

जवाहरलाल नेहरू पत्तन न्यास
JAWAHARLAL NEHRU PORT TRUST



जने प न्यास
JNPT

जवाहरलाल नेहरू पत्तन न्यास
JAWAHARLAL NEHRU PORT TRUST

Administration Building,
Sheva, Tal. Uran,
Navi Mumbai – 400 707
Web : jnport.gov.in

JAWAHARLAL NEHRU PORT TRUST

EMERGENCY ACTION PLAN (EAP)

VOLUME I

IMPORTANT PHONE NUMBERS

- 1. FIRE: 2724 5000, 27245100, 67815000, 67815100**
- 2. MEDICAL: 27473565, 27473538, 27473568, 67813568, 24743560, 67813560**
- 3. AMBULANCE ROOM : 27245200, 67815200**
- 4. SECURITY - CISF CONTROL ROOM: 27244545, 67814545, 27242354 (Direct)**
- 5. OFFICE LIQUID CARGO BERTH : 27245075**
- 6. SHIFT INCHARGE (CONTAINER TERMINAL) : 27245013, 27245037,
67815013, 67815037**
- 7. POC CONTROL ROOM : 2724 2367, 27245178, 27245151, 67815178, 67815151**
- 8. MASTER UNIT SUB STATION (MUSS) ; 27244691, 67814691, 27869496**

NOTES:

- 1: THIS COPY SHOULD BE KEPT IN _____ OFFICE**
- 2: RESPONSIBLE AUTHORITY OF UPDATING THIS COPY IS DEPUTY CONSERVATOR**

ACTUATING OF SIREN

- 1. Siren for declaring Emergency : Siren to be sounded continuously for 30 Seconds with an interval of 5 Seconds to be repeated 10 times.**
- 2. Siren declaring Evacuation from the Port area : Siren to be sounded for 5 seconds till the area is evacuated by people or for ½ hour whichever is less.**
- 3. Siren declaring All Clear and returning to the work : Siren to be sounded continuous for 5 minutes**

ASSEMBLY POINTS

- 1. CT Shift in-charge office**
- 2. In front of POC Building**
- 3. POC Canteen Building**
- 4. In front of Administration Building**
- 5. Shallow Water Berth No. 1**
- 6. TT Maintenance Section**
- 7. Office of Dy. Manager (LCB & SWB I & II)**
- 8. ICD Building**
- 9. E-7 Substation (Near CB-2)**

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REVISION January 2014

INDEX

| Sr. No. | Content | Page No. |
|---------|--|----------|
| 1 | JNPT emergency policy | 1 |
| | Major emergency | 1 |
| | Major disaster | 1 |
| | Purpose | 2 |
| | Emergency response | 2 |
| | Crisis management group | 2 |
| | Priorities | 2 |
| | Resources | 2 |
| | Commitments | 2 |
| | Communications | 2 |
| | Personnel policies | 3 |
| | Mutual aid | 3 |
| | Assistance | 3 |
| | Decisions and responses | 3 |
| | Acknowledgment of limitations | 3 |
| | Assessment and corrective action | 3 |
| 2 | Introduction | 4 |
| 3 | Emergency organization | 5 |
| 3.1 | Classification of emergency organization | 5 |
| 3.2 | Emergency management tier-I port trust team (on site) | 6 |
| 3.3 | Emergency management (communication) tier 2 & 3 (off site) | 7 |
| 4 | Duty of key personnel | 8 |
| 5 | Build up of emergency | 13 |
| 5.1 | Any one noticing emergency | 13 |
| 5.2 | Marine emergency (pilot on duty shall be immediate site incident) | 13 |
| 5.3 | Port emergency (terminal shift in charge on duty shall be immediate SIC) | 14 |
| 5.4 | Actuating of siren | 14 |
| | Siren for declaring Emergency | 14 |
| | Siren declaring Evacuation from the Port area | 14 |
| | Siren declaring all clear and returning to the work | 14 |
| 5.5 | Assembly points | 15 |
| 5.6 | General emergency response | 15 |
| 5.6.1 | Collision of ships | 15 |
| 5.6.2 | Person (s) falling in the harbour water | 16 |
| 5.6.3 | Grounding of vessel | 16 |
| 5.6.4 | Storm with signal no.3 or above | 16 |
| 5.6.5 | Flood (In addition to requirement of the storm) | 17 |

| | | |
|--------|---|----|
| | following actions to be taken) | |
| 5.6.6 | Collapse of lifting appliances, building, sheds. | 17 |
| 5.6.7 | Fire and or explosion (ship/port area) | 18 |
| 5.6.8 | Toxic release (ship/port area) | 19 |
| 5.6.9 | Pollution by oils | 20 |
| 5.6.10 | War | 20 |
| | Prior Emergency Situation | 20 |
| | During the Emergency | 21 |
| 6 | Emergency control center | 22 |
| 6.1 | Port control room shall be emergency control center | 22 |
| 6.2 | Equipments | 22 |
| 6.3 | Alternative control rooms | 22 |
| 6.4 | Logbooks | 22 |
| 6.5 | Emergency control room equipments | 22 |
| 7 | Emergency equipments and facilities | 23 |
| 7.1 | Resources for combating oil spill | 23 |
| 7.2 | Port fire fighting resources | 25 |
| 7.3 | Portable fire extinguishers | 26 |
| 7.5 | Equipment and materials inventory | 25 |
| 8 | Telephone list | 27 |
| | Jawaharlal Nehru Port Trust | 27 |
| | Government Services | 29 |
| | Health and Medical | 29 |
| | Doctors on duty | 30 |
| | Transport | 30 |
| | Civil Defense | 30 |
| | Fire Services | 30 |
| | Police | 31 |
| | Water Supply | 31 |

1. JNPT EMERGENCY POLICY

The Port Region is vulnerable to both natural and technological hazards.

Natural hazards may include events such as earthquakes, severe weather, and floods. Technological (man-made) incidents may include hazardous material spills, transportation accidents, bomb threats, explosions and fires. The JNPT's first response to these possibilities is the development of a comprehensive **ACTION PLAN**. This section of that plan describes the port wide policies to which the PORT'S Chairman, HODS & senior management, and emergency response managers will refer at the occurrence of a broad based emergency.

For the purpose of these emergency-operating procedures, a major emergency or disaster is characterized as *an unforeseen or unexpected combination of circumstances that call for immediate and extraordinary actions*. In addition we will define:

MAJOR EMERGENCY: An event where there is reason to suspect that lives may be endangered or where severe damage to property and or environment may result. It is a situation where the ability to help oneself exists but additional help is needed. A major emergency may be from natural or technological causes. A moderate earthquake / storm / floods, a bomb threat, a limited hazardous materials release or fire are examples of major emergencies.

MAJOR DISASTER: An event that causes widespread damage and/or threatens life and safety. The ability to respond with resources at hand is overwhelmed or suppressed; one can do little to help oneself. A "Major Disaster" may include a substantial earthquake, major hazardous materials release or oil spill, or an aircraft accident.

☞ **The Chairman is mandated to establish policies and oversee all matters of operation of this organization. However, as an emergency may occur at any time and, in all likelihood, without warning, it is prudent to have policies and procedures in place to assure the orderly operation and recovery of the PORT in his absence. At such a time as Chairman is able to reconvene, it is likely emergency recovery activities underway will be reviewed and modified as deemed appropriate by the Chairman. Management of an emergency will lie with the action group coordinator or his/her designee. Phase wise organization chart defining the emergency response organization is made.**

It is fundamental to effective emergency preparedness that everything that can be practically done to minimize the likely effects of an emergency be accomplished before the emergency occurs.

This includes building and facilities construction, storage planning and practices, developing policies and procedures, the education of PORT personnel of appropriate actions during and following an emergency, and training of critical PORT personnel for effective emergency response management.

PURPOSE:

While it is expected that established policies and procedures will be adhered to, the responsibility for making decisions ultimately falls upon individuals. For this reason a hierarchy

of command is established for the Site Incident Controller and the administration of an emergency response (see **Executive Policies and Procedures**) and for the local administration at each port owned and operated site. Decisions effecting the execution of this plan are to be made by the highest ranking individual who is available for counsel. It is recognized that immediate decisions by PORT personnel at various locations may be highly beneficial in reducing injuries and property loss. For this reason broad discretionary powers are bestowed on site managers. It is expected, however, that decisions will be in keeping with the "reasonable person" standard.

1. **EMERGENCY RESPONSE:** The PORT'S level of response will be commensurate with the present and potential impact(s) of the emergency. Not all emergencies are of the same scope. Further, the effects of an emergency (structure damage, for instance) may vary significantly from one area to another. For these reasons, at the occasion of an emergency, it will be incumbent on responsible parties at each site to determine the level of response, which is appropriate for their site.
2. **CRISIS MANAGEMENT GROUP :** The Crisis Management Group (CMG) will be formed and include: Chairman, Deputy Chairman, Deputy Conservator, Chief Manager (Traffic), Chief Manager (Mechanical & Electrical Engineering), Chief Manager (Administration) & Secretary, Chief Manager (Port Planning and Development), Chief Manager (Finance), Chief Medical Officer, Manager (Management Services) and Sr. Commandant (Central Industrial Security Force).

The CMG will convene at the Emergency Control Centre (ECC) located at Chamber of Chief Manager (Admn.) & Secy. or as directed by the Chairman.

In the event of an emergency the PORT'S Deputy Conservator (or his/her designee) will serve as the **Site Emergency Coordinator**.

3. **PRIORITIES:** Procedural decisions are to include consideration of the following:
 - ☞ Employees/Port users/Public safety
 - ☞ The protection of the environment.
 - ☞ The protection of property.
 - ☞ Restoration of an environment in which PORT customers can conduct business.
4. **RESOURCES:** The Deputy Conservator will establish the priorities for allocation of PORT resources.
5. **COMMITMENTS:** The JNPT intends to make every good faith effort to continue to honor contracts and commitments which may be affected by an emergency.
6. **COMMUNICATIONS:** The PORT'S Administration Department will provide media and public information at the direction of the Chairman.
7. **PERSONNEL POLICIES:** The Deputy Conservator may develop extraordinary policies to apply during the period of an emergency.

8. **MUTUAL AID:**

A. If necessary, the Deputy Conservator may request assistance from other governmental entities or agencies or may retain private contractors as needed.

B. If requested, the Deputy Conservator may make PORT resources available to others severely impacted by an emergency provided such aid:

- ☞ Contributes substantially to the public safety.
- ☞ Will be of significant benefit to the public.
- ☞ Will not compromise the safety and welfare of PORT employees, customers and members of the community.

9. **ASSISTANCE:** As a matter of policy, PORT personnel are not to solicit assistance from customers, tenants, or visitors. There may be extreme conditions, however, where voluntary assistance will be of exceptional value and *volunteer* assistance may be received.

10. **DECISIONS AND RESPONSES:** Decisions and Responses during the Emergency will be based on:

A. The best information available at the time a decision and/or action is warranted.

B. Resources available at the time a decision and/or action are warranted.

11. **ACKNOWLEDGMENT OF LIMITATIONS:**

A. The JNPT is committed to developing emergency preparedness plans that address:

- ☞ The safety and security of our employees, customers, visitors, and members of the community.
- ☞ The protection of the environment.
- ☞ The protection of property.
- ☞ The orderly continuation of the mission of the PORT.
- ☞ The safe and orderly continuation of the business of our customers.

B. It must be recognized that it is virtually impossible to develop a plan, or set of plans, that will foresee and address all future events -- particularly when the dynamics of a disaster are in play. For this reason it is acknowledged that the PORT plans may be less than perfect in their content or their execution.

C. In the dynamics of a disaster or major emergency, factors beyond our control may limit the ability of the PORT to provide a totally effective response to a widespread disaster.

12. **ASSESSMENT AND CORRECTIVE ACTION:** Following an emergency, there will be a comprehensive review of policies and procedures to determine how this organization can better respond to similar situations. Findings will be incorporated into revised emergency plans.

* * *

2. INTRODUCTION

An Emergency at Port area is a situation which the management of the area involved (incident area) cannot control with the resources normally available to them and which threatens large number of people, large area of port, and health & safety of the public in the vicinity. A emergency of this nature will be extremely rare, the most likely cause being an instantaneous event such as an explosion, major fire or release of substantial quantity of toxic material or natural disasters like flood, earthquake, cyclone or unrest due to political bandh / strike or terrorism etc.

Each business area will have it's own emergency instructions to combat the situations arising out of these emergencies. They are to be used in conjunction with these procedures. There will be an emergency organization for dealing with such emergencies response departments shall coordinate as per roles and responsibilities defined for these departments. It is understood that each and every action cannot be specified due to dynamic nature of these emergencies. All coordinators shall ensure smooth functioning and demonstrate highest team spirit during the emergency.

To make the procedures updating easier, telephone directory is separately prepared by communication department.

This document is intended for use in an actual emergency. The system for training of those involved and response procedures are described in **Volume II**.

3. EMERGENCY ORGANIZATION

3.1 CLASSIFICATION OF EMERGENCY ORGANIZATION:

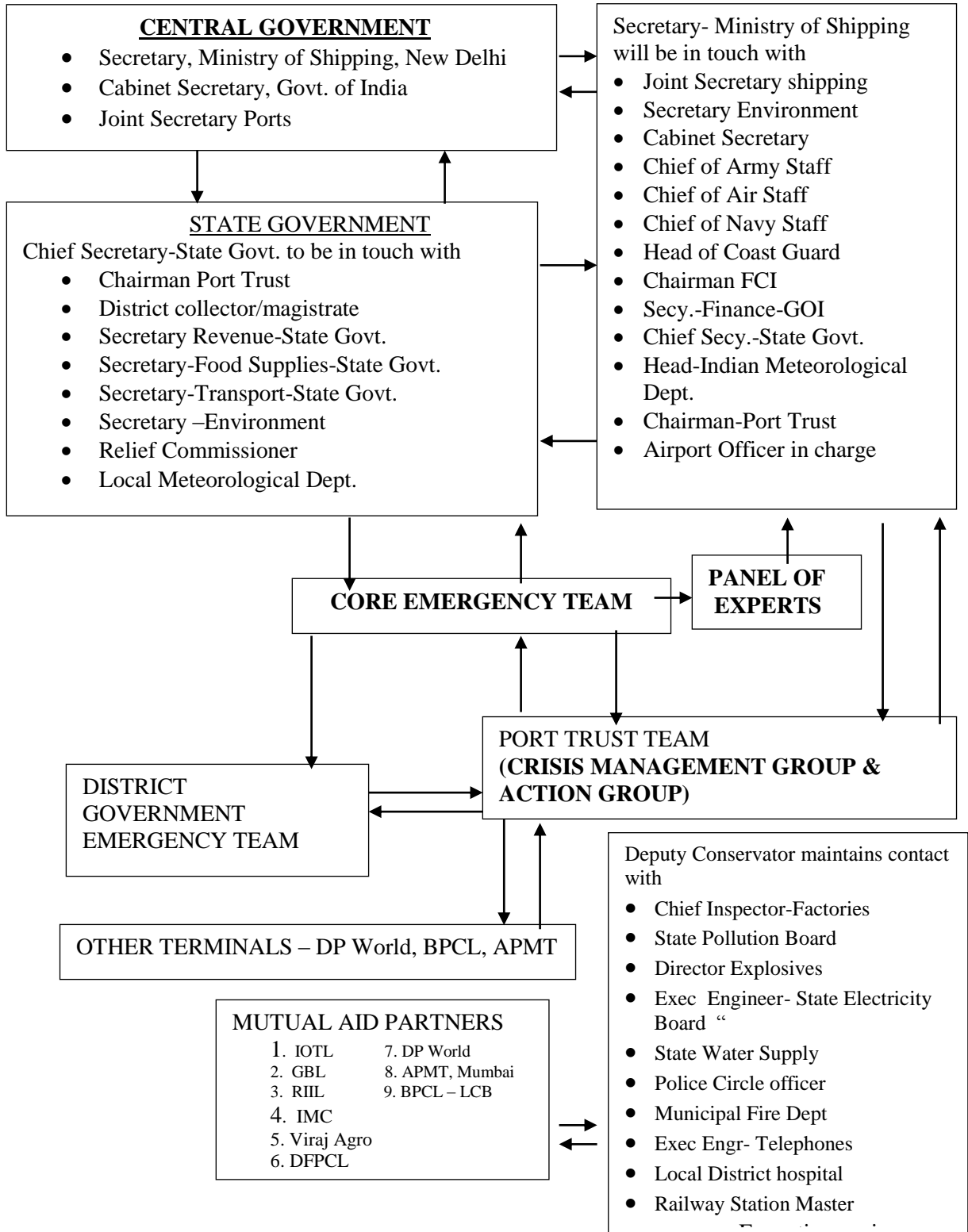
| | |
|---------------------------|---|
| <p>☞ Phase I</p> | <p>Emergency Organization shall be formed with senior most persons available in shift. The action group shall be constituted immediately with Pilot on duty (for marine emergencies) or Terminal Shift- In charge (for port area emergencies) as Site Incident Controller.</p> |
| <p>☞ Phase II</p> | <p>Emergency Organization shall be formed within 30 minutes with senior executives occupying action group. By default senior most executive in respective department in the action group shall replace his deputy and thereafter guide his department to fulfill his emergency coordination duty.</p> |
| <p>☞ Phase III</p> | <p>Emergency Organization shall be formed within two hours with Crisis Management Group in place and Action Group shall be headed by the Deputy Conservator as Site Emergency Coordinator.</p> |

3.2 EMERGENCY MANAGEMENT TIER I - PORT TRUST TEAM – (ON SITE)

| CRISIS MANAGEMENT GROUP (CMG) | |
|---|--|
| <ul style="list-style-type: none"> ☞ Chairman ☞ Deputy Chairman ☞ Deputy Conservator ☞ Chief Manager (Traffic) ☞ Chief Manager (Mechanical & Electrical Engg.) ☞ Chief Manager (Finance) ☞ Chief Manager (Admn.) & Secy. ☞ Chief Manager (PP & D) ☞ Manager (Management Services) ☞ Chief Medical Officer ☞ Sr. Commandant – CISF | <input checked="" type="checkbox"/> Chairman/Deputy Chairman shall be Chief Emergency Controller. |

| | |
|---------------------------------------|--|
| ACTION GROUP | Deputy Conservator shall be Site Emergency Coordinator within 30 minutes |
| Marine | Harbour Master |
| Traffic | Manager (MCB) / Manager (LCB & SHW – I & II), Manager (US), Manager (ICD & SWB – III), Manager (PEM) |
| Fire & Safety | Asstt. Manager (Fire & Safety) |
| Medical | On duty Medical Officer |
| Port Control Station (Communications) | On duty Dock Master |
| Maintenance | Dy. Manager (PEM) / Dy. Manager (LCB & SWB – I & II) / Dy. Manager (US-EM) |
| Materials | Manager (M & P) |
| Personnel & Administration | Sr. Manager (P & IR) / Dy. Manager (IR) |
| Legal | Manager (Legal) |
| Estate | Manager (Estate) |
| Marine Pollution | Asstt. Manager (Safety) |
| Finance | Manager (Fin.) |
| Safety | Asstt. Manager (Safety) |
| Security | Dy. Commandant (CISF) |

3.3 EMERGENCY MANAGEMENT (COMMUNICATIONS)–TIER 2 AND 3 OFF SITE



4. DUTIES OF KEY PERSONNEL

| Position | Port Position | Alternative |
|--|----------------------|------------------------|
| Chief Emergency Controller | Chairman | Deputy Chairman |
| <ul style="list-style-type: none"> ☞ To inform district emergency and statutory authorities i.e. District Collector, Superintendent of Police, District Medical Officer (Civil Surgeon), Central and State Pollution Control Boards, Chief Inspector of Dock Safety (Inspectorate Dock Safety), Chief Controller of Explosives. ☞ To activate the off site plan, if necessary. ☞ To liaise with Ministry of Shipping, Ministry of Environment & Forests, Ministry of Labour ☞ To inform the media, if necessary. | | |

| Position | Port Position | Alternative |
|--|---------------------------|-----------------------|
| Site Emergency Coordinator (SEC) | Deputy Conservator | Harbour Master |
| <ul style="list-style-type: none"> ☞ Directs operations from the Emergency Control Center with assistance from Crisis Management Group to site incident controller. ☞ Take over central responsibility. ☞ Decide level of crisis and whether to activate off site emergency plan. ☞ Instruct SIC (Site Incident Controller) to sound appropriate alarm. ☞ Direct the shutting down, evacuation and other operations at the port. ☞ Monitor on site and off site personal protection, safety and accountability. ☞ Monitor that casualties if any are given medical aid and relatives informed. ☞ Exercise direct operational control of the works outside the affected works. ☞ Monitor control of traffic movements within the port through SIC. ☞ To Coordinate the senior operating staff of the fire, police and statutory authorities. ☞ Review and assess possible developments to determine the most probable course of events. ☞ Authorize the termination of the emergency situation by sounding the all clear siren-continuous long single tone siren for one minute. ☞ Control rehabilitation of affected areas after emergency. ☞ Arrange for a log of the emergency and ensure return of normal operations. | | |

| Position | Port Position | Alternative |
|---|-----------------------|----------------------------|
| Site Incident controller (SIC) | Harbour Master | On duty Dock Master |
| <ul style="list-style-type: none"> ☞ Direct and co-ordinate all field operations at the scene of the accident. ☞ Assess incident/crisis at site-nature-location- severity-casualties-resource requirement. ☞ Classify incident-Advise (Port Control Officer)/Duty Pilot at Signal Station-to convey to site Emergency co-coordinator - Crisis Severity status and Emergency level-wind Direction-temperature-casualties-resource requirements. ☞ Conducts initial briefing. ☞ Activate elements of the terminal emergency plan/ site response actions. ☞ Protect port personnel and the public. ☞ Direct fire fighting/oil spillage/gas leakage/vessel accidents/natural calamities cargo operations shutdown –search for casualties –arrange first aid and hospitalization. ☞ Brief or designate a person to brief, personnel at the incident scene. ☞ Determine information needs and informs Crisis Management Group. ☞ Coordinate all functional heads in field operations group to take action. ☞ Manages incident operations to mitigate for re-Entry and recovery. ☞ Coordinate search and rescue operations Arrange evacuation of non essential workers to assembly points –outside port. ☞ Arranges tugs, mooring boats and pilot(s) for un-berthing vessel(s). ☞ Co-ordinate actions requests for additional resources and periodic tactical and logistical briefings with Site Emergency Coordinator (SEC). ☞ Coordinate incident termination and clean up activities. ☞ Instructs various emergency squads as necessary. ☞ Return normal operations. | | |

| Position | Port Position | Alternative |
|--|--|------------------------|
| Fire Coordinator | Asst. Manager (Fire and Safety) | Station Officer |
| <ul style="list-style-type: none"> ☞ Under the direction of the Site Incident controller is responsible. ☞ Consult SIC- announces fire incident point over the public address system and evacuates workers to the assembly points. ☞ Communicate with Fire Station and leads fire fighting team to the incident location. ☞ Inform Site Incident Controller if external fire tender/fire fighting equipment/materials/Mutual Aid is required. ☞ If necessary, arrange and activate other fire fighting equipment. ☞ Arrange equipment e.g. fire suits, protective gloves and goggles, breathing apparatus. ☞ In liaison with ES- pump house ensure that adequate water pressure is maintained in the fire hydrant system. ☞ Maintain adequate records. | | |

