



Disaster Management Plan

CC-Safety



Disaster Management Plan



- Purpose
- Objective
- Level of Emergency
- Major Hazard Potential
- First Information & declaration of emergency
- Evacuation & Assembly points
- Emergency Control centre
- Emergency/Disaster management Organisation
- Training & Testing of plan

Purpose



NTPC Emergency Preparedness & Response plan recognizes that effective disaster management necessitates a comprehensive framework encompassing multiple hazards. The NTPC incorporates an integrated approach that ensures the involvement of NTPC employees, contractors, other interested parties and local communities. It is designed in such a way that it can be implemented as needed on a flexible and scalable manner in all phases of disaster management:

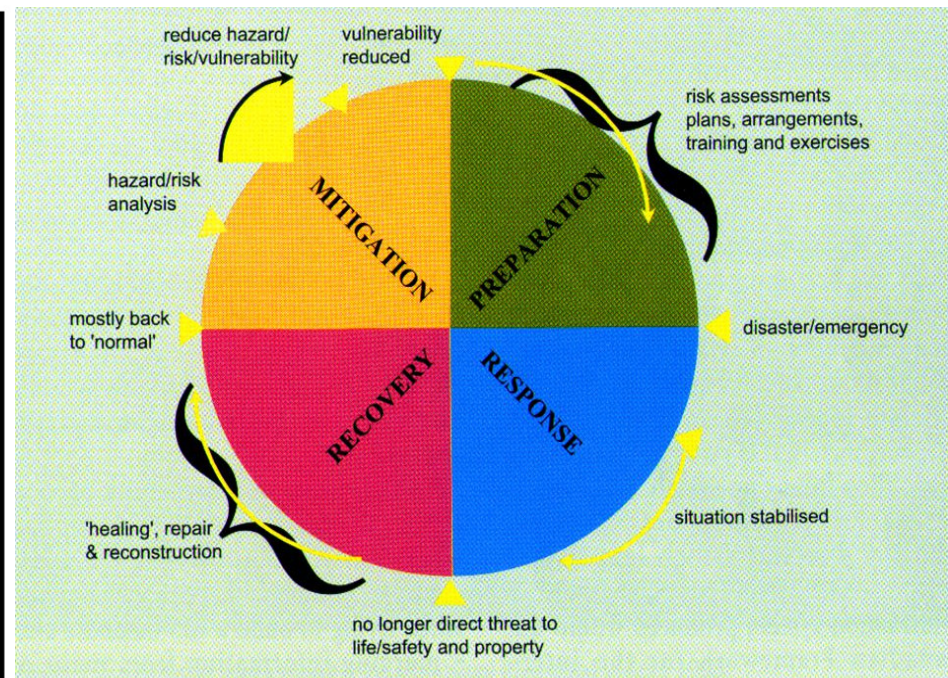
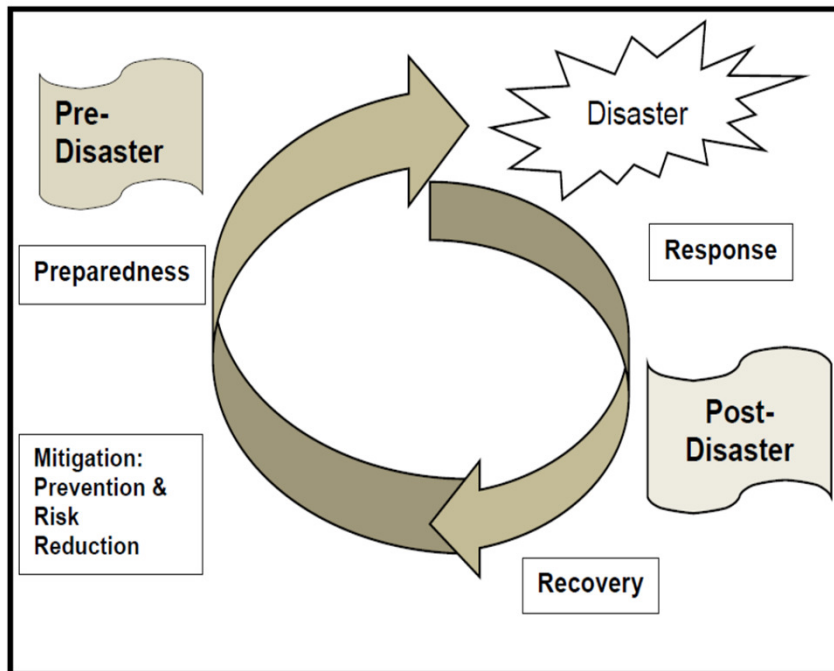
- a) mitigation (prevention and risk reduction),**
- b) preparedness,**
- c) response and**
- d) recovery (immediate restoration to long-term betterment reconstruction).**

