provide, the State Authority shall consist of the following members, namely:- The Chief Minister of the State, who shall be Chairperson, ex officio;
 - (a) Other members, not exceeding eight, to be nominated by the Chairperson of the State Authority;
 - (b) The Chairperson of the State Executive Committee, ex officio.
- (3) The Chairperson of the State Authority may designate one of the members nominated under clause (b) of sub-section (2) to be the Vice-Chairperson of the State Authority.
- (4) The Chairperson of the State Executive Committee shall be the Chief Executive Officer of the State Authority, ex officio: Provided that in the case of a Union territory having Legislative Assembly, except the Union territory of Delhi, the Chief Minister shall be the Chairperson of the Authority established under this section and in case of other Union territories, the Lieutenant Governor or the Administrator shall be the Chairperson of that Authority: Provided further that the Lieutenant Governor of the Union territory of Delhi shall be the Chairperson and the Chief Minister thereof shall be the Vice-Chairperson of the State Authority.
- (5) The term of office and conditions of service of members of the State Authority shall be such as may be prescribed.



C. Command & Control at the National, State & District Level

The mechanism to deal with natural as well as manmade crisis already exists and that it has a four tier structure as stated below:-

- (1) National Crisis Management Committee (NCCM) under the chairmanship of Cabinet Secretary
- (2) Crisis Management Group (CMG) under the chairmanship of Union Home Secretary.
- (3) State Level Committee under the chairmanship of Chief Secretary.
- (4) District Level Committee under the Chairmanship of District Magistrate.

All agencies of the Government at the National, State and district levels will function in accordance with the guidelines and directions given by these committees.

D. Plans by Different Authorities at District Level and their Implementation

Every office of the Government of India and of the State Government at the district level and the local authorities shall, subject to the supervision of the District Authority:-

- (a) Prepare a disaster management plan setting out the following, namely:-
 - (i) Provisions for prevention and mitigation measures as provided for in the District Plan and as is assigned to the department or agency concerned;
 - (ii) Provisions for taking measures relating to capacity-building and preparedness as laid down in the District Plan;
 - (iii) The response plans and procedures, in the event of, any threatening disaster situation or disaster;
- (b) Coordinate the preparation and the implementation of its plan with those of the other organizations at the district level including local authority, communities and other stakeholders;
- (c) Regularly review and update the plan; and



- (d) Submit a copy of its disaster management plan, and of any amendment thereto, to the District Authority.

16.6 PROVISIONS AT METRO STATIONS/OTHER INSTALLATIONS

To prevent emergency situations and to handle effectively in case 'one arises' there needs to be following provisions for an effective system which can timely detect the threats and help suppress the same.

- (A) FIRE DETECTION AND SUPPRESSION SYSTEM
- (B) SMOKE MANAGEMENT
- (C) ENVIRONMENTAL CONTROL SYSTEM (ECS)
- (D) TUNNEL VENTILATION SYSTEM
- (E) TRACK-WAY EXHAUST SYSTEM (TES)
- (F) STATION POWER SUPPLY SYSTEM
- (G) DG Sets & UPS
- (H) LIGHTING SYSTEM
- (I) STATION AREA LIGHTS
- (J) TUNNEL LIGHTING
- (K) TUNNEL LIGHTING CONTROL FROM BMS
- (L) SEEPAGE SYSTEM
- (M) WATER SUPPLY AND DRAINAGE SYSTEM
- (N) SEWAGE SYSTEM
- (O) ANY OTHER SYSTEM DEEMED NECESSARY

The above list is suggestive not exhaustive actual provisioning has to be done based on site conditions and other external and internal factors.

16.7 PREPAREDNESS FOR DISASTER MANAGEMENT

Being a technological complex system worked by new set of staff, with a learning curve to improve and stabilize with time, intensive mock drills for the staff concerned is very essential to train them to become fully conversant with the action required to be taken while handling emergencies.



They also need to be trained in appropriate communication skills while addressing passengers during incident management to assure them about their well being seeking their cooperation.

Since learning can only be perfected by 'doing' the following Mock Drills are considered essential:

- a. Fire Drill
- b. Rescue of a disabled train
- c. Detrainment of passengers between stations
- d. Passenger evacuation from station
- e. Drill for use of rescue & relief train
- f. Hot line telephone communication with state disaster management authority.