| Position | Port Position | Alternative |
|---|------------------------------|------------------------------|
| Security & Evacuation | Sr. Commandant – CISF | Dy. Commandant – CISF |
| <ul style="list-style-type: none"> ➤ Direct, gate security and facilitate evacuation, transport, first aid, and rescue. ☞ Control the entry of unauthorized persons and vehicles-disperses crowd. ☞ Permit the entry of authorized personnel and outside agencies for rescues operations without delay. Liaises with State police. ☞ Allow the entry of emergency vehicles such as ambulances without hindrances. ☞ Ensure that residents within port area are notified about disaster and instructions to evacuate if necessary. ☞ Ensure that the people are as per the head count available with the assembly point section of that area. ☞ Carry out a reconnaissance of the evacuated area before declaring the same as evacuated and report to Site Incident controller through DC (CISF). | | |

| Position | Port Position | Alternative |
|--|------------------------------|--------------------------------------|
| Medical Coordinator | Chief Medical Officer | Sr. Dy. Chief Medical Officer |
| <ul style="list-style-type: none"> ☞ Direct medical team. ☞ Set up casualty collection center arrange first aid posts. ☞ Arrange for adequate medicine, antidotes, oxygen, stretchers etc. ☞ Contact and cooperate with local hospitals and ensure that the most likely injuries can be adequately treated at these facilities e.g. burns. ☞ Advise Chief Emergency Controller on industrial hygiene and make sure that the facility personnel are not exposed to unacceptable levels of toxic compounds. ☞ Make arrangements for transporting and treating the injured. ☞ Inform the hospitals of the situation in case of a toxic release and appraise them of the antidotes necessary for the treatment. ☞ Maintain a list of blood groups of each employee with special reference to rare blood groups. ☞ Liaise with Red Cross-St Johns Ambulance. | | |

| Position | Port Position | Alternative |
|--|--|--------------------------------|
| Traffic Co-ordinator | Manager (MCB), Manager (LCB & SHW – I & II), Manager (ICD & SWB– III) | Respective Dy. Managers |
| <ul style="list-style-type: none"> ☞ Direct operation staff. ☞ Prepares vessels to vacate from berth. ☞ Arranges to protect cargo in vicinity from damage. ☞ Arrange to segregate and shift cargo in sheds. ☞ Submit consolidated list of dangerous goods in port including tankers in port and tank farms in port area. ☞ Coordinate with ship owners/agents/C & F agents/stevedores. | | |

| Position | Port Position | Alternative |
|--|--|--------------------------------|
| Maintenance Coordinator | Manager (US), Manager (PEM), Manager (PP&D) | Respective Dy. Managers |
| <ul style="list-style-type: none"> ☞ Direct maintenance staff. ☞ Recommend the appropriate procedures to isolate damaged units without introducing new hazards and provide resources both in terms of personnel and equipment to accomplish this. ☞ Provide the necessary utilities during the emergency, isolating or recommending emergency isolation procedures to prevent utility distribution to damaged parts of the facility, if so required and activates back up emergency generators, pumps, welding services and underwater diving. ☞ Render and monitor assistance for extricating trapped personnel by cutting structures, wires etc. ☞ Implement elaborate plans for providing continuity of emergency supplies and services such as water lines, electric power, emergency lighting etc. ☞ Remain alert on duty for any electrical isolation of equipment during an emergency. ☞ Suggest optimal strategies for conducting emergency isolation operations of damaged process equipment, the emergency transfer of materials and all other process related emergency operations. ☞ Assesses damages and provide technical assistance to determine the operability of damaged units. Keeps in touch with State Electricity Board. ☞ Assists in the accident investigation. ☞ In case of fire and specially if the fire involves toxic/flammable materials, this function will be responsible for containing the run off fire water and other water from the damaged units. ☞ Determine the level of contamination of the site as a result of the accident. ☞ During cyclones/floods arranges sand bags and transfer important plans and documents to higher levels. | | |

| Position | Port Position | Alternative |
|---|--------------------------------|-------------------------|
| Marine Pollution Control coordinator | Asstt. Manager (Safety) | Safety Inspector |
| <ul style="list-style-type: none"> ☞ Recommend to minimize the impact of an accident on the environment for which it would develop methodologies to control hazardous spills. ☞ Monitor cooperation with emergency response squads to conduct the actual clean up work during and after the emergency. ☞ In case of fire and specially if the fire involves toxic/flammable materials, ensure responsible actions for containing the run off fire water and other water from the damaged units. ☞ Determine the level of contamination of the site as a result of the accident. ☞ During cyclones/floods monitors sand bags and transfer important plans & documents to higher floor levels. | | |

| Position | Port Position | Alternative |
|--|----------------------------|------------------------|
| Port Control room coordinator | On duty Dock Master | Duty Supervisor |
| <ul style="list-style-type: none"> ☞ Ensure Shift Port Control Officer advises entire emergency team. ☞ On receipt of instructions from the Site Incident Controller, notify the fire brigade/police/hospitals/district collector/mutual aid partners. ☞ Keep the communication instruments open for emergency calls and transmit the same to the concerned personnel effectively. ☞ Refrain from exchanging any information with authorized persons unless authorized to do so by the Chief Incident Controller. ☞ Maintain contact with other vessels on VHF. ☞ Maintain tide tables and contact with Meteorological Department. | | |

| Position | Port Position | Alternative |
|--|------------------------|--------------------|
| Legal Coordinator | Manager (Legal) | DM (Legal) |
| <ul style="list-style-type: none"> ☞ To issue notices under Major Port Trust Act, Indian Ports Act, Major Port Prevention and Control of Pollution Rules etc. to the defaulters. ☞ Arrange for settlement of related claims. | | |

| Position | Port Position | Alternative |
|---|-----------------------------|------------------------------|
| Civil Coordinator | Manager (PP&D) I | Manager (PP&D) II |
| <ul style="list-style-type: none"> ☞ Inform Maharashtra Pollution Control Board and other environmental agencies about the incident for getting necessary guidance. ☞ Instruct the contractors to carry out urgent civil works if required. ☞ Hire the barges for collecting the spilled oil, if required. | | |

| Position | Port Position | Alternative |
|---|-------------------------------|--------------------------------------|
| ME Coordinator | Manager (Marine Engg.) | Sr.Dy. Manager (Marine Engg.) |
| <ul style="list-style-type: none"> ☞ Organize the tugs for combating the pollution / for fire fighting / Rescue. ☞ Start the rigging of pollution combating equipment. ☞ Hire additional crafts if required. | | |

5. BUILD UP OF EMERGENCY

5.1 ANY ONE-NOTICING EMERGENCY

- Shout FIRE – FIRE – AAG so that many people become aware of an emergency
- Inform nearest shift – in – charge or POC control room by giving caller name, place & nature of emergency.
- Wait for the instructions from Site Incident Controller.

5.2 MARINE EMERGENCY (PILOT ON DUTY SHALL BE IMMEDIATE SITE INCIDENT CONTROLLER)

These emergency situations are as follows:

- ◆ Collision of ships
- ◆ Person(s) falling in harbour water
- ◆ Grounding of vessel
- ◆ Fire in ship
- ◆ Explosion in ship
- ◆ Toxic release in ship
- ◆ Oil spill from ship and marine pollution

Oil spill can result from:

- Collision of ships in the channel
- Grounding of ships in the harbour
- Collision of ships with berth
- Bunker spills
- Spills from ships during cargo operations
- Spills from land pipelines
- Spills from loading arms/hoses
- Fire and/or Explosion on ships or ashore
- Spills from Jawahar Dweep/MbPT

- ◆ Storm, Flood and other natural calamities
- ◆ Collapse of lifting appliances in ship
- ◆ War, civil disturbances and terrorism



Shift Port Control Officer in coordination with Pilot on duty shall declare the emergency.

5.3 PORT EMERGENCY (TERMINAL SHIFT INCHARGE ON DUTY SHALL BE IMMEDIATE SITE INCIDENT CONTROLLER)

These emergency situations in port area are as follows:

- ◆ Fire
- ◆ Explosion
- ◆ Toxic release
- ◆ Oil spill and marine pollution
- ◆ Person(s) falling in harbour water
- ◆ Storm, Flood and other natural calamities
- ◆ Collapse of lifting appliances, buildings, sheds, etc.
- ◆ War, civil disturbances and terrorism

☞ Concerned terminal shift in charge shall declare port emergency.

5.4 ACTUATING OF SIREN

☞ Siren for declaring Emergency

1. On receipt of the information about the Emergency, the control station will authorise CISF at Central Gate Complex to actuate the Emergency Siren as follows: -
 - Siren to be sounded continuously for 30 Seconds with an interval of 5 Seconds to be repeated 10 times.

☞ Siren declaring Evacuation from the Port area.

1. On receipt of the orders from the Deputy Conservator or in his absence the Harbour Master the port control room will authorize CISF at Central Gate Complex to actuate the Siren as follows:
 - Siren declaring Evacuation from the Port area : Siren to be sounded for 5 seconds till the area is evacuated by people or for ½ hour whichever is less

☞ Siren declaring All Clear and returning to the work.

1. On receipt of the information from the Deputy Conservator or in his absence Harbour Master the port control room will authorise CISF at Central Gate Complex to actuate the Siren as follows:
 - Continuous ringing of siren for 5 minutes

Note: CISF at Central Gate Complex is to be contacted on telephone nos. 27242354/ 27244682 / 67814682

5.5 ASSEMBLY POINTS

Following places are earmarked as assembly points

1. CT Shift in-charge office
2. In front of POC Building
3. POC Canteen Building
4. In front of Administration Building
5. Shallow Water Berth No. 1
6. TT Maintenance Section
7. Office of Dy. Manager (LCB & SWB I & II)
8. ICD Building
9. E-7 Substation (near CB-2)

5.6 GENERAL EMERGENCY RESPONSE

5.6.1 COLLISION OF SHIPS

| Action By | Action |
|--------------------------------|---|
| Site Incident Controller (SIC) | <ol style="list-style-type: none"> 1. Immediately inform port control room and activate Emergency Action Plan 2. Inform engine room and ask for engines to be on standby 3. Take actions in consultation with Master of the vessel |
| SIC + Master | <ol style="list-style-type: none"> 1. Inform relevant authorities / owners and complete legal formalities 2. Assess the situation for injuries, leakages, take sounding of tanks, and bilges 3. Check for oil spills from vessel and activate Oil Spill Response Plan. (Refer Volume II - Procedure 7) 4. Check for vessel damage / damaged areas 5. Check assistance to other vessel 6. Check for cargo damage 7. Arrange evacuation of personnel if necessary 8. If required close water tight doors to minimise further damages 9. Alert vessels in vicinity – inform vessel name, call sign, port of registry, nationality, owner’s name 10. Fix time and position of the accident 11. Note the course and speed at the time of incident and subsequent actions/incident 12. Prepare life boats for lowering and keep life saving equipment stand by as necessary |

5.6.2 PERSON(S) FALLING IN THE HARBOUR WATER

| Action By | Action |
|--------------------------------|---|
| Site Incident Controller (SIC) | <ol style="list-style-type: none"> 1. Immediately inform port control room and activate Emergency Action Plan 2. Throw lifebuoys in water so that person is able to float in water 3. Inform all crafts/vessels in the vicinity to start rescue operation 4. Arrange for launch to rescue the person(s) 5. Review Emergency Action Plan of the contractor in case the victims are contractor's employees |

5.6.3 Grounding of Vessel

| Action By | Action |
|--------------------------------|--|
| Site Incident Controller (SIC) | <ol style="list-style-type: none"> 1. Immediately inform port control room and activate Emergency Action Plan 2. Take actions in consultation with Master of the vessel |
| SIC + Master | <ol style="list-style-type: none"> 1. Inform relevant authorities / owners and complete legal formalities 2. Check for oil spills from vessel and activate Oil Spill Response Plan. (<u>Refer Volume II - Procedure 7</u>) 3. Prepare life boats for lowering and keep life saving equipment stand by as necessary 4. Review various tanks to know depth of the water. Plot exact position of the vessel on the chart 5. Decide whether the vessel can be re floated by using it's own power/towing arrangement/uploading of cargo/ waiting for high tide |

5.6.4 STORM WITH SIGNAL NO. 3 OR ABOVE

| Action By | Action |
|--------------------------------|--|
| Port Control Room | <ol style="list-style-type: none"> 1. Immediately inform Pilot 2. Take actions in consultation with Pilot and activate Emergency Action Plan |
| Site Incident Controller (SIC) | <ol style="list-style-type: none"> 1. Contact all ships and ask them to stand by for further communications 2. Inform and ask Masters to keep the Ships ready to proceed to sea at short notice 3. Keep the tugs on stand by 4. Pilots to patrol the harbour by the tugs/ launches to ensure that all precautionary measures are taken by all the vessels in the port 5. Ensure that all barges / small vessels are directed to go to the sheltered area. The fishing trawlers and fishing crafts to be sent to safer place 6. Coordinate with external agencies such as Indian Navy, Coast Guard, Statutory bodies etc. during the storm 7. Stop cargo work if necessary. Ship discharged cargo to safer place 8. Secure and shift cranes to safer place 9. Secure loose or heavy items / electrical equipments 10. Inform ships alongside berths to double up their moorings and provide shore gang assistance |

5.6.5 FLOOD (IN ADDITION TO REQUIREMENT OF THE STORM FOLLOWING ACTIONS TO BE TAKEN)

| Action By | Action |
|--------------------------------|---|
| Site Incident Controller (SIC) | <ol style="list-style-type: none"> 1. Ensure all emergency Equipment in order 2. Keep rescue team ready with rubber boats, Life jackets etc. 3. Evacuate people from the area 4. Once storm warning is received all ships in port to keep their engines ready, Double up moorings, Close all hatches and move out to sheltered or safe area 5. Shift hazardous cargo out of the port 6. Cut off electrical supply as relevant and cover the junction boxes, electrical panels with water proofing sheets during and after flood is over 7. Do not switch on electrical supply unless safe. Use battery operated lights 8. Carry out rescue operation for trapped persons 9. Arrange resources such as cranes to remove debris 10. In case of grounding / capsizing of ships, arrange resources to restore normalcy 11. In case of oil spill activate Oil Spill Response Plan (<u>Refer Volume II - Procedure 7</u>) 12. Handle hazardous cargo (washed with water) with proper protective equipment |

5.6.6 COLLAPSE OF LIFTING APPLIANCES, BUILDINGS, SHEDS

| Action By | Action |
|--------------------------------|---|
| Port Control Room | <ol style="list-style-type: none"> 1. Immediately inform Shift In Charge 2. Take actions in consultation with Shift In Charge/Pilot and activate Emergency Action Plan |
| Site Incident Controller (SIC) | <ol style="list-style-type: none"> 1. Stop cargo work if necessary 2. Secure and shift cranes to safer place 3. Arrange mobile cranes, earthmoving equipments, first aid, fire fighting equipments, vehicles etc. 4. Cut off electrical supply if necessary 5. Priority to be given to the rescue injured/trapped person under debris by removing the debris without carrying harm to trapped people and give them first aid 6. In case of any danger of fire/explosion due to the type cargo involved appropriate care to be taken while removing / clearing debris 7. In case the container / shed / building have the dangerous cargo, isolate and keep watch. 8. In case of collapse of lifting appliances dismantle, repair and renew 9. In case of collapse of building/shed the debris to be removed completely and alternative arrangements to be made to restore normalcy |

5.6.7 FIRE AND OR EXPLOSION (SHIP/PORT AREA)

| Action By | Action |
|--------------------------------|---|
| Any one who notices fire | <ol style="list-style-type: none"> 1. Inform port Control Room & Fire Station and if possible give details of fire source 2. Try to find more information about nature of fire and inform port Control Room & Fire Station |
| Port Control Room | <ol style="list-style-type: none"> 1. Immediately inform Pilot / Shift In Charge 2. Take actions in consultation with Pilot / Shift In Charge and activate Emergency Action Plan |
| Fire Coordinator | <ol style="list-style-type: none"> 1. Check type of fire/leaked material 2. Refer response procedure (based on IMDG codes) 3. Use proper personnel protective equipments <p>☞ Remember: Unignited vapour cloud of flammable material can explode due to static electricity generated by movement of fire vehicles. Use stop, watch & proceed policy before responding such emergencies.</p> |
| Site Incident Controller (SIC) | <ol style="list-style-type: none"> 1. Ensure that all barges / small vessels are directed to go to the sheltered area. The fishing trawlers and fishing crafts to be sent to safer place 2. Stop cargo work if necessary. Ship discharged cargo to safer place 3. Inform engine room and shut down electrical circuits if necessary 4. Arrange fire fighting team 5. Alert vessels in vicinity 6. If possible keep the vessel ready to move out <p>If fire is onboard the ship which is at anchorage</p> <ol style="list-style-type: none"> 1. Water borne fire fighting equipment is available with port such as fire fighting tugs with fire monitors, life saving equipments and medical equipments <p>If fire is in port terminal / cargo storage areas</p> <ol style="list-style-type: none"> 1. Based on the type of cargo involved initiate relevant response 2. Use proper personal protection and extinguishing media 3. Assess the situation from time to time and use appropriate strategy 4. Remove unaffected containers/goods from the area if possible <p>Important</p> <ol style="list-style-type: none"> 1. For substances, which becomes dangerous when wet/ violently react with water use dry chemical for small fire. For large fire smother with dry inert material and dispose them off using relevant safety precautions 2. Alcohols & glycols are not compatible with all types of foam. They degrade the foam and break it down and thus limiting it's effectiveness. Use low protein foam 3. For petrochemical fire use high expansion foam, do not use water jet on fire |

5.6.8 TOXIC RELEASE (SHIP / PORT AREA)

| Action By | Action |
|--------------------------------|--|
| Any one who notices release | <ol style="list-style-type: none"> 1. Inform POC Control Room & Fire Station and if possible give details of release source 2. Try to find more information about nature of release and inform POC Control Room & Fire Station |
| Port Control Room | <ol style="list-style-type: none"> 1. Immediately inform Pilot / Shift In Charge 2. Take actions in consultation with Pilot / Shift In Charge and activate Emergency Action Plan |
| Fire Coordinator | <ol style="list-style-type: none"> 1. Check type of leaked material 2. Refer response procedure based on IMDG codes 3. Use proper personal protective equipments <p>Remember : Unignited vapour cloud of flammable material can explode due to static electricity generated by movement of fire vehicles. Use stop, watch & proceed policy before responding to such emergencies.</p> |
| Site Incident Controller (SIC) | <ol style="list-style-type: none"> 1. Ensure that all barges / small vessels are directed to go to the sheltered area. The fishing trawlers and fishing crafts to be sent to safer place 2. Stop cargo work if necessary. Ship discharged cargo to safer place 3. Inform engine room and shut down electrical circuits if necessary 4. Arrange fire fighting team 5. Alert vessels in vicinity 6. If possible keep the vessel ready to move out <p>If release is onboard the ship which is at anchorage</p> <ol style="list-style-type: none"> 1. Water borne fire fighting equipment is available with port such as fire fighting tugs with fire monitors, life saving equipments and medical equipments <p>If release is in port terminal / cargo storage areas</p> <ol style="list-style-type: none"> 1. Based on the type of cargo involved initiate relevant response 2. Use proper personal protection & extinguishing media 3. Assess the situation from time to time and use appropriate strategy 4. Remove unaffected containers/goods from the area if possible. <p>☞ For substance, which becomes dangerous when wet/ violently react with water use dry chemical for small release. For large release smother with dry inert material and dispose them off using relevant safety precautions.</p> <p>Action in case of LPG leakage/fire</p> <ol style="list-style-type: none"> 1. Evacuate people from the area to safe place as there is danger of |

| | |
|--|---|
| | <p>rupture.</p> <ol style="list-style-type: none"> 2. Approach the leak/ fire with minimum 2 ½ inches water hoses with water screen to cool the vapour cloud/tank and fire fighters. 3. Cool LPG tanks sufficiently from at least three sides placing major emphasis on cooling vapour area of tanks. 4. If possible close outlet valve of the tank to stop further leak. 5. Keep adjacent material cool with water. 6. Remove undamaged and cooled material to a safe place. <p>Action in case of ammonia leak</p> <ol style="list-style-type: none"> 1. Evacuate the area immediately. 2. Isolate the hazard area. 3. Keep out unnecessary and unprotected personnel. 4. Use personal protective equipment as required. 5. Eliminate ignition sources. 6. Knock down gas with fog or fine water spray. 7. Do not direct water at spill or source. <p>Action in case of chlorine leak</p> <ol style="list-style-type: none"> 1. Evacuate the people from the area (Combination with Hydrogen Gas causes explosion in presence of any form of energy). 2. If possible shut off the outlet valve of the cylinder/ tank. 3. Use Caustic Soda/ Soda Ash or hydrated lime to neutralise. 4. Use dry chemical powder to shut off the fire. 5. Remove undamaged material to safe place. <p>Important:</p> <ul style="list-style-type: none"> ▪ If leak involves large amounts of chlorine, evacuate the area. ▪ Do not use water on chlorine because it produces hydrochloric acid. |
|--|---|

5.6.9 POLLUTION BY OILS

| Action By | Action |
|--------------------------------|--|
| Any one who notices | <ol style="list-style-type: none"> 1. Inform POC Control Room and if possible give details of the source. 2. Try to find more information and inform POC Control Room. |
| POC Control Room Office | <ol style="list-style-type: none"> 1. Immediately inform Pilot / Shift In Charge / MCPC Section. 2. Take actions in consultation with Pilot / Shift In Charge / MCPC Section and activate Emergency Action Plan. |
| Site Incident Controller (SIC) | <ol style="list-style-type: none"> 1. Stop cargo work if necessary. Ship discharged cargo to safer place. 2. Arrange fire-fighting team. 3. Alert vessels in vicinity. |

| | |
|--|--|
| | <ol style="list-style-type: none"> 4. If possible keep the vessel ready to move out. 5. Arrange for resources/ equipments such as oil booms, dispersant, tugs, barges for combating oil pollution. 6. Stop the source of leak by taking proper precautions. |
|--|--|

5.6.10 WAR

When war like situation is developed or during the declaration of war the priority is to be given to all important/ critical areas to remain vigilant to prevent sabotage, to remain readiness to combat emergency and to keep normal operation going.

Prior Emergency Situation

- ☞ Set up crisis management centre and manned continuously.
- ☞ Crisis Management Group (CMG) to declare plan / guidelines to be followed which could be based on Government of India / Statutory bodies / Indian Navy / Air force / Government of Maharashtra etc. instructions.
- ☞ CMG to ensure utmost vigilance in identified critical area to ensure the adequate resources in terms of security personnel, experts in handling equipments, trained manpower, flood lights, earth moving equipments, mobile cranes, rescue crafts are available to guard all gates, roads etc. In case of any unidentified person is found, he must be handed over to police.
- ☞ CMG to ensure that evacuation plan is prepared and back up systems such as power generator, communication equipments, safety systems are working. CMG should also ensure that all required manpower such as electricians / technicians/labour are available any time.