Objective



- The plan is aimed at ensuring safety of people, protection of environment, protection of installation, restoration of production and salvage operations in the same order of priorities.
- The objective is to develop a state of readiness for prompt and orderly response to an onsite emergency and if possible, eliminate them or minimize the harmful effects of an emergency on people, property and the environment.
- To fulfil the requirements of Section 41B (4) of The Factories Act, 1948 and Rule 13 of the Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989

Disaster Management Cycle



Level of Emergency

- **Level 0 (Near Miss):** An incident that can be resolved by site personnel.
- **Level 1:** Any incident, potential or actual, which will not seriously affect the overall functional capacity of the site



Level of Emergency

- **Level 2:** Any incident, potential or actual, which affects an entire building or buildings and which will disrupt the overall operation of the site.
- **Level 3:** Any incident or occurrence that has taken place and has seriously impaired or halted the operations of the site. Level 3 situations will be where mass casualties and severe property damage may be sustained.



Contd. Level of Emergency



- **List of emergencies: Manmade as well as Natural Calamities**

- **Natural Disaster:** natural hazards like floods, earthquakes, and cyclones cannot be avoided. However, with mitigation measures along with proper planning of developmental work in the risk prone area, these hazards can be prevented from turning into disasters.
- **Manmade Disaster:**
 - Situations arising out of sabotage
 - Situations arising out of terrorist attack
 - Riots
 - Cyber Attack

Major Hazard Potential

- **Fire / Explosion hazards: Transformer, boiler, turbine/generator explosion, hydrogen plant and hydrogen storage area, HFO/LDO Storage, handling of coal, bursting hazard of pipe line and vessels & Terrorist attack and Bomb Threat.**
- **Locations of Hazard due to release of Chlorine, chemicals, dust & gases.**
- **Potential Emergencies in Under construction Sites**



Contd. Major Hazard Potential



Major Plant Sections	Slow Isolated Fire	Fast Spreading Fire	Explosion	Bursting of Pipes / Vessels	Release of Hazardous Liquid	Release of Hazardous Gases	Floods
Coal Handling Plant	Coal yard	Conveyors	Coal dust explosion				
Boiler	Mills / Burners		Furnace	Steams Lines, Air Receivers		Flue Gas from ducts	
Turbine		Oil Tanks Con. Room	H2 in Generator	Steam Lines	Control Fluid		
DM Plant					HCL, NaOH	Chlorine	
H2 Plant	H2 pipes		H2 Holder / cylinders				
GT & 400 KVS / Yard	Transformers		CT/PT/CBs				
Fuel Oil Pump House		HFO/LDO tanks		FO lines	HFO / LDO		
Cable Galleries		Cables in the trays					
Chemical Godown					Chemicals		
Reservoir							Breach of Dyke
Ash Dyke							Breach of bund

Contd. Level of Emergency

Probability Period/Seasonality of Disasters

PROBABILITY PERIOD / SEASONALITY OF DISASTERS													
Name of Disaster	Month												
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	
Flood			←—————→										
Cyclone						←—————→							
Earthquake	←—————→												

Flow of information & declaration of emergency



- The first person (employee of NTPC or contracting agency or Security) who observes /identifies incident or the hazardous situation will warn others about the emergency and shall inform (by any means of communication) about the emergency to the Shift Charge Engineer, Fire Station in case of Stations and to nearest NTPC Office or office of the contracting agency or any security post in case of construction project.
- The Works Incident Controller on hearing about the emergency shall go to the scene of the incident, make an informal assessment of the situation and decide whether a major emergency exists or is likely to develop. Works Incident Controller, who have knowledge and experience to recognize the fact of major emergency or the potential for it, in consultation with Chief Incident Controller declare a Major Emergency.

Emergency/Disaster management Organization



- Chief Incident Controller (CIC)
- Support team to Chief Incident Controller (CIC)
- Works Incident Controller (WIC)
- Incident Controller (IC)
- Emergency Communication Officer
- Chief Medical Officer
- Head of CISF and Security Team
- Head of Fire Station
- Head of Transport / Auto base
- Head of HR Dept.
- Head of Safety
- Departmental Heads
- Head of Maintenance
- Managers of contracting agencies
- Corporate Centre

Emergency/Disaster management Organization



S.No.	Management	Responsibility
1.	Chief Incident Controller (CIC)	The Chief Incident Controller (CIC) has an overall responsibility for directing operations and calling outside help. The head of the Station assumes the role of CIC.
3.	Works Incident Controller (WIC)	The primary task of works incident controller is to go through the scene of the emergency, make an informed assessment of the situation and decide whether a major emergency exists or is likely to exist. Head of O&M for stations, GM / AGM (project) for Projects assumes to be the Work Incident Controller.
4.	Incident Controller (IC)	The shift charge engineers / unit controllers for stations and Project Managers of contracting agencies on knowing about the emergency, will rush to the Incident site and take overall charge and report to the Works incident Controller and Chief Incident Controller.
5.	Emergency Communication Officer	In General Head of IT will be the Emergency Communication Officer. In his absence, the next senior-most person in IT department shall assume the responsibility as ECO. he will check healthiness of communication system. Consult WIC/CIC and arrange to intimate to response team members about emergency with the help of communication team.