During the Emergency

- ☞ CMG to adopt relevant Emergency Action Plan to combat the emergency.
- ☞ In case of an enemy attack inform relevant authorities & internal security to defend installations.
- ☞ When additional security (army/BSF) arrives, situation is to be handled jointly.
- ☞ CMG to ensure sufficient supply of food and water is available.

6: EMERGENCY CONTROL CENTRE

6.1 PORT CONTROL ROOM SHALL BE EMERGENCY CONTROL CENTRE

6.2 EQUIPMENTS: It is equipped with the following:

- Port water line to be backed with alternate supply.
- Automatic display name, address, telephone numbers of any incoming call once the Emergency Control Centre number is dialed, the same thing should be registered on the computer
- Flip up of maps & which:
 - ☞ shows First Aid locations
 - ☞ shows terminals storing toxic chemicals and terminals storing flammable chemicals
 - ☞ gives transportation map depicting transportation route for hazardous cargo by road and rail tankers
 - ☞ Assembly points, fire hydrant

6.3 ALTERNATE CONTROL ROOMS: JNPT have chosen to have a secondary control room which is Chamber of Chief Manager (Admn.) & Secy. located in the Administration building

6.4 LOGBOOKS: Control room will maintain the log books

6.5 EMERGENCY CONTROL ROOM EQUIPMENTS

| Sr. | Equipment | Nos. |
|-----|--|------|
| 1. | Emergency lights and torches | 6 |
| 2. | Radio | 1 |
| 3. | Computer | 1 |
| 4. | Printer | 1 |
| 5. | Telephone-one for in; other for outgoing calls | 2 |
| 6. | White board and colored marker pens | 1 |
| 7. | Flip charts | 1 |
| 8. | Portable PA Sets | 2 |
| 9. | Walkie talkies | 6 |
| 10. | Binoculars | 1 |
| 11. | Copy of EAP | 2 |
| 12. | Table-seating | 1 |
| 13. | Tables-for equipment | 4 |
| 14. | Chairs | 10 |
| 15. | Stationary | |
| 16. | Gas masks with canisters | |
| 17. | Safety goggles | |
| 18. | | |

7: EMERGENCY EQUIPMENTS & FACILITIES

7.1 RESOURCES FOR COMBATING OIL SPILL

1. JN Port

| Sr. | Items | Quantity | Weight / Dimensions |
|-----|--|---------------------|---|
| 1 | Oil spill Dispersant kept on board tugs and in stock | 5300 litres | 2800 litres on board tugs 2500 litres in stock |
| 2 | Oil absorbent pads | 30 nos. 100 nos. | 40 x 50 cms each 15" x 19" each |
| 3 | Oil absorbent pillows | 05 nos. 100 nos | 30 x 50 cms each 18" x 18" each |
| 4 | Oil absorbent socks | 15 nos. 105 nos | 08 x 120 cms each 3" x 8" each |
| 5 | Saw dust | 2500 kgs. | 50 bags of 50 kg. each |

2. Bharat Petroleum Corporation Ltd. (Operator of Liquid Cargo Handling Berths under BOT)

| Sr. | Items | Quantity / Capacity |
|-----|-----------------------------|---------------------|
| 1. | Oil Boom | 240 meters |
| 2. | Oil Dispersant Spray system | 02 nos. |
| 3. | Oil sorbent pillows | 200 nos. |
| 4. | Oil Spill Dispersant | 1800 liters |

3. Nhava Sheva International Container Terminal (DP World)

| Sr. | Items | Quantity | Weight / Dimensions |
|-----|---|----------------------|---------------------|
| 1. | Saw dust | 20 bags | 10 kg each bag |
| 2. | Oil absorbent pads | 20 packets x 10 each | 50 cm x 50 cm |
| 3. | Oil boom | 12 pieces | 3" dia. x 8 feet |
| 4. | Long handle deck brushes, heavy duty | 4 pieces | 40 cm brush length |
| 5. | Long handle cane booms, suitable for liquid | 4 pieces | |
| 6. | Hand booms suitable for liquids | 2 pieces | |
| 7. | Long handle shovel (Non spark) | 4 pieces | |
| 8. | Hand held Plastic scoops | 4 pieces | |
| 9. | Plastic bags (Heavy Duty) | 250 nos. | |
| 10. | Empty oil drums with lids | 4 nos. | 200 lilt |

| | | | |
|-----|------------------------------------|------------|-----------|
| 11. | Oil spill chemical dispersant | 5 drums | 20 lilit |
| 12. | Oil resistant gloves | 4 pairs | |
| 13. | Fire extinguishers 9 lit foam type | 2 nos. | |
| 14. | Plastic buckets, 10 lilit | 4 nos. | |
| 15. | Plastic funnels | 4 nos. | |
| 16. | Rags, General Use | 20 kg. | |
| 17. | Sawdust Bags | 296 bags | 10 Kg |
| 18. | Sand Bags | 60 bags | 50 Kg |
| 19. | Scoop | 12 pieces | |
| 20. | Eye Protective Goggles | 10 pieces | |
| 21. | Rubber Hand Gloves | 12 pieces | |
| 22. | Oil Spill Containment Boom | 12 pieces | |
| 23. | Long Handle Coir Broom | 12 pieces | |
| 24. | Absorbent Pads | 100 pieces | 18" x 16" |
| 25. | Dust Masks | 50 pieces | |
| 26. | Shovel | 10 pieces | |
| 27. | Cotton Bags | 02 nos. | |
| 28. | empty drums (200 Litr) | 03 nos. | |

4. APM Terminals

| Sr. | Description | Quantity | Weight / Dimensions |
|-----|---|-------------------------------|---------------------|
| 1. | Oil Absorbent Socks | 6 boxes (6 pieces per box) | 7.6 cm x 244cm |
| 2. | Oil Absorbent Pillow | 2 boxes (16 pieces per box) | 18" x 18" |
| 3. | Oil Absorbent Pads | 2 boxes (32 pieces per box) | 9" x 9" |
| 4. | Booms | 9 bales (4 per bale) | (8" x 10") |
| 5. | Perforated Rolls | 6 bales (1 per bale) | 46 cm x 38 cm |
| 6. | Sheets | 2 bales (100 Sheets per bale) | 38 cm x 48cm |
| 7. | Sweep – sorbent roll, bonded to a P.P. Rope | 2 bales (1 per bale) | 30.5 m x 48 cm |

7.2 PORT FIRE FIGHTING RESOURCES

| Fire Fighting Equipment | Nos. | Capacity & Specifications | Location |
|--|--------|---|--|
| Fire Water Tender | 2 | Water Tank : 6000 ltr. | Fire station |
| Fire Foam Tender | 1 | Water Tank : 3000 ltr., Foam Tank : 800 ltr. CO2 Fire Extinguisher 22.5 kg. X 2 DCP Fire Extinguisher 70 kg. X 2 | Fire station |
| Multipurpose Fire Tender | 1 | Water Tank : 3000 ltr., Foam Tank : 800 ltr. CO2 Fire Extinguisher 22.5 kg. X 4 DCP Vessel 500 kg. | Fire station |
| HAZMAT cum Emergency Response Tender | 1 | Equipped to deal with hazmat emergency and rescue operation | Fire Station |
| Water pumps Main Pumps Diesel Pump | 4 1 | Electrical operated (273 m3/hr) Diesel engine (273 m3/hr) | Pump House |
| Water reservoir | 1 | 1638 m3 | Fire station |
| Fire Hydrants | 20 | | Utility Area (Auto Garage, Work Shop, Main Stores) |
| Breathing Apparatus Sets | 23 | Compressed Air-used for 45min | Fire station |
| PVC Chemical handling suits | 10 | | Fire station |
| Fire Proximity Suits | 4 | Aluminised | Fire station |
| Fire Entry Suit | 2 | | Fire station |
| Hand Set (Walkie Talkie) | 2 | | Fire Station |

7.3 PORTABLE FIRE EXTINGUISHERS

| Types of Extinguishers | Numbers | Remark |
|-----------------------------------|---------|--------|
| Dry Chemical Powder (DCP)- 5kg | 47 | |
| Dry Chemical Powder (DCP)-10kg | 50 | |
| Dry Chemical Powder (DCP)- 22.5kg | 9 | |
| ABC Powder Type - 2kg | 32 | |
| ABC Powder Type - 5kg | 38 | |
| CO2 Type - 3 kg | 241 | |
| CO2 Type - 4.5 kg | 161 | |
| CO2 Type - 6.5 kg | 75 | |
| Water CO2 Type - 9 ltrs | 259 | |
| CO2 Type - 2 kg | 02 | |

7.4 EQUIPMENT AND MATERIALS INVENTORY

The following equipment and materials will be available with Site Incident Controller:
(Terminal Shift In Charge offices & Port Control room)

| Sr. | Equipment / Material |
|------------|--|
| 1. | Copy of EMERGENCY ACTION PLAN |
| 2. | List of personnel |
| 3. | Residence telephone numbers of key Port personnel |
| 4. | Basic facility data and drawings |
| 5. | VHF radio with battery |
| 6. | Laminated "SITE INCIDENT COORDINATOR" sign to be done |
| 7. | Current telephone directories |
| 8. | Message book (with duplicate copy pages) |
| 9. | Clipboards (3) |
| 10. | Tables (3) |
| 11. | Steno tables (2) |
| 12. | Pens (12) |
| 13. | Pencils (12) |
| 14. | Felt tip indelible marker Black (2), Red (2) |
| 15. | Trash bags - large (1 box) |
| 16. | Duct tape |
| 17. | First Aid Kit |
| 18. | AM/FM radio & "AA-cell" batteries (3) |
| 19. | Spare batteries "AA-cell" batteries (9) "D-cell" batteries (8) |
| 20. | |

8.0 TELEPHONE LISTS (OTHER EMERGENCY ORGANIZATIONS AND THE PORT EMERGENCY PHONE NUMBERS ARE AS FOLLOWS.

JAWAHARLAL NEHRU PORT TRUST

| Name of Authority | Contact Number | | |
|---|--|-------------------|--------------------------|
| | JNPT Office | RC Office, Mumbai | Residence / Mobile |
| Chairman | 27244001 / 67814001 27242290 (Direct) | 22832458 | 9819494001 |
| Dy. Chairman | 27244011 / 67814011 27242219 (Direct) | 22045372 | 9819494002 |
| Dy. Conservator | 27244171 / 67814171 27242301 (Direct) | --- | 9819494004 |
| Chief Manager (Traffic) | 27244191 / 67814191 27242377 (Direct) | --- | 27472661 / 9819494011 |
| Chief Manager (M & E Engineering) | 27244181 / 67814181 27242302 (Direct) | --- | 27564505 / 9819494014 |
| Chief Manager (Finance) | 27244081 / 67814081 27242241 (Direct) | --- | 9769769100 |
| Chief Manager (Administration) & Secretary | 27244021 / 67814021 27242233 (Direct) | --- | 9819494003 |
| Chief Manager (Port Planning & Development) | 27244156 / 67814156 27242326 (Direct) | --- | 9819494005 |
| Chief Medical Officer | | --- | |
| Harbour Master | 24274173 / 67814173 27242334 (Direct) | --- | 27710513 / 9819494007 |
| Sr. Dy. Chief Medical Officer | 27472665 | -- | 27472980 / 9819494015 |
| Sr. Manager (P& IR) | 27244023 / 67814023 27242639 (Direct) | --- | 27472314 / 9819494013 |
| Manager (Finance) - I | 27244087 | --- | 25205241/ 9867385341 |
| Dock Master - I | 27245175 / 67815175 | --- | 9323407839 |
| Dock Master - II | 27245175 / 67815175 | --- | 9820243717 |
| Manager (Main Container Berth) | 27245003 / 67815003 | --- | 9819999226 |
| Manager (Liquid Cargo Berths & Shallow Water Berths I & II) | 27244191 / 67814191 27242377 (Direct) | --- | 27719349 / 9819494010 |
| Manager (Utility Services) | 27244196 / 67814196 27242328 (Direct) | --- | 27743137 / 9819494015 |
| Manager (ICD & SWB III) | 27245005 / 67815005 | --- | 9820160457 |
| Manager (Port Equipment Maintenance)-I | 27245001 / 67815001 | --- | 9819494918 |
| Manager (Materials) | 27244198 / 67814198 | --- | 9819999227 |
| Manager (C&C) & MR | 27244699 / 67814699 | --- | 9819999227 |
| Manager (Marine Engineering) | 27245166 / 67815166 | --- | 09830772584 |
| Manager (Legal) | 27244068 / 67814068 27242326 (Direct) | --- | 9819930549 |

| | | | |
|---|---|-----|---------------------------------|
| Manager (Admn.) | 27244025 / 67814025 | --- | 9820618326 |
| Manager (Estate) (Shri U.K Sharma) | 27244066 / 67814066 | --- | 9819999231 |
| Manager (PP&D) – I (Shri SSP Patil) | 27244160 / 67814160 | --- | 9819999223 |
| Manager (PP&D) – II (Shri N.A.Deshpande) | 27244158 / 67814158 | --- | 9920166500 |
| Manager (PP&D) – III (Ms. Y. Bhat) | 27244159 / 67814159 | --- | 9819042609 |
| Manager (MS) | 27244138 / 67814138 27242317 (Direct) | --- | 9833673162 |
| Dy. Manager (MS) | 27244038 / 67814038 | | 9820864080 |
| Sr. Commandant (CISF) | 27244216 / 67814216 27242294 (Direct) | --- | 9819999234 |
| Dy. Commandant (CISF) | 27244222 / 67814222 | --- | 27472246 / 9819494017 |
| Asstt. Commandant (CISF) | 27244222 / 67814222 | --- | 27472323 |
| Asstt. Commandant (CISF) | 27244682 / 67814682 | --- | 9757090291 |
| CISF Line Township | 27472275 / 27472356 | --- | --- |
| Asstt. Manager (Safety) & (MC & PC) | 27245205 / 67815205 | --- | 9833687769 |
| Asstt. Manager (Fire & Safety) | 27245173 / 67815173 | --- | 9819711965 |
| Master Unit Sub Station (MUSS), JNPT | 27244691 / 67814691 27869496 (Direct) | --- | --- |
| Shift In-Charge (CT) | 27245013 / 67815013 | --- | --- |
| CISF Control Station | 27244545 / 67814545 27242354 (Direct) | --- | --- |
| Central Gate Complex – CISF | 27244682 / 67814682 27242354 (Direct) | --- | --- |
| North Gate Complex – CISF | 27245195 / 67815195 24272362 (Direct) | --- | --- |
| South Gate Complex – CISF (ODC Gate) | 27274681 / 67814681 | --- | --- |
| Admn. Building Reception – CISF | 27244218 / 67814218 | --- | --- |
| JNP Hospital | 27473568 / 67813568 24743560 / 67813560 | --- | --- |
| Ambulance Room – Shift Office | 27245200 / 67815200 | --- | --- |
| Fire Station | 27245000 / 67815000 27245100 / 67815100 | --- | --- |
| Port Control Station | 27245151 / 67815151 27245178 / 67815178 27242367 (Direct) | --- | Marine VHF Channel No. 13 |
| JNPT Township Main Gate | 27243570 / 67813570 | --- | --- |
| JNPT Pump House | 27245179 / 67815179 | --- | --- |

GOVERNMENT SERVICES

| Name of Authority & Address | Telephone Number |
|--|---|
| Dy. Director, Inspectorate Dock Safety, Operation Service Centre, 3 rd Floor, Opp. GPO, P.D. Mello Road, Mumbai – 400 038. | 2269 2180 Direct 2262 4321 ext.3511/ 3558 Fax No. - 2261 3391 |
| Asstt. Director, Inspectorate Dock Safety, POC Ground Floor, Canteen Building, JNPT, Navi Mumbai - 400707 | 27245099 9028807870 |
| Director General, Factory Advice Service & Labour Institute, Central Labour Institute, N.S.Mankikar Marg, Sion, Mumbai – 400 022. | 2409 2203 Fax No. - 407 1986 |
| Member Secretary, Maharashtra Pollution Control Board, Mumbai | 22659107, 22614348/92345, Fax No. - 22612320 |
| Regional Officer, MPCB, CBD, Navi Mumbai. | 27572739, 27572940 |
| Chief Controller of Explosives A Block CGO Complex Fifth floor, Seminary Hills Nagpur – 440006 | (0712)2510248 |
| Joint Chief Controller of Explosives A-1 and A-2 Wing, 5th Floor, C.G.O. Complex, CBD Belapur, Navi Mumbai – 400614 | 27575946, 27575946, 27564941 |
| Directorate of Industrial Safety and Health | 2494 2230 |
| District Collector, Raigad, Alibag. | 95 – 0245 – 222001 |
| Dy. District Collector Raigad, Alibag | 95 – 0245 – 222081 |
| Home Guard, Raigad, Alibag | 95 – 0245 – 222012 |
| Municipal Commissioner, Navi Mumbai CBD, Belapur, Navi Mumbai | 27571095 |
| MSEB, Uran | 27222235 ext. 400 |
| Municipal Commissioner, Thane | 25336523 |
| District Collector, Thane | 25344041 |
| Tahsildar, Uran, Raigad | 27222352 |
| Health & Medical | |
| Civil Surgeon, Raigad, Alibag | 95 – 0245 – 222157 |
| Chief Medical Office, Thane Municipal Corporation | 25347784 |
| Health Officer, Raigad, Alibag | 95 – 0245 – 222077 |
| Asst. Medical Officer, Navi Mumbai Municipal Corporation | 27573781, 27573028 |
| Civil Surgeon, Thane | 25341541 |
| Health Officer, Thane | 25369682 |
| | |
| | |

| Doctor on Duty | |
|--|---------------------------------|
| L.T.M.G. Hospital, Sion, Mumbai | 24076381 / 24072737 |
| J.J. Hospital, Byculla, Mumbai | 23760943 / 23735555 |
| KEM Hospital, Parel, Mumbai | 24136051 |
| G.T. Hospital, Mumbai | 22621464 |
| Indira Gandhi General Hospital, Uran (Municipal) | 27222233 |
| Civil Hospital, Thane | 25342582 |
| Sir M. Yusuf Seamen Welfare Foundation, Nhava, Tal-Uran, Raigad | 24938740 |
| MGM Hospital, CBD, Belapur, Navi Mumbai | 27570219 |
| Nanavati Hospital, Mumbai | 26182255 |
| Transport | |
| Depot Manager, S.T. Depot, Uran Naka, Uran | 27222333 |
| S.T. Controller, S.T. Depot, Thane | 25331892 / 25331893 |
| Depot Manager, S.T. Depot, Panvel | 27452701 |
| Controller, Navi Mumbai Municipal Transportation, CBD, Belapur | 27655561 / 27801895 |
| Civil Defense | |
| Director of Civil Defense, Mumbai | 22843667 |
| Addl. Controller of Civil Defense, Mumbai | 22611928 |
| Dy. Controller of Civil Defence, Uran. | 27222343 |
| Home Guard, Alibag | (0245) – 222012 |
| Fire Services | |
| Nad, Karanja, Uran | 27222520 |
| Sheva | 27242265 |
| MSEB, Bodakvira, Uran | 27222235 |
| ONGC, Uran | 2222916035, 27234444-46 |
| ONGC, Nhava | 27211100 |
| Fire & Emergency Response Centre, Rabale | 27680207, 27680208 |
| Vashi, Navi Mumbai | 27660101 |
| CBD, Belapur, Navi Mumbai | 27572111 |
| Nerul | 27707101 |
| Kalamboli | 27420138 |
| Panvel | 27452337 |
| Wagle Estate, Thane | 25323547, 25323577 |
| Thane City | 25331399, 25366401, 25401589 |
| ONGC, Panvel | 27486030/6660, 27453673 |
| Mumbai | 23076111, 23086181/101 |
| Mumbra | 25352424 |
| Mumbai Port Trust | 22614321 (Extn. 2260/2261) |

| Police | |
|--|------------------------|
| District Superintendent of Police, Raigad, Alibag | (0245) – 222093 |
| Police Commissioner, Thane | 25344499 |
| Police Commissioner, Navi Mumbai CBD, Belapur, Navi Mumbai | 27684860 |
| Asst. Commissioner (Traffic Police) Navi Mumbai CBD, Belapur, Navi Mumbai | 27684860, 27576282 |
| Police Control Room, Mumbai | 2620111, 22621855/ 100 |
| Police Control Room, Raigad | (0245) – 222100 |
| Police Station, Sheva, Uran | 2724 2264 |
| Water Supply | |
| Water Supply Station, JNPT | 27242243 |
| Supdt. Engineer, MWSSB, Thane | 25427855 |
| Executive Engineer, MWSSB, Panvel | 27453632 |

JAWAHARLAL NEHRU PORT TRUST

EMERGENCY ACTION PLAN (EAP)

VOLUME II

IMPORTANT PHONE NUMBERS

- 1. FIRE: 2724 5000, 27245100, 67815000, 67815100**
- 2. MEDICAL: 27473565, 27473538, 27473568, 67813568, 24743560, 67813560**
- 3. AMBULANCE ROOM: 27245200, 67815200**
- 4. SECURITY - CISF CONTROL ROOM: 27244545, 67814545, 27242354 (Direct)**
- 5. OFFICE LIQUID CARGO BERTH: 27245075**
- 6. SHIFT INCHARGE (CONTAINER TERMINAL): 27245013, 27245037,
67815013, 67815037**
- 7. POC CONTROL ROOM: 2724 2367, 27245178, 27245151, 67815178, 67815151**
- 8. MASTER UNIT SUB STATION (MUSS); 27244691, 67814691, 27869496**

NOTES:

- 1: THIS COPY SHOULD BE KEPT IN _____ OFFICE**
- 2: RESPONSIBLE AUTHORITY OF UPDATING THIS COPY IS DEPUTY CONSERVATOR**

ACTUATING OF SIREN

- 1. Siren for declaring Emergency: Siren to be sounded continuously for 30 Seconds with an interval of 5 Seconds to be repeated 10 times.**
- 2. Siren declaring Evacuation from the Port area: Siren to be sounded for 5 seconds till the area is evacuated by people or for ½ hour whichever is less.**
- 3. Siren declaring All Clear and returning to the work: Siren to be sounded continuous for 5 minutes**

ASSEMBLY POINTS

- 1. CT Shift in-charge office**
- 2. In front of POC Building**
- 3. POC Canteen Building**
- 4. In front of Administration Building**
- 5. Shallow Water Berth No. 1**
- 6. TT Maintenance Section**
- 7. Office of Dy. Manager (LCB & SWB I & II)**
- 8. ICD Building**
- 9. E-7 Substation (Near CB-2)**

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REVISION January 2014

INDEX

| Sr. No. | Content | Page No. |
|-------------------|--|----------|
| 1 | Executive Policies & Procedures | 1 |
| | Operation Policies And Guidelines | 1 |
| | Executive Procedures | 6 |
| | Coordination With Non-Port Resources | 8 |
| | Government Assistance | 9 |
| 2 | Emergency Scenarios | 10 |
| | Fire & Explosion | 10 |
| | Collapse Of Lifting Appliances, Buildings, Sheds etc. | 12 |
| | Gas Leakages And Spillages Of Dangerous Goods | 13 |
| | Transportation Accidents | 16 |
| | Drowning Of Dock Workers, Sinking Of Vessels | 18 |
| | Retrieval Of Transport Equipment From Dock Basins | 18 |
| | Grounding | 18 |
| | Collision | 18 |
| | Striking | 19 |
| | Impact | 19 |
| | Floods, Storms, And Other Natural Calamities | 19 |
| | Coastal Flooding | 19 |
| | Storms | 20 |
| | Earthquake | 21 |
| | Tsunami | 23 |
| | Civil Disturbances, Terrorism | 24 |
| | Public Demonstrations/Civil Disturbances | 24 |
| | Terrorism | 26 |
| | Threats, Bomb Threats | 26 |
| | Bomb Threat Checklist | 27 |
| | Suspicious Packages | 28 |
| | Hostage Situations | 28 |
| | Sniper/Barricaded Person | 28 |
| | Standard operating procedure for dealing with hijacking/hostage of merchant ships within JNPT limits | 30 |
| | Port Facility Security Plan | 34 |
| | Introduction | 34 |
| | Purpose | 34 |
| Objectives | 34 | |
| Security Policy | 35 | |
| Security Levels | 35 | |
| Security Measures | 36 | |
| 3 | Fire Department Response Procedures | 42 |
| | Procedure | 42 |
| | Methods Of Dealing With Different Types Of Fires | 42 |
| 4 | Medical Department Response Procedures | 44 |
| | Introduction | 44 |

| | | |
|----|--|----|
| | Procedure | 44 |
| | Role of hospital staff | 44 |
| | Mobilization of staff | 46 |
| | Mobilization of material | 46 |
| | Treatment area and creation of medical teams | 47 |
| | Role of individual members of team | 49 |
| | Treatment For Exposure To Toxic Chemicals | 52 |
| | Burns | 53 |
| | Infection Control Liaison Officer (ICLO) | 53 |
| | First Aid Posts | 54 |
| | Use Of Antidotes For Selected Poisoning | 56 |
| | Some Common Industrial Exposures And Their First Aid Treatment | 59 |
| 5 | Communications Procedures | 59 |
| | Emergency Response Plan | 60 |
| 6 | Evacuation Procedure | 61 |
| | Procedures | 61 |
| | Procedures For Persons Unable To Use Exit Stairs | 63 |
| | Toxic Chemical Accident Evacuation Plan | 63 |
| | Evacuation Process | 64 |
| 7 | Oil Spill Response Procedures | 66 |
| | Alerting | 66 |
| | Assessment | 66 |
| | Resources | 66 |
| | Causes Of Emergency | 67 |
| | Command And Control | 67 |
| | Responsibilities Of Members Of Pollution Response Team | 67 |
| | Execution | 69 |
| | Records | 69 |
| | Type Of Records | 69 |
| | Reparations Of Claims | 70 |
| | Disposal | 70 |
| 8 | Accidents Response Procedure By Electrical Section | 71 |
| | Procedure | 71 |
| 9 | Procedure For Returning To Normal Operations | 72 |
| | Procedure | 72 |
| 10 | Emergency Action Plan Training & Drills | 73 |
| | Exercises | 73 |
| | Annual Training Program | 73 |
| | Checklists (To Be Filled By Training Center With HoDs) | 73 |
| | The Exercise Planning Process | 74 |
| | Public Affairs | 74 |
| | Conducting The Exercise | 75 |
| 11 | Vessel Accidents Response Procedure | 76 |
| | Procedure | 76 |
| | Shipboard-Port Emergency Plan (Collision) | 76 |
| | Shipboard Emergency Plan Grounding | 78 |
| 12 | Port Regulations – Detentions – Claims Procedures | 79 |

| | | |
|----|--|----|
| | Check List For Vessels Other Than Tankers | 80 |
| | Double banking / Ship-Shore Pollution Avoidance | 81 |
| | Regulations | 82 |
| | Merchant Shipping Act | 85 |
| | Procedure For Claiming Compensation For Oil Pollution Damage To Property By Any Person Under The International Oil Pollution Compensation Fund | 88 |
| 13 | Procedure For Mutual Aid Arrangement | 92 |
| | Introduction | 92 |
| | Scope | 92 |
| | Membership | 92 |
| | Emergency Condition | 93 |
| | Geographical Coverage | 93 |
| | Period of Operation Of Scheme | 93 |
| | Mode of Operation | 93 |

1. EXECUTIVE POLICIES & PROCEDURES

1. EXECUTIVE POLICIES AND PROCEDURES:

These procedures are to assist those charged with the administration of an emergency recovery. Policies stated in the **PORT Policies** section of the **EMERGENCY ACTION PLAN** are further defined herein.

This section of the PLAN describes the role of the PORT'S Senior Management in the execution of the **EMERGENCY ACTION PLAN**.

The organizational arrangement described herein is designed for implementation in the event of a major emergency or disaster. It is recognized, however, that in times of emergency it may not be practical to follow the suggested outline as provided. When this is the case it is expected that this outline will serve as the format for an appropriately modified organizational hierarchy. Further, it is expected that the executive management will be brought into this design to the greatest extent possible and at the earliest practical time.

While it is expected that established policies and procedures will be adhered to, the responsibility for making decisions ultimately falls upon individuals. It is important that there be a clear hierarchy of authority and line of responsibility at the time of an emergency. For this reason a hierarchy of command is established.

Decisions affecting the execution of this plan are to be made by the highest ranking individual who is available for counsel. It is presumed the Deputy Conservator will be available to take management responsibilities and to provide overall leadership.

It is recognized that immediate decisions by PORT personnel at various locations may be highly beneficial in reducing injuries, potential harm to the environment and property loss.

For this reason inordinately broad discretionary powers are bestowed on facilities managers with the expectation that decisions will be based on criteria embedded herein and in keeping with the "reasonable person" standard.

During an emergency, the PORT'S Deputy Conservator (or designee) will initiate response actions appropriate to the event. Depending on the nature of the event, the response may, or may not, be at the same level at all PORT facilities. For this reason it is important that there be clear lines of communication from the PORT'S Deputy Conservator to PORT personnel as to changing expectations and levels of delegated authority.

1.1 OPERATION POLICIES and GUIDELINES:

- I.** It is presumed the PORT'S Deputy Conservator (DC) will be available to take management responsibilities and to provide overall leadership. In the event the DC is not present or is not able to provide leadership the alternate shall be nominated by Chairman/Deputy Chairman.

- II. LEVEL OF RESPONSE:** The PORT'S level of response will be commensurate with the present and potential impact(s) of the emergency.

- III. PRIORITIES:** Decisions will include consideration of the following:
 - A. Public safety
 - B. The protection of the environment
 - C. The protection of property
 - D. Restoration of an environment in which PORT customers can conduct business giving priorities as follows:
 - 1. Facilities that will contribute to the restoration of recovery capabilities.
 - 2. Facilities on which there is great public reliance.
 - 3. Facilities that serve businesses with broad and significant impacts.
 - 4. Facilities that can be made functional with a minimum of resources.

- IV. COMMUNICATIONS:**
 - A. Media
 - 1. Provide official info to media.
 - B. Marine
 - 1. Supply support to Marine department.
 - 2. Respond to media inquiries specific to conditions at Marine sites.
 - 3. Defer official PORT policies, positions and plans to PORT Communications.
 - 4. Provide internal communication within Marine Division.
 - 5. Provide communication from the PORT to Marine customers.

- V. RESOURCES:** For establishing priorities for receipt of PORT resources
 - A. HODs will develop proposed priority list.
 - B. Marine Department will develop proposed priority list for Marine.
 - C. Proposed priorities will be submitted to the Chairman/Deputy Chairman for action and allocation of resources.

- VI. COMMITMENTS:**
 - A. It is the intention of the JNPT to make every good faith effort to honor existing contracts and commitments in spite of adversity. In the event not all commitments can be met fully, the Crisis Management Group to define priorities.

- B. When possible, however, PORT contracts should contain provisions excusing the PORT from performance in the event of disasters.

VII. EXTRAORDINARY POWERS: HODs and Managers are provided extraordinary powers to enter into contracts and agreements at the time of a major disaster provided:

- A. Immediate action is required for the protection of life or property.
- B. Adequately trained and equipped PORT personnel are not available to meet the immediate needs.
- C. Contractors with whom the PORT has pre-negotiated agreements are to be utilized when possible.
- D. Such contracts or agreements must be for specific tasks and subject to amendment (including cancellation) at the discretion of the Chairman/Deputy Chairman.
- E. All such contracts and agreements are to be brought to the attention of the Chairman/Deputy Chairman at the earliest possible time.

VIII. ASSISTANCE: As a matter of policy, PORT personnel are not to solicit assistance from customers, tenants, or visitors. There may be extreme conditions, however, where additional assistance will be of exceptional value.

- A. These conditions may include:
 - 1. The protection of life.
 - 2. Protection of the environment.
 - 3. Protection or preservation of property.
- B. Volunteer help may be accepted provided that.
 - 1. Assistance from capable PORT personnel is not available.
 - 2. Time is critical to the performance of the task at hand.
 - 3. Volunteer personnel are not put at risk.
 - 4. Volunteer personnel are competent and fit for the task at hand
 - 5. Volunteer personnel will be released from service at the first opportunity
 - 6. Responsible PORT employee is to record.
 - a) Persons name.
 - b) Nature of task performed.
 - c) Date and time of assistance.
 - d) Comments and/or observations.

IX. MUTUAL AID:

- A. If necessary, the Chairman/Deputy Chairman may request assistance from other government agencies.
- B. PORT resources may be made available to other entities severely impacted by an emergency provided such aid:
 - 1. Contributes substantially to the public safety.

2. Will be of substantial benefit to the public.
 3. Will not compromise the safety and welfare of PORT employees, customers and members of the community.
- C. In the event the PORT is requested to lend assistance to others, the following is to be considered.
1. Are there existing "mutual aid" agreements? If so these should receive priority consideration.
 2. What will be the impact on the PORT'S recovery process?
 3. What will be the impact on the recipient?
 4. Are the PORT'S resources being used for the public's good?
- X. A. **PERSONNEL POLICIES:** Extraordinary policies may be developed in order to insure fair treatment of all employees and to insure the availability of a work force.
- B. **EXPECTATIONS:** The retention of an effective work force is critical to the orderly resumption of business following a major emergency and its attendant disruptions.

To this end it is important that our employees know what to expect from their employer in terms of continuation of employment and compensation.

1. All PORT employees are expected to continue to provide their services to the PORT during the post emergency Organization, Initial Damage and Loss Assessment, and Recovery and Resumption of Business phases.
2. Employees whose talents are not required and whose presence adds to the burden of Recovery and Resumption of Business may be asked stay away from their work but stand-by. These employees should advise their immediate supervisor of where they can be contacted at the time their services are, once again, needed.
3. Wages and benefits will continue for employees who are assisting in the Recovery and Resumption of Business efforts and for those placed on stand-by.
4. In the event a PORT operation is obliterated or otherwise is no longer operational:
 - a) Every effort will be made to relocate affected employees in other areas of the PORT.
5. Employees wishing to temporarily pursue other interests may be granted a leave of absence provided:
 - i. Their supervisor agrees their services are not required.
 - ii. PORT People Programe, policies and/or contracts are followed

XI. ACKNOWLEDGMENT OF LIMITATIONS:

- A. The Management is committed to developing emergency preparedness plans that address
1. The safety and security of our employees, customers, visitors, and members of the community.
 2. The protection of the environment.
 3. The protection of property.
 4. The safe and orderly continuation of the business of our customers.
 5. The orderly continuation of the mission of the Port.
- B. To assure this, the following are in place:
1. A comprehensive PORT-wide **EMERGENCY ACTION PLAN**.
 2. Comprehensive training for those who will be responsible for Organization, Damage Assessment and Recovery.
 3. 72 hour supplies of food and water for employees and those who may fall under the care of the PORT.
 4. Equipment and supplies expected to be adequate for emergency response and personal safety.
 5. Emergency communications system.
 6. Education of PORT employees about emergency preparedness, personal safety, survival techniques and personal supplies.
- C. Decisions and responses during a disaster will be based on:
1. The best information available at the time a decision or action is warranted.
 2. Resources available at the time a decision and/or action is warranted.
- D. In the event of extensive devastation, the PORT may not have an inventory of all of the supplies, tools, equipment, material, and resources desired or needed to meet all of the requirements of PORT employees, customers and visitors.
- E. Supplies, tools, equipment, material and resources that are available in PORT inventory may not be in sufficient supply for a prolonged recovery process and may not meet all of the needs of PORT employees, customers and those who may fall under the care of the Port.
- F. It must be recognized that it is virtually impossible to develop a plan, or set of plans, that will foresee and address future events -- particularly when the dynamics of a disaster are in play. For this reason it is acknowledged that PORT plans may not be perfect in their content or their execution.
- G. Other factors may limit the ability of the PORT to provide a totally effective response to a widespread disaster. These factors may include.
1. Damage to various infrastructures including:
 - Roads
 - Marine terminals

- Rail systems
- Petroleum tanks & supplies
- Telephone communications
- Broadcast communications

Such damage may severely compromise the Port's ability to respond as well as maintain its business and services.

2. The potential difficulty for employees, customers, and visitors, etc. to survive without outside help for a period up to (and possibly exceeding) 72 hours.
3. Adequacy of medical supplies, assistance and resources.
4. Climatic conditions and the adequacy of shelter.
5. There is a potential inability of fire, emergency medical, and police to respond to emergencies within the PORT in a timely manner due to:
 - a) Extremely high level of demands from others.
 - b) Damaged infrastructure.
 - c) Damaged emergency equipment.
 - d) Potential shortage of trained personnel.
6. Sustained demands for emergency assistance will necessitate deactivation of some recovery assets for such things as maintenance, sustenance, rest and resupply.
7. Assessment of damage to PORT properties may be delayed due to excess demands on human and equipment resources. Until these assessments are made the process of restoration and the reopening of facilities cannot begin. It follows that some operations and customers may be delayed in returning to business.

1.2 EXECUTIVE PROCEDURES:

For the Administration of Recovery and Resumption of Business Organization and First Aid -- Phase I of Operations: Responsibilities for initial organization and immediate first aid are within the purview of each manager and are described in the response procedures for each PORT-owned and operated location. These locations include:

- Container Terminal
- Shallow Water Berth
- Liquid Terminal
- Storage Area

Initial Damage and Loss Assessment -- Phase II of Operations: Because of familiarity with their facilities and proximity thereto, initial damage and loss assessment is left to the various managers. It is incumbent on them to keep the PORT'S Deputy Conservator informed of the condition of their personnel and facilities.

Recovery and Resumption of Business - Phase III of Operations: Evaluation and decision making to this point has been, for the most part, the responsibility of the Managers.

At the occasion of a major disaster such as an earthquake described as:

Level III Earthquake:

This will be a seismic event in which the shaking is substantial and extensive damage is likely. The city and region emergency response capabilities will be heavily utilized -- responses will have to be prioritized and assistance may be delayed.

It is for this type of event that these Executive Recovery and Resumption of Business Procedures and Policies have been prepared. The following executive policies and procedures shall apply.

- I. The PORT'S Deputy Conservator (or designee) is to declare that an emergency condition exists and to initiate PORT wide responses as appropriate to each site.
- II. Incident Oversight and Management
 - 1. Purpose
 - a) Planning
 - (1) Provide counsel to Chairman/Deputy Chairman.
 - (2) Review PORT **EMERGENCY ACTION PLANS** – help establish standard disaster procedures for all PORT operated facilities.
 - (3) Help define policies.
 - (4) Help communicate policies as defined by the Chairman.
 - (5) Coordinate PORT emergency response with other emergency response organizations and entities.
 - (6) Ensure that PORT response activities are in compliance with relevant local, state and federal regulations.
 - (7) Coordinate with local, state and federal disaster management entities.
 - b) "Recovery and Resumption of Business"
 - (1) Provide counsel to PORT'S Chairman/Deputy Chairman.
 - (2) Review PORT **EMERGENCY ACTION PLAN** and modify or create new policies as the need arises.
 - (3) Manage communication of policies throughout PORT organization.
 - (4) Assist PORT'S Chairman/Deputy Chairman in establishing priorities.
 - (5) Coordinate PORT emergency response activities with other emergency response organizations and entities.

- (6) Coordinate with local, state and federal disaster management entities. (b) Insure that Government assistance for which the PORT is eligible is procured.

- 2: Location of PORT'S Emergency Operations Center (EOC)
 - Administration Building (First Floor Conference Room)
 - Port Operation Centre
 - Mobile site as may be designated by the Deputy Conservator.

The PORT'S Chairman/Deputy Chairperson will determine when the disaster is over.

Post-Incident Review:

1. Following a major disaster the Deputy Conservator will develop a written report and review of the PORT'S response to the disaster.
2. This report will serve to critique existing **EMERGENCY ACTION PLAN**.

Following publication of this report the PORT'S **EMERGENCY ACTION PLAN** will be revised to include information learned in the experience.

2. COORDINATION WITH NON-PORT RESOURCES:

The PORT is not immune to numerous natural and technological hazards. These events have the potential to create casualties, cause damage and disrupt PORT and Port tenant operations. It would not be uncommon for a cascading effect to occur, i.e., where one major emergency produces one or more additional secondary emergencies. As a result, more the one situation may develop and may require attention:

- A. PORT customers and members of the community may need and request assistance from the PORT.
- B. PORT resources may be severely impacted by the event that would necessitate the Port to seek outside assistance.
- C. This section of the **PORT EMERGENCY ACTION PLAN** discusses the coordination of the PORT with outside agencies and contractors to respond to major emergencies and disasters in order to meet these needs.
- D. To protect life, property and the environment and ensure or reestablish continuity of PORT and PORT customer operations, the PORT is committed to providing emergency preparedness plans that address the needs resulting from a major emergency. If requested, and in keeping with established policies, PORT resources may be made available to entities severely impacted by an emergency. In the event it becomes necessary to seek outside assistance the PORT may request such aid from non-PORT resources. These could include mutual aid with neighboring jurisdictions, assistance available through interlocal agreements, support from other

outside agencies, and by means of preexisting contractual arrangements with private contractors.

PORT operational departments are prepared and have ample resources, or access to sufficient resources, to adequately handle emergencies. However a major emergency or disaster, would severely stress normal Port operations and systems, and could require outside assistance from City, State, other governmental entities, and/or PORT contractors.

As needs become evident, the Chairman/Deputy Chairman will:

1. Request and utilize PORT resources, i.e., fire, police, maintenance, etc.
2. Petition other neighboring jurisdictional emergency responders to assist.
3. Seek support from other mutual aid agencies.
4. Bring in outside private contractors as needed.

In the event PORT customers and members of the community may need and request assistance from the PORT, the PORT'S Chairman/Deputy Chairman may make PORT resources available provided such aid:

1. Contributes substantially to the public safety
2. Will be of substantial benefit to the public
3. Will not compromise the safety and welfare of PORT employees, customers and members of the community

Additional factors to consider:

1. Are there existing "mutual aid" agreements?
2. What will be the impact on the Port's recovery process?
3. What will be the impact on the recipient?
4. Are the Port's resources being used for the public's good?

3. GOVERNMENT ASSISTANCE:

A disaster could have significant effects on PORT employees and facilities and could exceed the capabilities of the PORT'S resources. This would therefore warrant Govt. assistance. This segment describes the PORT eligibility and justifications to receive recovery aid, some of process emergency management agencies will follow, and the procedures for the PORT to receive assistance.

A disaster may have significant effects on the PORT that would justify assistance such as:

1. Deaths, injuries, missing persons
2. Interruption or loss of essential public services
3. Continuing public health and safety problems
4. Interruption of essential services
5. Loss or damages to facilities, inventories, equipment, materials, etc. and their importance to the area(s)

2. EMERGENCY SCENARIOS

1. FIRE & EXPLOSION:

A fire incident is described as the destruction or partial destruction by fire of a building or its contents. The spread of fire can be very fast. Prompt and well-directed action can be decisive in escaping a major fire loss. The biggest single need usually is not personnel and equipment. Most often it is the ability to respond quickly and to confine the fire to manageable limits before it reaches the disaster stage.

As soon as the Fire & Safety Section arrives they will take charge of the scene, initiate the Incident Command System and appoint a Fire Coordinator.

It is within the purview of the Fire & Safety Section to:

- Evaluate the situation.
- Determine equipment and manpower needs.
- Notify appropriate agencies for assistance.
- Confine and extinguish structural fires to area of origin and prevent additional exposure.
- Reduce or eliminate structural damage and risk to persons.
- Conduct rescue and life saving.
- Provide medical services.
- With the concerned Department conduct a fire investigation to determine point of origin and cause.
- Facilitate in returning structures back to service as soon as possible.

PROCEDURES:

- I. Sound alarm.
- II. Call Fire Station and Port Control Room
 - A. Calmly give them:
 - ⤴ Your name.
 - ⤴ Exact location of fire (address, nearest cross streets); best access routes.
 - ⤴ The extent of the fire/explosion
 - ⤴ If any hazardous materials are in the vicinity, if known.
 - ⤴ Your call back phone number.
 - ⤴ Any other information requested from the dispatcher
 - B. **STAY ON THE PHONE** until Fire & Safety Section dispatcher says he/she has all needed information. Station someone at the entrance to facility or gate to assist emergency vehicles.
 1. Keep someone available to answer questions for emergency responders.
 2. Have someone familiar with building/facility and the mechanical systems accessible as a resource.

- III. If ships are involved or in danger contact port control station.
- IV. If possible and can do so safely attempt to extinguish or contain the fire
- V. If your clothes catch fire;
 - A. Do not run.
 - B. **Stop, Drop** to the ground, and **Roll** to smother the flames.
 - 1. Do not attempt to smother the flames by hand.
- VI. Evacuate the immediate vicinity through the nearest safe exit.
 - A. Do not use elevators.
 - B. Be aware of falling debris and/or unstable footing.
 - C. If area is filled with smoke:
 - 1. Use another exit.
 - 2. If you must escape through the smoke, crawl low keeping your head 12 to 24 inches above the floor.
 - D. Test doors before you open them.
 - 1. If door is hot, use another escape route.
 - 2. If door is cool, open it slowly.
 - Close doors behind you to contain fire and smoke.
 - After the occupants have evacuated, do a quick check of the work areas, washrooms, etc.
 - E. Aid in evacuating those occupants who may need assistance.
 - F. Report directly to your designated meeting point.
 - 1. At least 250-500 feet away from incident, uphill and upwind. If vehicles are moved, face away from incident when parked.
 - G. Incident Coordinator conduct a roll
 - 1. Report to Site Incident Controller status of all employees.
 - 2. Keep individuals out of way of firefighting activities and away from falling glass and debris.
 - Inform the tenants and visitors of the nearest safe exit. Make a list of tenants that you have contacted.)
- VII. If injuries have occurred:
 - A. Administer first aid and stand by for emergency crews.
 - B. Do not move victims unless there is danger of further injury.
- VIII. Take action to shut off electrical power to affected area, provided illumination is not an overriding factor. Other utilities such as air, steam, and pressurized gas should be shut off unless necessary to emergency operations.
- IX. If you are unable to escape:
 - A. Close all doors between you and smoke, if possible.
 - B. Stuff cracks around doors with clothing, towels, etc.; cover all vents to keep smoke out.
 - C. Put a wet cloth over your mouth and nose.
 - D. It is advisable not to open or break windows.
 - E. Let someone know you are trapped.