Contd. Emergency/Disaster management Organization



S.No.	Management	Responsibility
6.	Chief Medical Officer	<ul style="list-style-type: none"> To arrange first aid material / stretchers, immediate medical attention, sending the casualties to various hospitals and nursing homes etc, specific medical assistance from outside including Specialists in consultation with CIC/WIC. To ensure that the ambulance(s) is full tanked at all the time.
7.	Head of CISF and Security Team	<ul style="list-style-type: none"> Direct the security staff to the incident site to take part in the emergency operations under his guidance and supervision. Arrange for rescue and evacuation of the people Maintain communication with Chief Incident Controller, Works Incident Controller and Emergency Communication Officer.
8.	Head of Fire Station	<ul style="list-style-type: none"> Guide the fire fighting crew i.e. Firemen and trained plant personnel and shift the fire fighting facilities to the emergency site. Seek outside help from other nearby Fire Stations.
9.	Head of Transport / Autobase	Make all the vehicles ready to proceed for evacuation
10.	Head of HR Deptt.	<ul style="list-style-type: none"> Report immediately to Works Incident Controller. Co-ordinate the functions of Administration team.
11.	Head of Safety	<ul style="list-style-type: none"> Participate in rescue operations. Maintain inventory of items in ECC. To guide authorities on all safety related issues

Contd. Emergency/Disaster management Organization



S.No.	Management	Responsibility
12.	Departmental Heads	The departmental heads will provide assistance as required by the Works Incident Controller. They will decide which member(s) of their departments are required at the incident site.
13.	Head of Maintenance	<ul style="list-style-type: none"> • Attend to all emergency maintenance jobs on top priority. • To take steps to contain or reduce the level of hazard created due to disaster. • To organise additional facilities as required
14.	Managers of contracting agencies	Ensure that the immediate response has been taken in order to protect the health and safety of persons in the immediate area
15.	Corporate Centre	Upon receipt of information regarding occurrence of Disaster, and if necessary needs and support from corporate centre, CMD shall constitute the Corporate Task Force Team.

Emergency Control Centre



- Sites shall define the location of Emergency Control Centre (ECC) and Alternate Emergency Control Centre. In general Shift Charge Engineer's room or CISF Fire Station Control room in case of stations and office of Head of Project construction (GM-Project or AGM-Project) can be established as Emergency Control Centre and HOP Office as Alternate ECC.
- Once the emergency is declared, the emergency control room will be manned by the Chief Incident Controller, the officials nominated as key personnel and Sr. officers of outside services called in for assistance. No other personnel shall have access to the Control Centre.

Evacuation & Assembly points

- The evacuation will be effected on getting necessary message. On evacuation, employees, contract workers and other persons shall assemble at assembly points.
- Location of the Assembly points shall be assessed keeping in view the probable sites of emergency incidents, likely impact zones, vulnerable population and escape routes etc.
- Location and number of assembly points may vary from site to site.



Procedure for “All Clear Signal”



After cessation of emergency, IC will inform to WIC and both will decide the further action. WIC will inform CIC about the situation. Then in consultation with WIC, CIC will instruct to blow the siren for “All CLEAR” through a responsible person available with him. All clear message shall then be announced through any mode of communication available with the station / project to make known to the workers and public in the vicinity.

Offsite Emergency



- If an accident takes place in NTPC unit and its effects are felt outside its premises the situation thus created is called an “**off – site**” emergency.
- In the event of any activity causing disaster in nearby vicinity, NTPC sites will take immediate measures to rectify the cause for preventing it to become a disaster while keeping the State and Central Government Authorities duly informed. The responsibility for issuing warnings to citizens and their shifting and providing relief measures rests mainly with the District Administration.
- Following task shall be carried out by sites under the guidance of Local, District Administration:
 - Initiate warnings and order evacuation of people at risk in nearby vicinity.
 - Carry out the evacuation of people and close roads within the evacuation area.
 - Alert the general public of the emergency with help of public addressed systems.