- ☞ Call fire department and give exact location. Place a signal in window. Use anything that will call attention to you.
- X. Cooperate with fire department to protect scene for investigation, if necessary. A press site should be established at the fire scene, and a terminal location provided for news media representatives.
- XI. If fire department will allow re-entry and police/fire barricades are set up, provide a knowledgeable person to assist officers in clearing necessary Port personnel through.

2. COLLAPSE OF LIFTING APPLIANCES, BUILDINGS, SHEDS ETC.:

In the event of such emergencies, lives and safety of container terminal workers could be endangered, property and equipment may be damaged or destroyed, and functional operations may be adversely affected. The **terminals operators and managers are trained** to respond to the developments resulting from major emergencies.

To safeguard lives, assets and restore terminal operations, the Terminal Operator together has the responsibility to manage the incident. The need thus exists for coordination of response and recovery activities.

If emergency response authorities, i.e., fire and/or security have assumed the lead or control of the situation, terminal operators will work in conjunction with them.

The terminal operators are mandated to have written emergency response plans. Prior coordination will take place so that they will be able to work in concert during a major emergency. However, when a disaster occurs, circumstances may necessitate that inordinate decisions be made. Although the responsibility for making these decisions may shift, this highlights the need for close cooperation and communication.

The effects of a specific emergency (including structure damage to cranes, etc.) may vary significantly from one terminal to another. Immediate assumption of authority will depend on time and day on which emergency occurs, the level of operations taking place at the time, and what people are at the facility. The Maintenance Section of respective Department will assume responsibility for inspection, repair, etc. of the equipments (container cranes, sub stations etc.). (See **Vessel/Marine Accident Response Procedure**) With regard to other aspects, terminal managers on each site will need to determine the level of response that appropriate for their site. Specific responsibilities include:

Deputy Conservator; will establish and maintain communication with:

- ☞ Terminal Managers
- ☞ Manager (Marine Engineering)
- ☞ Shipping Lines of status of situation, i.e., whether conditions warrant limiting ships from entering harbor and mooring, etc.
- ☞ Assume responsibility for safety and working order of cranes.
- ☞ Shut down cranes, electrical power to crane rails (using lockout/tagout procedures) if necessary.

If a disaster occurs while container cranes are in operation it is critical that crane operations cease immediately and that the cranes be dogged and secured. If crane utilizes only diesel/electric systems, there is no utility power disconnect required.

ALL TERMINALS

Initial survey and property damage assessment will be as follows and findings will be reported to Deputy Conservator:

1. Observe condition of Container handling Cranes (RMQC, RTGC, and RMGC)
 2. Observe condition of Liquid handling Equipments (Loading Arms)
 3. Observe condition of Work Shop, Main Stores, and Auto Garage
 4. Observe condition of Master Unit Sub Station (MUSS), Electrical Sub Stations
 5. Observe condition of other areas like Administration Building, Hospital etc.
- Inspection is to be made from the outside of structures only. Inspections are to avoid hazards.
 - Area in charge is to be notified immediately in the event high hazard and/or life threatening conditions are found.

3. GAS LEAKAGES AND SPILLAGES OF DANGEROUS GOODS:

Continued growth in the quantity of hazardous materials produced, stored, and transported through the port region increases the need for awareness and emergency preparedness.

A significant amount of hazardous material passes through PORT facilities. The potential impact of a hazardous materials incident is dependent on the nature of the material, volume, conditions of the release, and area involved. Releases may be relatively inconsequential and easily handled with locally available emergency response resources or rise to the catastrophic level with immediate effect and long-term environmental consequences.

In the event of a hazardous materials incident, the personnel from Fire & Safety Section will respond. They will coordinate with respective terminal official, and contractors in managing the situation. The Central Industrial Security Force will assist with evacuations.

For Initial Assessment purposes: Hazardous Materials Incidents will be categorized into three levels

| | |
|----------------|--|
| Level I | An incident or threat of a release which can be controlled by the first response agencies and does not require evacuation of other than the structure or immediate outdoor area. The incident is confined to a small area and does not pose a direct threat to life or property. |
|----------------|--|

| | |
|------------------|---|
| Level II | An incident comprising a greater hazard or larger area which poses a potential threat to life or property and which may require a limited evacuation of the surrounding area. |
| Level III | An incident involving a severe hazard or a large area which poses an extreme threat to life and property and that will probably require a large scale evacuation; or an incident requiring the expertise or resources of city, county, state, and/or private agencies/ organizations. |

When reporting an incident, initial information is critical. It is important to gather as much information as possible very quickly in order to facilitate decisions on public notification and evacuation.

Some information will apply to fixed facility incidents and some will apply only to transportation incidents. Other information will be in reference to releases into the air, on the ground or into the water. **Identification numbers, shipping manifests, and placard information are essential** to identify any hazardous materials, and to take initial precautionary and containment steps.

PROCEDURES:


For Level I spill/release:

- Inform Fire Station on 27245000 / 27245100 / 67815000 / 67815100
- Inform Control Station on 27245151 / 27245178 / 27242367 / 67815151 / 67815178 / Marine VHF Channel No. 13.
- If possible, contain with absorbent pads, etc., flow to extent possible until further assistance arrives.
- If a spill enters the water, notify Marine Conservancy and Pollution Control Section on 27245205 / 27245206 / 67815205 / 67815206

For a Level II or III hazardous materials incident:

- I. Inform Fire Station on 27245000 / 27245100 / 67815000 / 67815100
- II. Inform Control Station on 27245151 / 27245178 / 27242367 / 67815151 / 67815178 / Marine VHF Channel No. 13.
 - ▲ Calmly give:
 - ☞ Your name.
 - ☞ Name and telephone number of an on-scene contact.
 - ☞ Exact location of release (address, nearest cross streets); best access routes..
 - ☞ Nature of emergency, e.g., leak, explosion, spill, fire, derailment
 - ☞ Time of release.
 - ☞ Possible health effects/medical emergency information, if known.
 - ☞ Number of dead or injured; where dead/injured were taken.
 - ☞ Name of material(s) released; if known.

- ☞ Manifest/shipping invoice/billing label
- ☞ Shipper/manufacture identification
- ☞ Railcar/truck identification numbers
- ☞ Placard/label information
- ☞ Container type e.g., truck, rail car, pipeline, and drum.
- ☞ Personnel at the scene: nearby workers, residents.
- ☞ Present physical state of the material, i.e., gas, liquid, solid.
- ☞ Characteristics of material (e.g., color, smell, physical effects), only if readily detectable.
- ☞ Amount of material released so far/duration of release.
- ☞ Whether significant amounts of the material appear to be entering the atmosphere, nearby water, storm drains, or soil.
- ☞ Weather conditions (wind direction and speed).
- ☞ Direction, height, color, odor of any vapor clouds or plumes.
- ☞ Other hazardous materials in area.
- ☞ Inform if any remedial actions that are underway or completed.
- ☞ Any other information requested from the dispatcher.

 **STAY ON THE PHONE** until fire section dispatcher says he/she has all needed information.

- III. Isolate contaminated area.
 - A. Deny entry to unauthorized persons.
 - B. Do not touch contaminated containers or spilled material.
 - C. Do not move damaged containers.
- IV. Evacuate the building/facility (see **Evacuation Procedures Toxic Accident Evacuation Plan.**)
 - A. If time allows:
 - ☞ Shut down ventilation equipment to prevent fumes from spreading through building.
 - ☞ Close all doors and windows
 - B. After the occupants have evacuated, do a quick check of the work areas, washrooms, etc.
 - C. Aid in evacuating those occupants who may need assistance.
 - D. Inform tenants and visitors of the situation. Make a list of all tenants that you have contacted.
- V. Report directly to a designated meeting point:
 - A. At least 250-500 feet away from incident, uphill and upwind.
 - ☞ Greater distances may be required if directed by Fire Coordinator
 - ☞ If vehicles are moved, face them away from incident when parking.
 - ☞ Wait for Hazardous Materials Response Team before attempting any rescues.
 - ☞ Report to Site Incident Coordinator the status of all employees.
 - ☞ Detain non-injured persons who have come in contact with or have been exposed to chemicals or radiological materials

☞ Advise Fire & Safety personnel of contact with materials.

- VI. Designate person most familiar with the hazardous material to meet with Fire Department.
- VII. If injuries have occurred, administer first aid and stand by for emergency crews.
 - A. Be aware of possible contamination on clothes or person
 - B. Do not move victims unless there is danger of further injury or contamination.

If personnel are not able to evacuate the building safely and must stay confined to a building:

- Close all doors to the outside and close and lock all windows (windows usually seal more completely when locked).
- Close as many internal doors as possible
- Ventilation systems should all be set to 100 percent recirculation so that no outside air is drawn into the structure. Where this is not possible, ventilation systems should be turned off.
- Turn off all heating systems.
- Turn off all air-conditioners and switch inlets to the "closed" position.
- Turn off all exhaust fans in kitchens, Restrooms, and other spaces.
- Seal Restroom exhaust fans; any gaps around window type air-conditioners, and other openings to the outside to the extent possible (including any obvious gaps around external windows and doors).
- Use tape and plastic sheeting, wax paper, or aluminum wrap.
- If it is known that the gas or vapor is soluble or even partially soluble in water: hold a wet cloth or handkerchief over your nose and mouth if the gases start to bother you For a higher degree of protection, go into the bathroom, close the door, and turn on the shower in a strong spray to "wash" the air. Seal any openings to the outside of the bathroom as best as you can.
- If an explosion is likely outdoors -- close drapes, curtains, and shades over windows. Stay away from external windows to prevent potential injury from flying glass.
- Do not use elevators or lifts.

TRANSPORTATION ACCIDENTS:

Major transportation mishaps could lead to chemical spills, fires, explosions, and other problems. These emergencies may call for special operations such as evacuation and rescue. Usually, transportation accidents affect only relatively small areas and involve only a small number of people. However, the increased concentrations of people on the waterfront, the large volume of transport equipment, plus enhanced vessel activity, and the hazards posed by shipments of explosive, toxic, corrosive, or flammable materials, could create a major emergency. Trucking, rail and vessels are integral parts of the transportation system within the cargo mix that use numerous hazardous materials.

While the vast majority, of these materials are shipped without incident, both the number of shipments and the nature of the materials themselves dictate that the PORT and the local emergency response agencies be prepared to respond quickly and effectively to emergencies. The growth in air and rail passenger service, trucking, vessel, and automobile traffic through or near PORT property increases possibility of and the exposure to multiple casualty incidents.

Although emergency personnel will respond quickly, procedures can be initiated immediately to evacuate and provide assistance to victims, and to control the scene.

If a major transportation accident takes place:

I. Call Fire Station and Port Control room.

A. Calmly give them:

- ☞ Your name.
- ☞ Type of incident (airline crash, train derailment, ship accident, etc.)
- ☞ Exact location of event (address, nearest cross streets); best access routes.
- ☞ Approximate number of people involved.
- ☞ If there is structural damage.
- ☞ Whether or not fire is occurring.
- ☞ If any hazardous materials are in the vicinity, if known.
- ☞ Your call back phone number.
- ☞ Any other information requested from the dispatcher

B. **STAY ON THE PHONE** until dispatcher says he/she has all needed information

- ☞ Station someone at the entrance to facility or gate to assist emergency vehicles.
- ☞ Keep someone available to answer questions for emergency responders.
- ☞ Have someone familiar with building/facility and the mechanical systems accessible as a resource.
- ☞ If this incident involves a ship:
 - ☞ Contact Fire Station and Control Station
 - ☞ If piers or buildings have collapsed, or other structural damage exists.
- ☞ Determine if action is needed to shut off utilities, gas, water, electricity, etc., to affected area. Some utilities may be needed for emergency operations
- ☞ Secure immediate area for safety. Do not allow anyone to enter area unless immediate
- ☞ Rescue is necessary.
- ☞ If evacuation is necessary.
- ☞ If injuries have occurred:
 - a) Administer first aid and stand by for emergency crews.
 - b) Do not move victims unless there is danger of further injury.
 - c) Wait for Hazardous Materials Response Team before attempting any rescues if this is a hazardous material incident.
 - d) Initiate crowd control; allow emergency personnel and vehicles to scene.

4. DROWNING OF DOCK WORKERS, SINKING OF VESSELS

AND

5. RETRIEVAL OF TRANSPORT EQUIPMENT FROM DOCK BASINS

Undesirable events such as Collision, Grounding, Striking, Ramming during inward and outward passage lead to Emergency. Tidal variations over a large range, Difficulty in emergency towing due to lack of depth, Swinging of vessels anchored in stream, Absence of traffic separation for two way traffic in the channel tend to increase the risk of grounding, collision, striking and impact.

The probability that tanks will be damaged in the event of critical collision, grounding, ramming or striking and leading to Fire / Explosion / Toxic release depends on factors such as strength of the tanker, the elasticity and deformability of the tanks, speed of the vessel, angle of striking, position of the tanker i.e. open water or along side, obstacle against which the tanker grounds such as rocks, sand or a wreck.

The probability of a ship being involved in a collision or grounding is dependent on:

- Weather conditions and visibility
- Time of operation
- Size & Speed of the ship

Even in favorable weather conditions grounding, collision, striking, and ramming may occur as a consequence of:

- Steering failure
- Propulsion engine failure
- Failure of propulsion controls
- Incorrect or delayed engine response to orders from bridge
- Electrical system failure resulting in 'dead ship' during maneuvering

GROUNDING:

One of the redeeming features of Indian ports is its 'soft' bottom and absence of wrecks and rocks along the seabed. As past experience shows grounding by itself need not cause undue alarm from the point of view of damage to the tanks structure and consequent risk of spillage, pollution and fire as long as ground is flat and support to hull is uniform. However grounded vessel can hamper the vessel movement in the channel.

COLLISION:

Collisions in which the cargo tanks are ruptured are generally accompanied by heavy sparking and ignition of the leaking gases following the tank rupture. Fire generates

heat and it may damage adjoining tanks. External cooling is unlikely to prevent and best option is to evacuate ship and tow the vessel away to open sea, safe distance from port.

STRIKING:

Striking by incoming or outgoing tanker while adjacent tanker is handling hazardous chemicals is possible. Available data shows that damage of same magnitude can occur due to striking as collision. This is due to reduced energy absorption by the struck ship in the open sea than restricted along side. If the stationary ship is struck squarely around it's mid- ship region, maximum damage is likely to occur. However a glancing blow at angle may not result in tank rupture though damage to ship's shell and structure, moorings, unloading arm, etc may still occur. This may cause spillage.

IMPACT:

Impact occurring from hitting the jetty while berthing/unberthing can also damage to ship and jetty. This is unlikely to result tank rupture unless the impact is a result of high speed ramming and the impact is absorbed along a narrow section i.e. bow of the vessel.

6. FLOODS, STORMS, AND OTHER NATURAL CALAMITIES

COASTAL FLOODING:

Coastal flooding occurs when high tides, combine with low barometric pressure, and high winds. It is the possibility of coastal flooding that poses the greatest risk.

Flood waters may create an emergency situation, consider:

- ☞ The water may be contaminated by oil, gasoline, raw sewage or other hazardous material.
- ☞ Water may be electrically charged from underground (e.g. container crane rails) or downed power lines.
- ☞ Six inches of moving water can make walking extremely dangerous.
- ☞ Submerged obstacles, roadway shoulders, holes or soft ground may be undetectable.
- ☞ The ground may have weakened and could collapse under the weight of a vehicle.
- ☞ Vehicles can be swept away by floodwaters.

The Metrological department issues flood warnings:

- ☞ COASTAL FLOOD WATCH means that flooding is possible.
- ☞ COASTAL FLOOD WARNING indicates that flooding is already occurring or will occur soon.

When a COASTAL FLOOD WATCH is issued:

- ☞ Relocate records, equipment, high value or critical items
- ☞ If time permits, certain flood proofing mitigation measures may be taken such as constructing levees, sandbagging, and installing pumps.

When a COASTAL FLOOD WARNING is issued:

- ☞ Be prepared to evacuate.
- ☞ Shut down flammable liquids and gas systems.
- ☞ If instructed, turn off utilities at main switches or valves
- ☞ Move toward higher ground.
- ☞ Do not walk through moving water.
- ☞ If you must walk in a flooded area, walk where it is not moving and use a stick or similar object to check the firmness of the ground in front of you.
- ☞ Stay away from downed power lines.

STORMS:

Storms vary in size and intensity from a minor storm, a full-blown blizzard or extraordinary high winds. In a severe situation PORT operations could be interrupted. Additionally, PORT personnel could be at risk of exposure and dangers inherent in high winds and damages to buildings, trees, power lines, etc. High winds would be particularly hazardous.

Forecast for hazardous weather conditions are classified as:

- ☞ STORM WARNING indicates that severe weather conditions are imminent.
- ☞ HIGH WIND WATCH means sustained winds of at least 40 mph, or gusts of 50 mph or greater, are expected to last for at least 1 hour. (In some areas this means strong gusty winds occurring in shorter time periods.)

When Severe Storm is approaching, or has developed:

- I. Marine Maintenance should be placed on alert to:
 - A. Assist in securing facilities if deemed necessary.
 - B. Resecure or repair areas as needed.
- II. Ensure that all employees are aware of changing weather conditions.
 - A. If employees have left primary work location:
 1. Know where they are.
 - a) Make contact by radio or phone.
 - b) Will they be able to return safely?
 2. If driving PORT vehicle and become stranded during normal working hours, call Marine Maintenance Auto Shop.
 3. Evacuate personnel and temporarily suspend operations beneath danger area.

EARTHQUAKE:

It is fundamental to effective earthquake preparedness that everything that can be practically done to minimize the likely effects of an earthquake be accomplished before an earthquake occurs. This includes building and facilities construction, storage planning and practices, and education of PORT personnel of appropriate actions when an earthquake occurs. This document deals with policies and procedures following an earthquake.

Not all earthquakes are of the same magnitude. Further, the effects of an earthquake (including structure damage) may vary significantly from one area to another. This may be due to differences in distance from the earthquake's epicenter, differences in geology, differences in topography, or differences in building construction. For these reasons, at the occasion of an earthquake, it will be incumbent on responsible parties at each site to determine the level of response, which is appropriate for their site. For our **Initial Assessment** purposes earthquakes will be categorized at three levels:

| | |
|------------------|--|
| Level I | A slight tremor is felt. Window shades swing and perhaps some small objects fall from desks, etc. It appears unlikely that there is significant damage. |
| Level II | The shaking is quite noticeable. Pictures are askew and things topple from desks and bookshelves. Some windows may crack. Damage, though noticeable, appears to be minor in nature |
| Level III | This is the "big one." It may be difficult to walk. Items fall and some bookcases, etc. topple. Power lines sway violently. There is structural damage to buildings |

Most earthquakes will fall in the Level I category. In the event of a Level I quake stay calm and communicate with those around you. The facility manager or supervisor should advise the Port Deputy Conservator of the event and the initial assessment. Please keep in mind, however, that this could be the precursor of a larger quake. The likelihood of this is not great but the possibility should not be dismissed. This would be a good time to search your work area for heavy or dangerous objects that could cause injury should they fall in a greater tremor.

A Level II earthquake calls for action. Even though there may appear to be little or no damage there may be problems about which you may not be immediately aware (such as broken gas lines, damaged wiring, structural damage, etc.). Therefore, a Level II earthquake calls for an orderly evacuation of the building until inspections indicate it is safe to re-enter. In this case the senior responsible person (one who would be the Site Incident Commander in the event of a Level III earthquake) should conduct an inspection of the building and its systems to confirm a safe environment.

Once successfully completed, employees will be advised to return to work. As with Level I tremors, this could be the precursor of a larger quake and this would be a good time to search your work area for heavy or dangerous objects that could cause injury should they become unstable in a greater tremor.

The following procedures are provided as a guideline to PORT personnel in attendance at the occasion of a Level III earthquake. This will be a seismic event in which the shaking is substantial and damage is likely, if not apparent. Response organization is divided in a chronological priority with activities prioritized secondarily.

During the Earthquake:

- I. During the Shaking (Level I, II, or III)
 - A. Stay calm
 - B. Stay where you are
 1. If indoors, stay indoors
 - a) Move away from windows and things that could fall
 - b) Seek cover
 - (1) **Drop**
 - a) Move under a desk or table
 - b) If there is no place to take cover move to, and brace yourself against an inside wall
 - (2) **Cover** your head and neck
 - (3) **Hold** onto a firm object (such as a desk or table leg)
 2. If outside, stay outside.
 - a) **Drop** to a clear area away from trees, buildings, utility poles and electric wires
 - b) **Cover** your head and neck. Take precautions against flying objects
 - c) **Hold** onto a firm object
 3. If in an automobile
 - a) Move away from an overpass or bridge
 - b) Pull onto the shoulder -- out of the traffic path
 - c) Stay in your vehicle
- II. Immediately After the Shaking
 - A. Level I, II, or III
 1. Remain calm
 2. Be ready for more shaking (aftershocks) which are likely to follow
 3. Check yourself for injuries
 4. Be alert to fires, electrical wiring, or gas fumes
 - Level II or III
 1. See **Evacuation Procedures Procedure 6**
 2. Tune battery powered radio.
 - B. Follow procedures in **Emergency Operation Plans Volume I .**

The PORT is fortunate to be located in a region where extreme weather conditions are rare. There have been instances where unusual and severe weather could cause or contribute to an emergency situation.

TSUNAMI:

The phenomenon Tsunami is a series of traveling ocean waves of extremely long length generated primarily by earthquakes occurring below or near the ocean floor.

Following safety measures need to be learnt before, during and after the occurrence of tsunami:

Before

- ✓ Be familiar with the tsunami warning signals. People living along the coast should consider an earthquake or a sizable ground rumbling as a warning signal. A noticeable rapid rise or fall in coastal waters is also a sign that a tsunami is approaching.
- ✓ Make sure all employees know how to respond to a tsunami. Make evacuation plans. Pick an inland location that is elevated.
- ✓ After an earthquake or other natural disaster, roads in and out of the vicinity may be blocked, so pick more than one evacuation route.
- ✓ Teach employees how and when to turn off gas, electricity, and water
- ✓ Prepare emergency kit before hand. The emergency kit should contain Flashlight and extra batteries, battery-operated radio and extra batteries, First aid kit Emergency food and water, Essential medicines etc

During

- ✓ Listen to a radio or television to get the latest emergency information, and be ready to evacuate if asked to do so.
- ✓ If you hear a tsunami warning, move at once to higher ground and stay there until local authorities say it is safe to return home.
- ✓ Move in an orderly, calm and safe manner to the evacuation site.
- ✓ Stay away from the beach. Never go down to the beach to watch a tsunami come in. If you can see the wave you are too close to escape it.
- ✓ Return workplace only after authorities advise it is safe to do so.

After

- ✓ Stay tuned to a battery-operated radio for the latest emergency information.
- ✓ Help injured or trapped persons.
- ✓ Stay out of damaged buildings. Return home only when authorities say it is safe.

- ✓ Enter your home with caution. Use a flashlight/torch when entering damaged buildings. Check for electrical shorts and live wires. Do not use appliances or lights until an electrician has checked the electrical system.
- ✓ Open windows and doors to help dry the building.
- ✓ Shovel mud while it is still moist to give walls and floors an opportunity to dry.
- ✓ Check food supplies and test drinking water.
- ✓ Fresh food that has come in contact with flood waters may be contaminated and should be thrown out.

7. CIVIL DISTURBANCES, TERRORISM:

Due to the political climate that surrounds us, the emotional and psychological stresses that exists today, public disturbances or terrorist acts could happen anywhere at anytime. The PORT is not immune to such events. While the responsibility for action rests primarily with the law enforcement agencies, i.e. the CISF and Police Department, the course of action will be affected to some degree by the other persons involved.

For, the most serious of all decisions to be made in these situations is whether or not to evacuate the area involved. In some instances there must be immediate evacuation. Full evacuation is often not needed. It should only be done if there is very high risk to life. The more people to be evacuated, the greater the possibility of casualties during evacuation. The Incident Commander has the responsibility to evaluate the situation, and to determine which of the following listed actions should be taken:

- ☞ Continue operations; no other action required.
- ☞ Continue operations while simultaneously conducting a building search.
- ☞ Order a limited evacuation of these areas in which an explosive device is allegedly located; conduct a search.
- ☞ Order a complete evacuation of building or facility; conduct a search. This action may be warranted when time is a factor of the threat, i.e., the threat states a device is set to go off at "X" hour and there is insufficient time to make a limited search prior to the time detonation is expected.

PUBLIC DEMONSTRATIONS/CIVIL DISTURBANCES:

The PORT could be the scene for a variety of crowds and/or demonstrations for different purposes at any location. Crowds may gather in response to the development of any unusual occurrence. A crowd may be a casual or temporary assembly that shares a common interest for only a short time. It has no organization or unity of purpose and its members come and go.

Crowds may also assemble for a deliberate purpose such as greeting arriving celebrities or dignitaries. Members of these crowds have no dependence on each other, but have a unity of purpose. If outside influences interfere with their purpose or enjoyment, it is possible for individuals in the group to become unruly and aggressive and transform the crowd into a mob.

Some demonstrations develop slowly, allowing the authorities to assess the problem, to conduct negotiations with the organizers, and to arrange for control measures. On other occasions, violence may flare up with little advance notice. But even these incidents usually are preceded by earlier indications of a buildup of tensions and pressures.

A crowd may deteriorate into a mob if it has been pre-conditioned by events, aroused by rumors or inflamed by agitators. When a mob gains control, law and order disappear and anarchy results. The immediate task is to restore order in the shortest possible time with the least loss of life and property.

The prompt arrest of each person guilty of a riotous act is imperative. The Police have primary responsibility for crowd control due to their unique training and equipment. The objective is to provide space and time for peaceful exercise of constitutional assembly and protection of citizens' rights. They will exercise appropriate restraint to maintain a peaceful environment while ensuring that law and order prevail.

PROCEDURES:

- I. Notify the CISF and Police Department.
 - A. Inform them as to:
 - ☞ The estimated number of persons present or expected.
 - ☞ Their identity, mental and emotional state
 - ☞ Why they are gathering.
 - ☞ What their threats and demands are if known
 - ☞ If there are any injuries or weapons.
 - B. Until the police arrive:
 - ☞ Secure all perimeter doors and terminal gates
 - C. When the police arrive, their immediate objective will be to contain, analyze, and stabilize the incident.
 - ☞ Cooperate completely with them. They will provide the information needed to make appropriate decisions.
 - ☞ If the order to evacuate an area is given, the Police will seal off further access to the area from all non-PORT employees (local authorities such as police and fire excluded). II. If the situation is developing slowly and deliberately:
 - ☞ Operations may continue as normal while negotiating is taking place.
 - ☞ Routinely circulate information to departments concerned.
- II. If there is a sudden eruption of violence, accompanied perhaps by attempted assaults:
 - A. Consider early release or requesting employees to stay home.
 - ☞ If necessary, evacuate those in danger and protect the scene.

TERRORISM:

Terrorism has been defined as "The unlawful use of force or violence against persons or property to intimidate or coerce a government; the civilian population; or any segment of it, in furtherance of political or social objectives." Compared with other facility emergencies, the covert and criminal nature of terrorism, including bombing incidents, bomb threats, taking of hostages, etc. is a highly complex problem for management and emergency personnel. The PORT has no immunity to potential terrorist activity. The potential occurrences could be the result of actions from domestic or international groups. Terrorist actions could come about as a result of grievances, real or imagined, toward activities of some governmental entity, federal or state, or as retaliation for some PORT action.

Traditionally, small arms and improvised explosive devices have been the weapons of choice for terrorist entities as they are easy to acquire and use. Chances are low but growing that chemical or biological agents could be used by some groups as such agents are cheap to produce and easy to conceal as well as being relatively lethal. In addition, they can be expected to cause mass panic.

THREATS, BOMB THREATS:

Experience shows that over 95 percent of all written or telephoned threats, including bomb threats are false. However, there is always a chance that a threat may be authentic. Appropriate action should be taken in each case to provide for the safety of employees, the public, and property and to locate the suspected explosive or incendiary device so it can be neutralized. The threat itself is also a crime.

PROCEDURES:

- I. If the threat is received over the phone:
 - ☞ Follow instructions on the **PORT THREAT CHECKLIST**.
 - ☞ If the threat is to the Port or its personnel notify the Deputy Conservator.
 - ☞ Advise that you received a threat, and relay any information from the "Check List" that they may require.
 - ☞ Inform your supervisor or the facilities manager. They or Police, whoever is Incident Commander, will decide whether or not to evacuate the building and where everyone should assemble, if order is given to evacuate.
- II. If this is a Bomb threat:
 - ☞ Assist the bomb squad by ensuring unobstructed access to the area.
 - ☞ Make sure all non-essential staff have been evacuated from the vicinity
 - ☞ Instruct personnel to take their briefcases, lunch boxes, purses and small packages with them. This will decrease the number of packages to be examined by search teams.
 - ☞ Once the bomb squad has access to the area, proceed to a safe distance from it, individuals who know what does or does not belong in or near the building could assist the police in their search for a suspected bomb.

BOMB THREAT CHECKLIST

☞ **Keep the Caller on the Line as Long as Possible!**

Exact Time and Date of Call: _____

Exact Words of Caller: _____

| Voice | Accent | Manner | Background Noise |
|--------------------------------|---------------|----------------------------|-------------------------|
| Loud | Local | Calm | Factory Machines |
| High Pitched | Foreign | Rational | Bedlam |
| Raspy | Race | Coherent | Music |
| Intoxicated | Not Local | Deliberate | Office Machines |
| Soft | Region | Righteous | Mixed |
| Deep Speech Angry Speech | Angry | Street Traffic | Pleasant Fast |
| Other | Distinct | Incoherent | Animals |
| Language | Stutter | Emotional | Quiet |
| Excellent | Slurred | Laughing | Voices |
| Fair | Slow | Familiarity With | Airplanes |
| Foul | Distorted | Threatened Facility | Party Atmosphere |
| Good | Nasal | Much | |
| Poor | Lisp | Some | |
| Other | Other | None | |

Questions to Ask the Caller

1. When is the bomb going to explode?
2. Where is the bomb?
3. What does it look like?
4. What kind of bomb is it?
5. What will cause it to explode?
6. Did you place the bomb?
7. Why did you place the bomb?
8. Where are you calling from?
9. What is your address?
10. What is your name?

Record following additional information :

1. If voice is familiar, whom did it sound like?
2. Were there any background noises?
3. Telephone number call received at:
4. Person receiving call:
5. Any Additional remarks:

SUSPICIOUS PACKAGES:

All personnel, including central registry personnel, should be instructed to be aware of any suspicious looking packages, which could contain mail bombs.

- I. If a suspicious package is found:
 - A. Advise whoever found it, **NOT TO DISTURB IT** in any way.
 - B. Contact the CISF and Police Department and follow their instructions.
- II. If the suspicious device explodes and fire develops, initiate emergency actions as outlined in the fire procedures.

HOSTAGE SITUATIONS:

Hostage situations do not usually occur until some kind of confrontation takes place: few people ever take a hostage secretly. 84 percent of all hostage situations last one to ten hours; about half have one hostage; 90 percent have only one hostage taker. When a confrontation takes place, most hostage-takers believe that it is not in their best interest to become violent. Statistically the odds are overwhelming in favor of the negotiator convincing the hostage-taker to release hostages and surrender.

PROCEDURES:

- I. If you are not one of the hostages:
 - A. Have someone call the CISF and Police Department.
 1. Relay incident information to the Police.
 - B. Evacuate everyone in immediate area not necessary to the situation to a safe location.
- II. If confronted by the hostage-taker, or become a hostage.
 - A. Remain calm
 - B. Wait for Police negotiators to arrive to deal with situation
 - C. If forced to speak to hostage-taker
 1. Be non-threatening.
 2. Talk in a lower tone of voice and slower rate of speech than the hostage taker.
 3. DO NOT ask for the hostage taker's Demands, or make any references to demands or the hostages.

SNIPER/BARRICADED PERSON:

A sniper is a person who is armed, and is in a position to endanger others. A sniper can be in a fixed or mobile position or change from one to the other.

A barricaded person is one who is armed and threatening while in a building and who refuses to surrender. A barricaded person incident can develop into a sniper incident. A sniper or barricaded person incident can develop into a hostage situation and vice versa.

PROCEDURES:

- I. Take cover
- II. Evacuate everyone in immediate area to a safe location, if possible and necessary. (See **Evacuation Procedures**)
- III. Call the CISF and Police Department.
 - ☞ Relay incident information to the Police dispatcher
 - ☞ Location of the suspect(s).
 - ☞ Number of suspect(s).
 - ☞ Hostages, if any.
 - ☞ Victims, if any.
 - ☞ Extent of injuries, if any
 - ☞ Type and range of weapons, and/or shots fired.
 - ☞ Safest approach route for access to the scene.
 - ☞ Possible escape routes open to suspect(s).
 - ☞ Identity of suspect(s).
 - ☞ Initial threats or demands of the suspect(s).
 - ☞ Mental and emotional state of suspect(s).
- IV. Arrange for immediate medical attention for wounded.

Standard Operating Procedure for dealing with Hijacking/Hostage of Merchant Ships within JNPT Limits

Objective: - To provide a framework for effectively dealing with situations of hostage/ hijacking of merchant ships within Port limits.

Scope:- Within JNPT water limits including all berths at JN Port.

Responsibility:- PFSO is overall in-charge for implementation of this procedure.

Likely situations:- Several situations which are dynamic in nature may arise from a combination of factors such as flag of the vessel, nationality of crew, type of cargo, size of vessel, point of capture, etc. It is intended to frame this SOP for dealing with all the possible combinations of these factors. The SOP caters to the following situations:-

1. An unidentified vessel not responding to calls by VTMS and continuously attempting to enter the channel within JNPT Port Limits.
2. Suspicious vessel within Port limit which is attempting to gain access to Port without heeding to the calls of VTMS.
3. Foreign / Indian vessels hijacked / taken hostage by hijackers within Port limits (includes both vessels underway and at anchorage) and hijackers seeking ransom/ special demands.
4. Distress call from a vessel regarding approaching terror craft or attack on her by a craft.
5. A vessel hijacked and blown up by bombers in the channel causing complete or partial damage.
6. Hostile intruder entering the Port in small craft which is difficult to detect and hijack a vessel already inside Port either underway or at anchor.
7. Stealing the identity of genuine vessel or creating false friendly identity for herself by a hostile vessel and entering Port with an intent to cause damage.

Procedure:- The Crisis Management Group (CMG) will be the Competent Authority to deal with the matter at Local Level. The CMG will require to assemble at short notice in case of any of the eventualities discussed earlier. CMG will assemble at Chairman's Office, Administration Building which will be nodal control centre for all actions thereafter. A careful analysis will be undertaken first and actions to be taken will be based on the decision of the Crisis Management Group. Preliminary actions that are to be initiated by the various agencies involved in the eventuality are elaborated in the succeeding paragraphs.

Port Control:- Port Control is to maintain a constant watch on the flow of traffic inside the Port limits as well as in area at the fringes of the Port limits. In case of any eventuality as discussed above, Port Control may get a call from

ships master or a direct call from the hijacker to Port Control or any other functionary in Port Trust. In such a scenario, following actions are to be initiated at the earliest:-

- a) Inform PFSO/Dy.PFSOs (JNPT/DP World/APMT/BPCL)/HM by the quickest possible means of communication.
 - b) Ascertain the position of the vessel hijacked and quickly lookout for a safe place in vicinity for redirecting the ship.
 - c) Engage in preliminary negotiation with the ship/hijacker so as to buy some time for other organisations to be ready for handling the situation. This is a very critical task which will require an experienced person or a good negotiator if not expert negotiator. In any case, the preliminary negotiator should remain calm and non-threatening. Talk in a lower tone and slower rate than the hostage taker. Do not ask for hostage takers demands or make any references to it. The aim should be to attempt to move the vessel to a safe place without endangering the lives/property on board.
 - d) If the hostage taker agrees, direct the ship to proceed to a safe place and maintain there.
 - e) Meanwhile alert all the other ships and crafts in vicinity to keep clear and beef their security (Instruct them to go up to ISPS State as directed by DG Shipping/CMG). If required, close down the traffic in the Port till resolution of the crisis.
 - f) Establish contact with the charterer/local agent of the vessel for gathering as much as information about the vessel and pass for ready reference of Crisis Management Group (CMG).
 - g) Inform CISF Control Room for deployment of CISF boat to the spot to maintain a vigil around the hijacked vessel. No operation/attempt to close the hijacked vessel which are provocative in nature are to be undertaken.
 - h) Input gathered, if any, should be passed to CMG/PFSO without any delay.
 - i) Alert ships / patrol boats at JNPT berths/Water Limit for any contingency.
- e) **Port Facility Security Officer:-** On receiving information from Port Control/any other source regarding hijack of merchant vessel, PFSO is to undertake following:-
- a) Activate Internal Security Mechanism as per PFSP.
 - b) Inform all members of the Crisis Management Group (CMG) by fastest available means.
 - c) Inform all concerned agencies like CMG Members/CISF/Police/Navy/Coast Guard at the earliest.
 - d) Ensure all concerned are informed and update the status regularly. Brief the CMG/ any other higher functionary who arrives at

Chairman's Office, Administration Building and facilitate unhindered collation of information for decision making.

- e) Ask for trained negotiator from Police to be positioned at Port Control at the earliest.
 - f) Maintain two way communication with Port Control and update status continuously.
 - g) Maintain a data bank of interpreters for translation into English/Hindi and provide the same to CMG if required.
- f) **Sr. Commandant (CISF):-** Following actions are to be initiated upon receipt of information:-
- a) Enhance security state as deemed necessary for the situation.
 - b) Direct the security launch on patrol to proceed near the area and maintain a watch on the vessel.
 - c) The presence of patrolling launch is not to seem obvious for the hijacker i.e. security launch should not approach too close to the vessel without orders.
 - d) If the hijacker has given any warning against closing of patrol vessels/ any other craft, security launch should ensure that no vessel including ICG / Police / CISF is to close the vessel without express orders from JOC.
 - e) Alert duty ready assets for mobilization at immediate notice.
 - f) Liaise with JOC/Coast Guard for information exchange and deployment of assets.
 - g) Keep CMG informed of the development.
 - h) Coordinate and provide assistance/information to the negotiation committee.
 - i) Prepare for a coordinated offensive operation in consultation with other forces available, in the event of failure of negotiations.
- g) **Manager (Marine Engineering):-** Manager (ME) is to undertake following actions:-
- a) Prepare all crafts/tugs for mobilization at the earliest.
 - b) Inform Dy. Conservator/PFSO of all actions initiated.
 - c) Prepare for pollution control and fire fighting
- h) **Asstt. Manager (Safety):-** Asstt. Manager (Safety) is to undertake following actions:-
- i) Prepare for pollution control/emergency.
- j) **Asstt. Manager (Fire & Safety):-** Asstt. Manager (Safety) is to undertake following actions:-
- i. Alert all Fire Staff
 - ii. Prepare for firefighting/emergency.

- k) **Sr.Dy. Chief Medical Officer:-** Sr.Dy. Chief Medical Officer is to undertake following actions:-
- l) Alert all Medical/Paramedical Staff
 - m) Prepare for medical emergency
- n) **Crisis Management Group:-** The envisaged functions of the Crisis Management Group are as follows:-
- o) All members assemble at Chairman's Office, Administration Building at the earliest on receiving the information.
 - p) Negotiation team to negotiate with the hijackers under the aegis of the CMG.
 - q) CMG to indicate to Navy with sufficient notice regarding deployment of MARCOS for Anti-Hijacking Operations.
 - r) CMG to alert / take adequate precautions against the likelihood of the vessel being scuttled / blown up by hijackers. Following to be instituted:-
 - 1. Evacuation of personnel in the proximity.
 - 2. Evacuation of personnel from nearby anchor berths.
 - 3. Pollution response team to be activated.

PORT FACILITY SECURITY PLAN

Introduction :

The complexity, scope and potential consequences of a terrorist threat or incident occurring in or near the Port area, approach channels and anchorage areas or other waterfront areas require that there be a coordinated effort between all port users and law enforcement agencies. This effort will require enhanced awareness of potential threats, open communication and capability to react in prompt and correct manner. It will also require all those involved to fully understand their roles in enhancing security.

Purpose :

Jawaharlal Nehru Port is required to act upon the security levels set by the Government of India and also respond to and implement any security instructions received from the Government. This would require applying a number of measures and procedures not only by various departments within the Port but also by various Government and non-Government agencies/Organizations.

The purpose of this plan is to provide a framework for inter and intra organization communication, identify risks and co-ordinate resources to mitigate threats and consequences.

It is also to be ensured that measures and procedures should be applied in such a manner so as to cause minimum interference with or delay to passengers, ships, ships personnel and visitors, goods and services.

Objectives :

Following objectives are intended to be achieved by implementing the plan:

- Ensuring the performance of all port facility security duties;
- Controlling access to the port facility;
- Monitoring of the port facility, including anchoring and berthing area(s);
- Monitoring restricted areas to ensure that only authorized persons have access;
- Supervising the handling of cargo;
- Supervising the handling of ship's stores; and
- Ensuring that security communication is readily available.
- Providing assistance as necessary and agreed upon, to ships encountering difficulty in compliance of various provisions of the Chapter XI-2 of the SOLAS 74.
- Meeting standards of training for all personnel associated with security duties.
- Carrying out drills and exercises as prescribed in the International Ship & Port Facility Security Code (ISPS Code).
- Promoting effective security measures that maintain or enhance operational efficiencies and minimize impact on trade.

Security policy :

JNPT is committed to provide a safe and secure working environment to all its employees, port users and ships and its personnel; this will be achieved by establishing and maintaining the required security measures to prevent unlawful acts against people, cargo and marine assets.

Security Policy applies to all facilities within the operational control and jurisdiction of JNPT and it will support all those concerned in implementing the Port Facility Security Plan to detect and deter terrorist or criminal activities in port facilities, and react timely and correctly when terrorist or criminal activities are encountered.

The security policy objectives will be achieved by:

- Appointing a Port Facility Security Officer (PFSO) and assistants as required, with overall responsibility of coordinating security and implementing PFSP. JNPT is committed to provide sufficient resources for effective implementation of security measures.
- Ensuring that Port Facility Security Assessment (PFSA) is conducted as required by the ISPS Code.
- Observing International and national Laws and Regulations related to maritime security.
- Practicing good security management to ensure safeguarding of employees, visitors, port users, passengers, cargo and ships.
- Promotion of security awareness among all employees and port users through training programs.
- Establishing reporting and documenting procedure for all security matters.
- Providing necessary support to CISF unit in implementation of their charter of duties.
- Coordinating shore leave for ships personnel or crew change, as well as access through port facility for visitors/port users.
- Whenever there is a clash between safety and security, safety will precede security. However extreme diligence and discretion to be exercised.

Security Levels :

Three security levels defined as per ISPS Code are:

Security level 1, normal; the level at which ships and port facilities normally operate.

Security level 2, heightened; the level applying for as long as there is a heightened risk of a security incident; and

Security level 3, exceptional; the level applying for the period of time when there is the probable or imminent risk of a security incident.