Contd. Emergency/Disaster management Organization

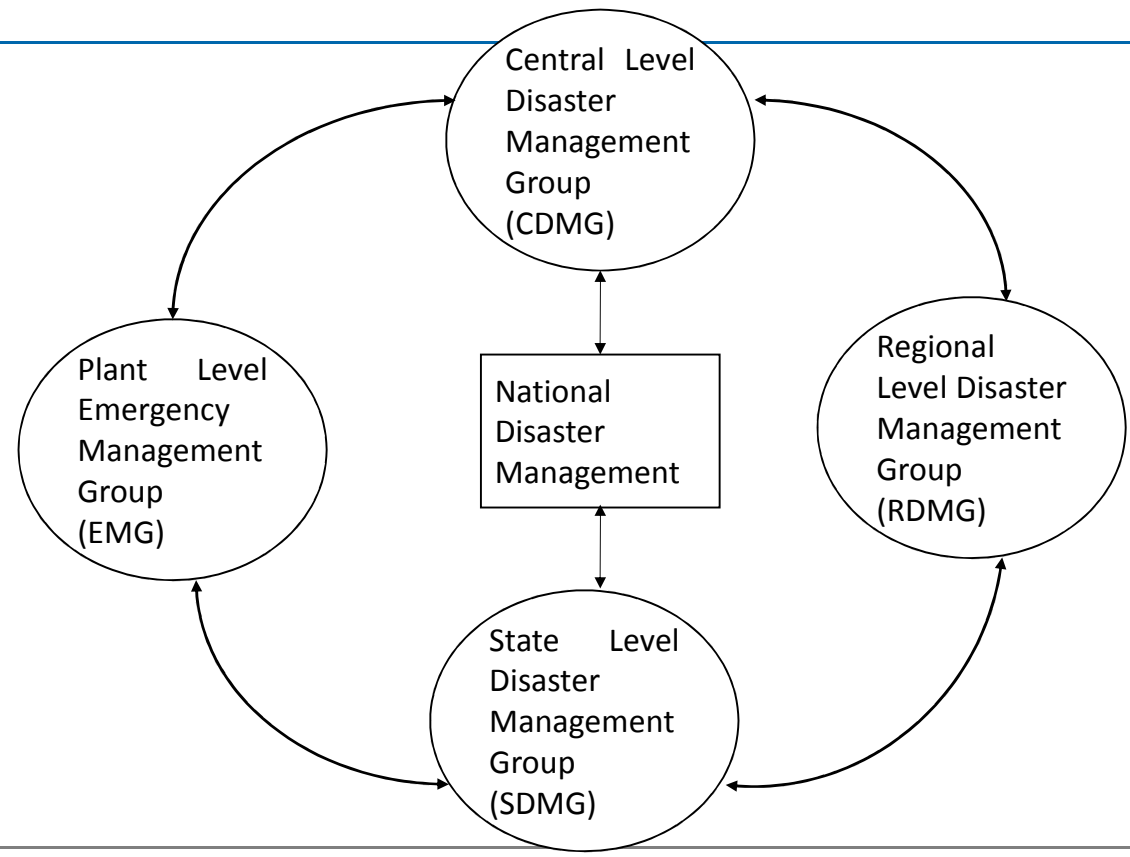


- **Responsibility of Corporate Centre:**

Upon receipt of information regarding occurrence of Disaster, CMD shall constitute the Corporate Task Force Team for necessary need and support from corporate center.

- **Task Force Team:**

- Director (Human Resources)
- Director (Finance)
- Director (Operations)
- Director (Projects)
- ED (Security)
- ED (Engineering)
- ED (Corporate Planning)
- GM (Corporate Communications)
- GM (Legal)
- GM (Safety)
- GM (Environment)
- Chief Medical Officer



Training & Testing of plan

- Before putting the Plan into action and testing, it is necessary to provide training to all, particularly those who have a role in the Plan. The individuals are assigned the responsibility of ensuring that personnel are trained and familiar with the site emergency plan, should develop an annual training schedule for the organization.



Contd. Training & Testing of plan



Method	Testing of	Target group	Periodicity	Responsibility
Table-top exercise	Awareness of Plan	HODs & Key personnel	To be decided by Site	CIC, WIC & Head of safety
Functional Exercise	Communication system, Response of Emergency Teams	Key personnel, Communication team & Emergency Team	To be decided by Site	CIC, WIC, Heads of Safety
Functional Exercise	Emergency isolation, shutdown and remedial measures	Key personnel & Emergency Teams	To be decided by Site	CIC, WIC, Head of EED & Head of Safety
Full Scale Mock-drill	Effectiveness of Plan	Key personnel & Emergency Teams	Six-monthly	CIC, WIC & Head of Safety
Refresher courses on Plan	Awareness about the plan	All Employees of NTPC & associates	To be decided by Site	Respective EIC & Head of Safety
Updating the Plan	- Based on shortfalls in the Mock drill & real emergency.		Yearly	Head of the Station / Project and Head of Safety

**Thank
You**