Security Measures

| Sr. | Security measures | Level 1 | Level 2 | Level 3 |
|----------|--|--|--|---------------------------|
| 1 | Identification Procedures for Personnel Screening | | | |
| | Employees: Photo Identity card to be worn on person all the times and presented to security staff whenever asked for | Security personnel to verify that employees have valid business. Random inspection on at least 5 % personnel entering/leaving Port. | Same as for SEC LEVEL 1 | Same as for SEC LEVEL 1 |
| | Vendors/Contractors/Port users: Photo Identity Passes to be worn on person all the times and presented to security staff whenever asked for | <ul style="list-style-type: none"> • Security personnel to verify that Vendors/Contractors/Port users have valid business • Random inspection on at least 5 % personnel entering/leaving Port. | In addition to measures at level 1 <ul style="list-style-type: none"> • Restrict access to only those specifically authorized by HODs • To be escorted by security personnel | Same as for SEC LEVEL 1&2 |
| | Truck Drivers/Cleaners: Valid photo identity and proof that accompanying vehicle for bonafide purpose. | <ul style="list-style-type: none"> • Security personnel to verify that Truck Drivers /Cleaners have valid business eg. booking numbers, truck chit/permit • Random inspection of at least 5 % | | |

| | | | | |
|-----------|---|--|---|--|
| | | Truck Drivers/Cleaners entering/leaving Port <ul style="list-style-type: none"> • Search at least 5% vehicles | | |
| | Visitors: (all personnel not falling under above categories) Photo identity in addition to valid pass | Security personnel to verify that employees have valid business. Random inspection on at least 5 % personnel entering/leaving Port. | In addition to measures at level 1 <ul style="list-style-type: none"> • Restrict access to only those specifically authorized by HODs • To be escorted by security personnel | |
| | Ships Crew: Landing permit and valid Seamen's Identity and other procedures as promulgated by Immigration Department | Crew should proceed directly to ship or out of port. Inspection of all personnel entering/leaving Port. | In addition to measures at level 1, to be escorted by security personnel | |
| | Govt. Employees : Organisations valid ID card | Security personnel to verify that Govt. employees have valid business and allowed access to complete official visit/inspection. Random inspection on at least 5 % personnel entering/leaving Port. | | |
| 2. | Access Control | | | |
| | All Gates | To be Guarded at all times. To be | <ul style="list-style-type: none"> • Consider limiting the | <ul style="list-style-type: none"> • Consider closing all |

| | | | | |
|--|---|---|---|--|
| | | locked when not in use. | number of gates, <ul style="list-style-type: none"> Assign additional personnel/post armed guards/activate intelligence units, Temporary barriers, speed impediments | gates with certain exceptions <ul style="list-style-type: none"> Assign additional personnel/Post armed guards/activate intelligence unit Temporary barriers, speed impediments 100% explosive screening |
| | Landing Jetties | To be Guarded at all times. | Post armed sentries | Post armed sentries |
| | Vessels At Anchorage | <ul style="list-style-type: none"> Only scheduled tugs, barges or other crafts/vessels permitted to berth alongside. Crew of ships berthed/anchored to be advised of security level and other security requirement prevalent in the port. | | No barges or support vessels to be allowed to berth alongside ships at anchorage as well as alongside ships |
| | Berths and Waterfront Areas (including approach channels, turning basin and anchorages) | Surveillance to be maintained by water crafts at least two round trips every shift of 8 hrs. | 3-4 trips per shift. If required assistance of Navy/coast guard to be obtained | <ul style="list-style-type: none"> No boarding ladders or gangway should be left lowered on the offshore side of the ship Under water explosive |

| | | | | |
|-----------|--|--|--|---|
| | | | | <p>survey of piers/facility</p> <ul style="list-style-type: none"> Ships should be able to get underway within 2 hours and should have Fire Wire lowered |
| 3. | Cargo (Other than containers) | At least 5% of export/import break bulk cargo to be thoroughly checked at unloading/loading location in the port. | Inspection to be increased to 25% by deploying additional means like scanning or detection equipment or canine squad | <ul style="list-style-type: none"> There may be requirement to restrict or suspend cargo movements Verification of all dangerous cargo held inside the port premises |
| | Ships Stores | <ul style="list-style-type: none"> At least 5% of all stores to be thoroughly checked and compared with supporting documents. At least one consignment of stores to be unloaded on vessel in the presence of security personnel. | <ul style="list-style-type: none"> At least 25% of all stores to be thoroughly checked and compared with supporting documents. At least one consignment of stores to be unloaded on vessel in the presence of security personnel | <ul style="list-style-type: none"> Suspend all deliveries unless specifically authorized by PFSO by giving reasons in writing to security staff Explosive screening of all ships stores permitted |
| 4. | Internal Security | | | |
| | Vehicle Control: All vehicles to have valid | <ul style="list-style-type: none"> Thoroughly check (under carriage, crew | <ul style="list-style-type: none"> Thoroughly check (under | <ul style="list-style-type: none"> Thoroughly check (under carriage, crew |

| | | | | |
|--|---|---|---|---|
| | <p>permits/Truck chits/Duty slips etc.</p> | <p>cabin top, vehicle documents etc.) of at least 5% of the vehicles (cargo carriers / delivery trucks / personnel vehicles etc.)</p> <ul style="list-style-type: none"> • Parking of vehicles at designated places only to be monitored by security personnel posted at different locations of the port • Vehicles exiting also to be searched | <p>carriage, crew cabin top, vehicle documents etc.) of at least 15% of the vehicles (cargo carriers / delivery trucks / personnel vehicles etc.)</p> <ul style="list-style-type: none"> • Parking of vehicles at designated places only to be monitored by security personnel posted at different locations of the port • Vehicles exiting also to be searched | <p>cabin top, vehicle documents etc.) of all the vehicles (cargo carriers / delivery trucks / personnel vehicles etc.)</p> <ul style="list-style-type: none"> • Parking of vehicles at designated places only to be monitored by security personnel posted at different locations of the port • Vehicles exiting also to be thoroughly searched |
| | <p>Rail Security</p> | <p>Gates to remain closed / locked at all times unless opened and manned / monitored for passage of trains</p> | <p>Gates to remain closed / locked at all times unless opened and manned / monitored for passage of trains</p> | <p>Gates to remain closed / locked at all times unless opened and manned / monitored for passage of trains</p> |
| | <p>Security Rounds</p> | <ul style="list-style-type: none"> • Security rounds of vulnerable areas and other areas of importance to | <p>Same as those for level 1 with increased frequency and particular attention to</p> | <p>Same as those for level 1&2 with further increased frequency and particular attention to restricted areas,</p> |

| | | | | |
|--|-----------------------|--|---|---|
| | | <p>be conducted as per security survey report</p> <ul style="list-style-type: none"> • Adequate record keeping to be available for inspection • Security rounds of waterfront areas which are not covered by waterborne patrol | <p>restricted areas, outer perimeter walls and waterside access.</p> | <p>outer perimeter walls and waterside access</p> |
| | Perimeters | To be monitored during daily rounds and patrolling | 100 % monitoring of the outer perimeter | 100 % monitoring of the outer perimeter |
| | Communication Systems | <ul style="list-style-type: none"> • Main security communication system should be tested once in a shift and records of results maintained • Alternative means of power back up to the system should be checked once in a day | In addition to actions at level 1, All security communication systems to be checked at change of security level | <ul style="list-style-type: none"> • Main security communication system should be tested once in 4 hrs and records of results maintained • Alternative means of power back up to the system should be checked every 12 hrs. |
| | Restricted Areas | To be kept under surveillance especially during dark hours | Increase surveillance and access strictly to those concerned with essential and security duties | Further increase surveillance and access strictly to those concerned with security duties only or especially authorized |

3. FIRE DEPARTMENT RESPONSE PROCEDURES

3.1 INTRODUCTION:

Fire Department personnel respond the emergency after getting the call. Normally they respond the emergency at first instant. These procedures are developed to assist them in responding the emergencies in effective manner. These procedures deal with preparations by Fire team prior to dealing with the incident.

3.2 PROCEDURE:

1. Record the emergency calls properly and allocates resources
2. Ensure availability of personnel protective equipments in the vehicles
3. Continuously interact through walki talki with POC Control Room and Fire Station
4. Understand emergency situation from site personnel and Site Incident Controller (SIC)
5. Decide appropriate response and get appropriate assistance from SIC and Fire Station
6. Always ensure safety of responding crew and provide personnel protective equipment as per requirements
7. During rescue operation, remove victim to fresh air. Remove contaminated clothing. If breathing is stopped or is weak/irregular perform mouth to mouth respiration and obtain medical advice.
8. In case of toxic release, advice site personnel to move opposite / perpendicular to wind direction.
9. Coordinate with security coordinator to control vehicles/personnel traffic to prevent unwanted entry.
10. Arrange additional resources with coordination from Site Incident Controller.

3.3 METHODS OF DEALING WITH DIFFERENT TYPES OF FIRES:

| TYPE | METHOD |
|--|---|
| Fires from minor spillage on deck or jetty | Use dry chemical or foam extinguishers or water fog or fine water spray |
| Fire from large spillage of oil or burst hose on deck or jetty | Use large dry chemical appliance and follow up with foam or water fog/spray. Cool surrounding area/risks with water spray |
| Fires from spillage of oil on surrounding waters | Emulsification of oil with water jets or apply foam coverage as appropriate |
| -Electrical Fires -Fire in ship galley/canteen | Switch off power-isolate-use CO2 or dry chemical extinguishers |
| Fire in accommodation/ | Use water spray, close doors and ports, |

| | |
|---|---|
| office involving combustible material | windows, ports, stop mechanical ventilation to accommodation. Use Breathing apparatus. Continue water spray |
| LPG AND LNG Fires | Should not be extinguished until source of leakage is under control. Dry chemical is the most effective. Cover affected area with water spray reduce radiant heat. Water jets must not be used |
| Major fires in the pump room or engine room or workshop | Close down pump room-stop mechanical ventilation. Use fixed equipment i.e. foam, steam. Water fog or stored inert gas under pressure. Water spray should be used to cool decks and structure in its vicinity-avoid electrics-dry. |
| Fire in cargo tanks | Use foam or steam smothering. For heavy oils use spray or water fog. |
| Fire at sighting or ullage ports | Direct dry chemical, foam jets or heavy water spray horizontally across tank until it is possible to close it. |

4: MEDICAL DEPARTMENT RESPONSE PROCEDURES

4.1 INTRODUCTION:

Medical Department personnel respond to the emergency after getting the call. These procedures are developed to assist them in responding the emergencies in effective manner and deal with preparations of organizing the medical team after getting the call. Objective of these procedures is to assist responding team in giving efficient treatment and speedy referrals if necessary.

4.2 PROCEDURE:

- ☞ Record the emergency calls properly and allocates resources.
- ☞ Ensure availability of life support equipments.
- ☞ Continuously interact through telephone with POC Control Room and Fire Station.
- ☞ Understand emergency situation from site personnel and Site Incident Controller (SIC).
- ☞ Decide strategies to respond the emergency in coordination with SIC and get appropriate assistance.
- ☞ Receive and provide treatment to casualties.
- ☞ Arrange additional resources with coordination from Site Incident Controller.

The role of hospital staff are defined and are assigned as under:

☞ **Reception:**

- Dissemination of information on phone to the staff / officers.
- Registration of patients
- For registration it is expected that patient shall undergo triage first and be sent to designated area as per Plan (see below) and only later should the receptionist go personally with register and note names, addresses etc.

☞ **Administrative Officer:**

- a. Ensuring opening of main stores and mobilization of material from there.
- b. Opening office and coordinating office staff
- c. Managing canteen staff (Canteen Staff shall provide water and tea for casualties and staff.)
- d. Ensuring availability of two vehicles as per plan.
- e. Management of crowd and security.

☞ **Matron:**

- ☞ Managing Area
- ☞ Coordinating all Nursing Staff and Attendants
- ☞ In absence of Matron her function to be taken up by next in-charge
- ☞ Managing the area assigned to her

☞ **Sister-in-charge:**

- ☞ Managing Nursing Staff and Attendants in their respective areas.
- ☞ Ensuring availability of adequate materials in their respective areas
- ☞ In absence of Sister-in Charge their function to be taken up by a Nurse who is posted under them in IPS, OT or OPD.
- ☞ Planning and Managing the Casualties.

Our hospital has a well-placed mechanism for treating individual casualties but there is a need to formulate a plan for handling mass casualties.

Our hospital should be able to mobilize resources to handle upto 50 patients at a time assuming not more than 10% of them are in critical condition. Casualties more than fifty (50) will need to be referred to other neighboring hospitals.

Our hospital has a multi-speciality facility consultation only. But in absence of blood bank CT Scan, Ventilator and ICU, the primary task of our hospital during mass casualty shall be restricted to providing initial stabilization treatment and life support (primary care and transportation).

The plan has 4 parts

- * Mobilization of Staff
- * Mobilization of material
- * Actual execution by setting up zones and teams in casualty ward
- * Referral of cases as required.

Initialization:

Any plan to be put into action needs a trigger. This trigger in case of our plan has been kept at casualty of 6 or more persons. It is believed that casualty of 1- 5 persons can be handled routinely as we are doing in day to day practice.

When Superintendent / MO / Ward / Reception receives news of mass casualty or receive initial patients they have to inform Medical Officer and Medical Superintendent who shall then decide whether or not to initiate the plan in consultation with each other.

- ☞ The person authorized to initiate the Plan is CMO / Sr. Dy. CMO / Dy. CMO.
- ☞ In case neither of them are contactable then the Medical Officer on duty can be authorized for same.
- ☞ Record of Emergency call received should be maintained at Reception Counter with time and persons informing.

1. **Mobilization of Staff**

This is to be done through 3 means

- (i) Mass SMS
- (ii) Telephone
- (iii) Siren in Township

- ☞ For mass SMS at least 3 mobiles of Sr. Dy. CMO and the next two in charge specialists should be pre-programmed.
- ☞ For Telephone the task should be done by Receptionist. At any given time we have two Receptionist on duty. In case of mass casualty one can continue with registration of patients and second one can man the phone.
- ☞ The sequential order in which the phone calls should be made is Sr. Dy. CMO, Specialist, Sr. Medical Officer, MO, Matron, Sister-in-charge, Sister, Para-Medical Staff, Store Keeper, A.O, Technicians, Pharmacist other Receptionist, Police, Canteen Staff, Volunteers, Fire Brigade.
- ☞ Thus 3 phone Nos. Lists need to be prepared in sequential order and kept at Reception with Receptionist and Medical Officer.
 - ☞ Hospital Staff, Police, Volunteers, Fire Brigade
 - ☞ Associate Hospital, doctor, Blood Banks
 - ☞ Port Authorities + Union representatives
- ☞ Secondary mobilization of surrounding hospitals and doctors from Uran or Panvel to be done as per requirement of by Sr. Dy.CMO or next in-charge.
- ☞ Port Authorities and Unions leaders to be informed by SDCMO or next in charge (These phone numbers need to be updated on a monthly basis by Reception Staff + AO).
- ☞ For mobilization of staff, Ambulance is not to be used. All staff are expected to report immediately on their own.
- ☞ Provision of mass siren to be made in accordance to port disaster management plan.

2. **Mobilization of Material:**

In casualty Ward:

- ☞ A separate area to be defined and equipment as per list – 1 to be made

available there.

- ☞ In charge Casualty Sister shall ensure availability at all times and also ensure that items close to expiry are circulated in Hospital.
- ☞ Provision for mass sterilization of equipment to be made in casualty.

In Store:

- ☞ Material should be made available as per list – 2 in the Main store at all times
- ☞ Officer-in-charge (Hospital Stores) shall ensure availability at all times.
- ☞ He shall also ensure that these are made available in Casualty within 30 minutes, in case of emergency
- ☞ Sister-in-charge of IPS, OT and OPD shall also mobilize material from their store as per requirement.
- ☞ To ensure availability of material at all times duplicate keys of main store, IPS OT and OPD store should be kept under seal in office and Casualty Keys of Casualty should be available at all times.
- ☞ Weekly inspection of material by Matron and Monthly by Specialist
- ☞ 2 Additional vehicles like jeeps should be mobilized by JNPT to the hospital to transport less critical patients / material / specialists from nearby places.

Treatment Area and Creation of Medical Teams:

- ☞ Triage Area : (In front of Reception)

Staff : 1 MO (on duty) with 5 volunteers.

Function:

- ☞ 1 Medical Officer shall scan patients right at entrance of hospital and decide to shift him to one of the four areas described.
- ☞ In this he shall be assisted initially by Hospital attendance and then by volunteers who shall then escort Patients shall be attended to as per seriousness
- ☞ Patient to treatment areas

Area – I (Outer most part of Casualty):

Staff : In-charge Sister (OPD), 1 Nurse, 1 Attendant, 1 Dressing Trolley, 2-3 volunteers.

Function:

- ☞ For walking wounded with minor cuts bruises
- ☞ Will be attended to by above team
- ☞ Sister in-charge of OPD shall look after provision of material for this area

along with management of Nurses and Attendants.

Area-II: (Part of Casualty which has beds)

Staff: All Medical Officers, Sister-in-charge (IPS), 2-3 Nurses, 2-3 Attendants, 2-3 Volunteers, 2 Dressing trolleys.

Function:

- ☞ For Moderate Injuries
- ☞ Staff posted here shall form team consisting of : 1 MO + 1 Nurse + 1 Attendant, 1 Volunteer
- ☞ Each team shall cater to 2 – 3 patients at a time
- ☞ Ward in-charge Sister shall look after procurement of materials for this area along with management of Nurses and Attendants

Area – III (Inner Room of Casualty)

Staff : Specialists, Sister-in-charge (OT), 2-3 Nurses, 2-3 Attendants, 1 Dressing Trolley

Function:

- ☞ For critically injured
- ☞ Here 1 team consist of Specialist + Nurse + Attendant and ratio with patient 1:1
- ☞ In-charge sister shall manage materials as required
- ☞ In case of fewer critical patients specialists can lead a team in Area II also.
- ☞ Or in case of more critical patients, Senior MO can lead teams in Area-III
- ☞ Senior Specialist shall have supervision role in this area

Area-IV

Staff : Matron, 1 Attendant, 2-3 Volunteers

Function:

- ☞ For dead bodies
- ☞ A room shall be identified in Casualty to keep bodies in a dignified manner
- ☞ Should be managed by matron
- ☞ List to be maintained of dead bodies

Outgoing team:

Staff : 1 Medical Officer, 1 Male Nurse, 1 Attendant, 2-3 volunteers,
Dressing Trolley for pressure parts, IV material, Oxygen, Torch, Record Book.

Function:

- ☞ This team shall go in Ambulance to accident site
- ☞ But shall be mobilized only if man power is sufficient to change patients already received.
- ☞ Decision to send out going team rests with Supdt.
- ☞ If required SDCMO can also visit site.

Role of Individual Members of Team:

Sr. Dy. Chief Medical Officer:

- ☞ Initialization of plan
- ☞ Overall Supervision
- ☞ Coordinate with associate hospitals, port authorities and police
- ☞ Coordination with PC control room.

Administrative Officer:

- ☞ Ensuring opening of main stores and mobilization of material from there
- ☞ Opening office and coordinating office staff
- ☞ Managing canteen staff (canteen staff shall provide water and tea for casualties and staff)
- ☞ Ensuring availability of two vehicles as per plan
- ☞ Management of crowd and security.

Reception:

- ☞ Dissemination of information on phone to the staff / officers.
- ☞ Registration of patients.
- ☞ For registration it is expected that patient shall undergo triage first and be sent to designated area as per plan (see below) and only later should the receptionist go personally with register and note names, addresses etc.

Matron:

- ☞ Managing Area
- ☞ Coordinating all Nursing Staff and Attendants,
- ☞ In absence of Matron her function to be taken up by next in-charge
- ☞ Managing the area assigned to her

Sister-in-charge:

- ☞ Managing Nursing Staff and Attendants in their respective areas.
- ☞ Ensuring availability of adequate materials in their respective areas.
- ☞ In absence of Sister-in-charge their function to be taken up by a Nurse who is posted under them in IPS, OT or OPD.

Role of Associate Hospital:

- ☞ A list of hospitals and doctors in Uran, Panvel, Vashi should be prepared

where critical and other patients can be referred.

- ☞ The role of coordination with those hospitals shall be with Sr.Dy.CMO.
- ☞ Uran Medical Association (UMA) can be made part of our back up program

Volunteers:

- ☞ 10-15 responsible persons should be identified in township. Preferably those with first aid training.
- ☞ They should be further trained and should be part of all drills.
- ☞ Firemen who are already trained should be preferred
- ☞ Before the plan is put into action a Training programme shall be arranged by us for all concerned people in batches so that each person understands his role best.
- ☞ Volunteers should be requested from CISF also. A squad of 10-15 persons can help crowd control as well as act as volunteers. We should coordinate with CISF so that there is always a group of Volunteers who are aware of our plan and can effectively participate in it. They should be part of all drills.
- ☞ Civil Defence members in JNPT should also be enlisted as volunteers.
- ☞ Before the plan is put into action a Training programme shall be arranged by us for all concerned people, in batches so that each person understands his role best.
- ☞ Mock Drills: are suggested for hospital staff once in 6 months and for whole port and volunteer yearly. These should be monitored by a team, which includes people from outside hospital. May be other JNPT Officers.
- ☞ In case of mass casualty all routine work in OPD stands immediately suspended. But at least 1 Nurse and Attendant should be left to manage ward.
- ☞ List of antidotes should be put up in large laminated form in casualty + ward
- ☞ List of dangerous materials handled around port area should be informed to hospital.

PROBABLE DUTIES OF FOLLOWING GROUPS IN JNPT MCR

- CISF:
 - ☞ Security of Hospital gates / entrance and exist gates
 - ☞ Security of Township Gates
 - ☞ Mob control

- Civil Defence:
 - ☞ They can be accompanied along with outgoing team at the incidence area to tackle the problem / evacuation of people / speedy transport to our hospital / other hospitals.

- ☞ Few of them can be used / functions along with our attenders to move the patients in respective areas / can also function in Area-I.
 - ☞ They may accompany the patient referred by JNPT Hospital to other tertiary level hospitals.
- First Aid Trained Persons (Of JNPT)
 - ☞ They can be used to accompany the out going team to the incident area (if it is inside JNP Port Area)
 - ☞ Since they are trained, they can be of great help to perform emergency first aid/ haemostasis # Stabilization and speedy transport to our / or other hospitals.
 - ☞ They can be used to perform CPR in area II & III
 - ☞ They may accompany the patient referred by JNPT Hospital to other tertiary level hospitals.
 - Union Representatives:
 - ✓ Mob Control in and around JNPT Hospital
 - ✓ Dissemination of correct information to the mob after consulting with Sr. Dy. Chief Medical Officer / Specialist / Medical Officers
 - ✓ Emergency Administrative Support.

LIST OF THINGS TO BE KEPT IN STORES:

Cotton Roll (Bundle) 5
 Bandages – 4” : 100
 Betadine Solution – 2 (500 ml bottle)
 Savlon – 2 (500 ml bottle)
 Spirit – 2 (500 ml bottle)
 Liquid paraffin – 1 (100 ml bottle)
 N.S – 50
 Suture material – 40 non absorbable (Mersilk cutting needle size 1-3.0), 10 absorbable (Plain catgut 1.0 – 05 Nos. Chromic Catgut 1.0-5 Nos.)
 Mask
 Gloves – 6 ½ - 50, 7 – 50, 7 ½ - 50
 Sticking Plaster rolls large – 3”, 4”
 Plastic Apron – 20
 Drip Set – 25, Bivalve 25
 Venflon 16 – 10, 18-10, 20-10,22-5, 24-5
 Disposable Syringe 2 ml – 100, 5ml – 100
 Disposable Needle – 20-100, 21-100, 23-100, 24-100
 Ryles Tube 12 – 14-16 (5 each)
 Foleys catheter with urosac 12-14-16 (5 each)
 Suction catheter 10 to 16 (5 each)

Oxygen mask + prong – 5 each
 Flow meter with humidifier
 Mannitol 100 ml – 5
 Haemacoel – 15
 R.L-50
 I/V stand – 5
 Air way (000 to 4) 3 each
 Bas Masle
 Emergency trolley machines
 AED / Diffib / Monitor (to be mobilized if possible from IPS)
 Antidotes (if available / informed)
 First Aid / Medical Resuscitate **Equipments / Spine board / Cx corlen / splints.**

LIST OF THINGS TO BE KEPT IN CASUALTY:

Mattress 10
 Bed Sheets 25
 Blankets 5
 Macintosh 5
 Pre sterilized Gauze pieces – 1000
 Plastic Apron – 5
 Xylocain (2%) via 10
 Haemacoel – 5 N.S. – 25 R.L. – 25
 Inj. Voveran 25, Inj. T.T. 25
 IV Stand – 10
 B.P. Apparatus with Stethoscope 2
 1 large Torch
 1 Emergency Light
 Screen Stand with Curtain – 05
 Cupboard to keep above items

4.3 TREATMENT FOR EXPOSURE TO TOXIC CHEMICALS:

In the event of a disaster like toxic release it would be the responsibility of the Port Medical Centre (PMC) to suggest and provide an antidote for the same.

- s) PMC have medical personnel trained in antidote administration to the affected personnel at the Port.
- t) PMC ensure that gas masks are made available i.e. a minimum of total beds present in hospital. This is a critical in order to ensure the safety of the patients. Standby well equipped are maintained. It is in this regard that a mutual aid agreement shall be developed to aid in formulating a medical and response team for each of the industrial terminals.

4.4 BURNS:

1. A burns ward is declared at the PMC to attend the 1st, 2nd, 3rd degree burns if the need be. This is to ensure respect to the dead as well as prevention of spreading disease due to decomposition of the same.
2. Body bags for the dead are available. **A minimum of 10 body bags is available at any given time in the hospital.** This is to ensure respect to the dead as well as prevention of spreading disease due to decomposition of the same.
3. Body bags with labels are made available along with amulet labels for the injured personnel. These labels would aid in ensuring identification of the dead as well as the nature to the injured.

4.5 INFECTION CONTROL LIAISON OFFICER (ICLO)

1. In addition to the above mentioned, the Administration Department along with the District Administration have to facilitate infection control program in the event of a natural disaster. The objective of the above mentioned program would be to ensure infection control at the incident team, and any other area, wherein emergency teams are involved.
2. The team in consultation with the district medical expert should be provided with information on epidemiology, modes of transmission, and prevention of diseases including, but not limited to, meningitis, childhood communicable diseases, herpes viruses, hepatitis A, hepatitis B, hepatitis non-A/non-B or hepatitis C, human immuno deficiency virus, tuberculosis, lice and scabies. Information on applicable government regulation shall also be provided.
3. The department shall designate one member after consulting the district administration as the infection control liaison officer.
4. The Infection Control Liaison Officer shall be responsible for maintaining communication among the Administration Department, district administration and health care professionals.
5. When notified of an exposure, the infection control liaison officer shall investigate the incident and notify all members who were potentially exposed and ensure that those members receive appropriate medical follow-up. He is also responsible for maintaining the documentation of the exposure.
6. The Administration department shall instruct the infection control liaison Officer to ensure that the members have accessed to appropriate immunization program, including vaccination against hepatitis B.
7. The department shall ensure that all members involved in infection control have adequate immunity have determined through consultation with the physician, to tetanus, diphtheria, rubella, measles, polio, mumps and influenza.
8. In addition to the above mentioned, the emergency team members should have accessed to tuberculosis screening at least annually.
9. Exposed area should be thoroughly washed, using water on mucosal surfaces

and soap and running water on exposed surfaces. If soap and running water are not available alcohol or other skin-cleaning agents that do not require water can be used.

10. All exposures should be notified to the infection control liaison officer (ICLO) within 3 hours from the time of exposure.
11. Members engaged in emergency patient care, shall be provided with medical gloves.
12. Cleaning gloves shall be reusable, heavy duty mid 4-arm length and design to provide limited protection from abrasions, cuts, snags and punctures and provide a barrier against body fluid and disinfection.
13. Members shall not eat, drink, smoke or apply cosmetics.
14. Masks, splash-resistant eyewear, and fluid-resistant clothing shall be present on all fire department vehicles that provide emergency medical operations. Prior to any patient care situations during which large splashes of body fluids can occur, such as situations involving spurting blood or child birth, masks, splash-resistant eyewear and fluid-resistant clothing shall be donned by the members who will be providing treatment.
15. Resuscitation equipment, including pocket masks, shall be available on all fire department vehicles that provide emergency medical operations. This equipment shall be used by members performing airway management.
16. In each of the fire station, as well as the hospital, disinfections facility shall be provided and it should not be adjoining the kitchen, living, sleeping or personal hygiene areas.
17. The disinfecting facility should be provided with floor drains and should have a minimum of two sinks with hot and cold faucets.
18. Disinfecting facility shall be labelled as such and should be equipped with rack shelving of non-porous material. The rack shelf for keeping infected trays of objects should not be porous other wise the same shall contaminate the other decontaminated objects.

4.6 FIRST AID POSTS:

| POST NUMBER | LOCATION | TEL. NO. |
|---|--|--|
| First Aid Post No.1 With ambulance service | Fire station | 27245000 / 27245100 67815000 / 67815100 |
| First Aid Post No.2 With ambulance service | Ambulance Room near CT Shift office | 27245200 / 67815200 |
| First Aid Post No.3 | BT Office | 27244687 / 27244689 67814687 / 67814689 |
| First Aid Post No.4 | CT Sub Store | 27245032 / 67815032 |
| First Aid Post No.5 | Auto Garage | 27245159 / 67815159 |
| First Aid Post No.6 | Main Stores | 27245136 / 67815136 |
| First Aid Post No.7 | Workshop | 27245146 / 67815146 |
| First Aid Post No.8 | Port Control Room | 27245151 / 27245178 67815151 / 67815178 |

4.7 USE OF ANTIDOTES FOR SELECTED POISONING:

| Poison | Antidote | Mechanism | Adult Dose | Pediatric Dose | Cautions |
|-------------------------------------|---|---|--|---|---|
| Alcohols, Methanol, Ethylene glycol | Ethyl alcohol 5% solution (Abbott) | Inhibit Metabolism to toxic products | Loading dose (LD) 0.6mg/kg maintenance dose (MD) 109 mg/kg/hr. For oral or nasogastric administration use 5% ethanol | Same as adult | Adjust to achieve ethanol blood level of 100-200 mg% (22-24 mm ol/L) |
| Cyanide | Cyanide Antidote kit (Lilly) Any 1 nitrite pearls | Converts Felt in Haemoglobin to Felt so CN can attach to methoemoglobin and freely to chrome oxidase. | Break pearls, one at a time and hold them under the patients nose for 15-30 see each minute until sodium nitrate ready, then stop. | Same as adult | Observe for hypotension. Avoid m H bg of over 30%. |
| | Sodium nitrate 3% in 10 ml ampoules. | As for amyl nitrate | 10 ml of 3% souln (300mg) 1.v slowly over 3-5 mts. | 6-8 ml/m ² (or 0.3 ml/kg) over 3-5 mts; do not exceed 10 ml. | As per Amylnitride. Excessive amounts may result in fatal methofatal methomoglobin mia. |
| | Sodium thiosulphate 25% in 50 ml ampoules. | Provides excess sulphur to accelerate metaglobism of CN to thiocyanate, a non-toxic product. | 50 ml. Of a 25% solution gives over a 10mt period. | 30-40 ml/m ² (or 1.65 ml/kg) | |
| Metals Arsenic, lead, Mercury | Dimercaprol (BAL) 100 mg/ml in 3 ml ampoules. | Chelates metal to firm into | 35 mg/kg deep 1.M. every 4 hrs for 2 days; then every 4 – 12 hrs for up to 7 days | 500 mg/m ² (or 24 mg/kg) 24 hrs. undivided doses every 4 hrs. for 5 days. | Observe for hypertens tachycardia headache and nausea |
| | Dimercaprol (BAL) 100 mg/ml in 3 ml ampoules | _do- | 50-75 mg/kg/4 hrs deep 1.M. in 2 divided doses or by slow 1.v infusion (total dose over 12.24 hrs) for | 1000 mg/m ² (or 50 mg/kg) 24 hrs deep 1.M undivided doses every 8-12 hrs for | Proteinuric, hematura, hypercalcemia fever, laceration and myalgias may occur. |

| | | | | | |
|---|--|---|--|--|---|
| | | | upto 5 days. No more than 500 mg/kg/course | 3-5 days to max. of 2 gms. | |
| | Panicillamine (cuprimine) | -do- | 250 mg/given orally 4 times daily for 5-10 days | 600 mg/M2 (0.30/ kg/24 hrs. orally in 2 equally divided doses to max. of 1 gm. | Leukopenia, thrombosis topenia and raphroti like syndrome may develop. |
| Narcotics | Naloxone (Narcan) | Competitive antagonism for re-ceptor sites | 0.4-2 mg 1.V Push: repeat as needed to 10 mg. | 0.01 mg/kg 1.V push: repeat as needed | Administration to an addict may cause a withdrawal syndrome. |
| Nitrate | Methylele Blue (1% soln.) | Reduces methomoglo- bin to haemoglobin | 1.2 mg/kg 1.v 1% soln. Over 5-1 | Same as adult | Treatment is not necessary unless methemoglobin is 730 soln. And other fluids may turn blue avoid extravasations. |
| Hydrogen Fluoride | Antidote | 2 to SCC – 10% solution of Calcium gluconate beneath affected part | | -- | |
| Chlorine | Antidote | Administer oxygen Tablets (1) VOX (2) DIOVOL (3) Aminoffillin Injection (1) Decadron (2) Benasol (3) Derifillin (4) Siquil | | | |
| Organo Phosphoro us Com- pounds Para. Ethion- Endo- | Antidote Malathion, Phurate, Sulphon Etc. | Administer Atropin PAM Injection | Sulphate | | |
| AMMONI A | Antidote First Aid | Administer oxygen, give warm mill, thoroughly wash the affected part apply 0.9 to 1% alum water or 5% soln. Of acetic, citric, tartaric & sulphonic acid. Take the victim to fresh air if oxygen not available. | | | |

4.8 SOME COMMON INDUSTRIAL EXPOSURES AND THEIR FIRST AID TREATMENT:

| Exposure | Example | Type Of Injury | First Aid Actions |
|----------------------------------|--|---|---|
| Irritant Cases | Acid/Alkali Vapours, Ammonia, Chlorine, Dimethyl Sulphate, Flourine, Hydrogen Chloride, Hydrogen Sulphide, Isocyanates, Methyl Bromide, Oxides Of Nitrogen (No2) Ozone, Phosgene, Phosphine, Phosphorous Oxychloride, Phtalic Anhydride, Silane, Sulphur Dioxide, Sulphuric Acid, C.S. Acid Oleum. | Throat, Nose, Eye And Lung Inflammation With Possible Fluid Collection In Lung Following Large Exposures. | <ol style="list-style-type: none"> 1. Removal From Exposure 2. Maintain Airway 3. Oxygen 6 L/Min. 4. Physician Referral 5. Beware Of Possible 12-24 Hr Delayed Onset Of Lung Symptoms. |
| Acid/ Alkali Skin Or Eye Contact | Hydrochloric Acid, Hydrofluoric Nitric, Sulphuric, Acetic, Phosphoric, Aqua-Regia (Hcl+ Hno3) Oxalic Acid, C.S. Acid, Ammonia, Sodium Hydroxide, Potassium Hydroxide, Calcium Chloride, Sodium Sulphide, Calcium Sulphate. | Skin Or Eye Corrosion Destruction. | <ol style="list-style-type: none"> 1. Immediate Wash With Copious Water Or Buffered Salt Solution Irrigation Of Contact Area For No Less Than 15 Minutes Usually Longer. 3. Remove Contaminated Clothing. 4. Physician Referral If Symptoms Persist, Large Painful Area Of Burn, Or Evidence Of Eye-Injury (Pain, Persistent Redness Vision Loss) 5. Usually Specific Neutralising Chemicals Are Unnecessary If Water Irrigation Is Prompt And Copious. An Exception Is |

| | | | |
|-----------------------|--|---|---|
| | | | Hydrofluoric Acid In Which Calcium Gluconate Gel Or Injection Are Effective. |
| Hydro-Carbon Solvents | Aliphatics-Hexane, Aromatics-Toluene, Xylene, Ketones Nek Esters-N-Butyl-Acetate, Ethers-Dioxide, Chlorinated-Trichloro-Ethane, Perchloroethylene, Chlorobenzenes, Preons. | Temporary Depression In Brain Function (Like "High% Of Drunkenness) | <ol style="list-style-type: none"> 1. Removal From Exposure 2. Decontamination (Remove Contaminated Clothing And Wash Any Contaminated Parts If Body) 3. Observation Until Patient Regains Normal Function. 4. Physician Referral If Condition Worsens, Vital Signs (Pulse, Respiratory Rate Blood Pressure) Are Unstable Patient Losses Consciousness Of Large Exposure. |

5. COMMUNICATIONS PROCEDURES

Communications take on particular importance in a disaster or emergency situation. Depending on the type and scale of the emergency, the requirements for communications (including mobile communications) may increase as emergency operations grow. Responders must receive timely, accurate information about the emergency in order to respond appropriately; to coordinate efforts, to determine priorities based on needs and availability of resources, to determine the need for outside resources, and to make requests for assistance.

Information management surrounding a disaster is confronted with several unique challenges.

- ☞ The situation itself is often radically different from normal. Detailed information is needed about circumstances that people may find difficult to acknowledge, and still more difficult to describe.
- ☞ The need for fast, appropriate response is much greater than usual, hence the demands for quick, accurate information are dramatically increased.
- ☞ Information may reach decision makers at a much faster rate and from many more sources than normal; on the other hand, it is also possible that there will be gaps in time both before initial field reports, and between subsequent reports.
- ☞ Information received is at greater risk of being incomplete, inaccurate, contradictory or duplicated than under normal circumstances.
- ☞ Normal means of communication overloaded, damaged, destroyed or otherwise unavailable, making it difficult to get crucial information to those who need it.

The PORT relies for most of its internal communications upon its own private communications networks and systems. These include the telephone network, data communications networks and VHF. For additional telecommunication needs, the Port also depends on the public telephone networks for local calls outside of the Port, and cellular phones.

Following a disaster, it is very likely that the public switched networks will become over-loaded for some time and that normal telephone communications will be disrupted in some manner. Cellular telephone systems are also likely to be overloaded and/or interrupted at times. Also, depending on the nature of the disaster or emergency, some portions of the Ports internal telecommunications networks as well as data communications networks may not be operable. Similarly, with regard to two-way radio systems, the volume of traffic will increase drastically in the aftermath of a widespread disaster. It is anticipated that with any of the communication systems that there will be more requests to talk immediately after the disaster than available capacity throughout the system. Users will be instructed to refrain from using these systems for nonessential transmissions during and following a major emergency or disaster.

EMERGENCY RESPONSE PLAN:

The Port will initially rely on its own internal communication resources to respond to an emergency / disaster. Outside communication resources through telephone / hotline / telegram e.g. county and city talk groups, can be called on for assistance depending on availability and need priority.

All available communications systems will be used to gather and provide information in appropriate formats to and from affected individuals and facilities. Close coordination with these individuals, facilities, mutual aid organizations and other jurisdictions including County and City Departments will be essential for the effective generation and distribution of information about the emergency. Field personnel will be the primary sources of information, and will feed into the system through their facility Incident Coordination Center, who in turn will forward the information to the Site Incident Coordinator.

This information management system will focus on providing detailed and summary information about:

- ☞ What (who) has been damaged, disrupted or injured.
- ☞ The nature and extent of damage, disruption or injury:
- ☞ What the immediate needs are.
- ☞ What will be required to return the facility to a normal level of function;
- ☞ What actions are being taken; who has responsibility for them (who are the specific contact people and how to reach them);
- ☞ What, of particular significance, is still functioning normally?

Emergency contact details of JN Port Officials and other emergency organisations : Please refer Volume - 1

6: EVACUATION PROCEDURE

6.1 INTRODUCTION:

There are a number of emergencies that could require evacuation. In some instances there must be immediate evacuation. Full evacuation is often not needed. It should only be done if there is very high risk to life. The more people to be evacuated, the greater the possibility of casualties during evacuation. In an emergency, PORT employees and various tenant agencies have a responsibility to assist evacuating the public.

If the decision is made to evacuate:

- Evacuation must be accomplished quietly, without panic and in an orderly manner.
- Injuries suffered during evacuation due to panic or confusion can be as serious as those resulting from the actual emergency.
- Evacuation routes and pre-designated assembly areas should be identified in facility safety meetings and exercises.
- If only a small number of people must be controlled, evacuation instructions should be given in person.
- When a public address system must be used, the evacuation notice must be carefully phrased to minimize alarm.
- Fire alarms should only be used as an evacuation warning when there is no other way to achieve a swift evacuation.
- If time allows, and if available, some with proper expertise may be able to shut down non-essential equipment.
- As personnel evacuate, they should be instructed to take their personal belongings, provided they can do so quickly.
- Evacuated personnel are to gather at pre-designated assembly area and not congregate and hinder emergency personnel or emergency vehicle access.

Some situations will require immediate evacuation, e.g., earthquake, fire, hazardous materials release, while other events or the likelihood or anticipation of, e.g., bomb threat, severe weather, volcanic ash, may also necessitate an evacuation but may allow more time to vacate the premises. These two conditions merit different approaches.

6.2 PROCEDURES:

- I. For an event demanding immediate evacuation:
 - A. Evacuate the vicinity through the nearest safe exit.
 1. Use main fire exits if possible.
 - If exits are obstructed, use extreme caution when evacuating through any other means available.
 - DO NOT USE ELEVATORS

2. Proceed at a walking pace. DO NOT RUN.
 3. Those familiar with this evacuation plan are encouraged to see that visitors, vendors, tenants, etc. who may not be familiar with procedures are not left behind.
 4. Assist those unable to use stairs (See below.)
 5. Personnel are encouraged to take VHF with them as they evacuate.
- B. Evacuation in anticipation of a potential hazard:
1. Shut down computers, machinery, etc.
 2. Move out in an orderly fashion.
 3. Insure that everyone has vacated the building.
- II. If evacuation is in response to a hazardous release (**See Toxic Chemical Accident Evacuation Plan.**) (6.3)
- A. Do not attempt to rescue someone you think may still be in the area of a toxic leak.
- B. Proceed upwind and uphill from incident at least 500 feet away.
1. Greater distances may be required if directed by Incident Command. (Fire personnel will stage 500 feet away)
- C. If move vehicles, face them away from incident when park.
- III. If evacuation is result of disaster, fire, etc.:
- A. Do not use elevators.
- B. Consider hazards before venturing outside
1. Be aware of falling debris and/or unstable footing
 2. Watch for fires, electrical wiring, or hazardous fumes.
- C. If area is filled with smoke:
1. Use another exit.
 2. If you must escape through the smoke, crawl low keeping your head 12 to 24 inches above the floor.
 3. Test doors before you open them.
 - a) If door is hot, use another escape route. If door is cool, open it slowly.
 4. Close any doors behind you to contain fire and smoke.
- IV. After the occupants have evacuated, do a quick check of the work areas, washrooms, etc.
- A. Aid in evacuating those occupants who may need assistance. (See **Procedures for Persons Unable to Use Exit Stairs** below)
- V. Report directly to your designated meeting point: or alternate site if necessary.
- A. At least 500 feet from the incident site.
- B. Keep away from hazards such as power lines.
- C. Take a head counts.
1. Account for all persons.
 2. Inform your supervisor of those unaccounted for.
 3. Interview survivors as to others who may need to be accounted for

4. If deemed advisable to organize search parties.
5. Someone report to Incident Controller the status of all employees.
- D. Keep individuals out of way of fire fighting activities and away from falling glass and debris.
- VI. Inform the tenants to report to the nearest safe exit.
 - A. Make a list of all tenants that you have contacted.
- VII. In the event pier and dock ramps are damaged:
 - A. Arrange to evacuate those who wish to leave their vessels
 - B. Permit volunteers to use yacht tenders to ferry stranded people
- VIII. Assist those seriously injured until medical help arrives.

PROCEDURES FOR PERSONS UNABLE TO USE EXIT STAIRS:

If you can move to the exit and have persons to assist you:

- Move to the exit stairwell. Wait until all persons on the floor have evacuated and traffic in the stairwell has cleared. If the stairwell is free of smoke, enter and wait on the stairwell landing. Two people should wait with you, while one person should inform the arriving Fire Department of your location. Make sure that the door is securely closed.
- Wait with your assistants for further instructions. The Fire Department will send fire fighters to assist you if evacuation is necessary.
- If you are waiting in the exit stairwell and traffic builds from the evacuation of upper floors, reenter your floor to allow others to pass and the stairwell to clear.
- If there are too many individuals to wait on the landing, an area of refuge should be sought on the floor, such as a room with a door, window and telephone. Use the fire survival skills described above.
- Assistants should not attempt to carry you down the stairs unless conditions in the stairwell become threatening. If conditions deteriorate, the assistants can then carry you down the stairs to a safer area.

6.3 TOXIC CHEMICAL ACCIDENT EVACUATION PLAN:

Toxic Chemical leakage can be dangerous. All anhydrous ammonia vessels, pipelines and systems are color-coded. The name is printed in black letters on a yellow field. In addition, there will be a notation of either "gas" or "vapor" state (may be abbreviated).

In the case of pipe lines there will be an arrow indicating the direction of flow. All systems will be clearly marked in this black & yellow format with the size of lettering varying depending on the size of the size of pipe or vessel.

Under normal conditions the environment in the area of this product is safe for human habitation. In the event of an accident, fire or natural disaster there is the possibility of

an accidental release of this material. This plan is to codify policies and procedures for early warning and safe evacuation in the event of an accident.

All warnings and alarms are to be taken seriously. The evacuation alarm notice may be given in person, by telephone, VHF radio, or through the fire alarm system. Any person detecting or suspecting a fire or ammonia emergency is empowered to activate fire alarms and give notice to initiate evacuation process.

All employees and facility tenants will receive training in chemicals properties and emergency responses and procedures. This training is to be a component of safety training as mandated for all employees

Immediately upon discovery of a fire or ammonia emergency the person discovering the situation is empowered and hereby mandated to act decisively and without delay. It is recognized that no plan can foresee every circumstance in the future, particularly when the dynamics of a disaster may become part of the situation. For this reason all personnel are expected to use their own best judgment given the conditions at the time. The following procedures have been provided as a guideline. It is expected that these procedures will be followed unless inordinate circumstances dictate otherwise.

PROCEDURES:

- A. Immediately move to a safe distance
- B. Give notice of the emergency
 - 1. Advise of the nature and extent (if known) of the emergency
 - 2. Provide warning to those nearby
 - 3. Sound Fire Alarm.
 - 4. Use telephone or VHF radio to advise facility manager(s)

| |
|---|
|  Notify the Fire Station and Control Station immediately. |
|---|

EVACUATION PROCESS:

- A. Leave immediately, move quickly but do not panic or run
- B. Use any means available to exit the work area and vicinity of the leak
- C. Move across the wind direction
- D. Do not return to rescue someone you think may still be in the area of a leak unless you are absolutely confident of your safety.
- E. Personnel are encouraged to take portable hand held radios with them as they evacuate.
 - 1. Communicate evacuation notice as they are leaving
 - 2. Advise of changing conditions
- F. Personnel familiar with this evacuation plan are encouraged to see that visitors, vendors, etc. who may not be familiar with procedures are not left behind.

EVACUATION AREAS AND COMMAND LOCATIONS:

- A. Primary Command Location is the [see accompanying map].
 - 1. Verify observations with Site Emergency Coordinator (SIC)
 - 2. All personnel muster and remain for role call
 - 3. Follow instructions of SIC
 - 4. In the event the Primary Location is not accessible report to the secondary location
- B. Secondary Accident Command Location is the [see accompanying map].
 - 1. Receptionist will have a sign in sheet.
 - 2. Remain until you receive further instructions
 - 3. In the event you are not able to make your way to all personnel are required to call the receptionist within 20 minutes of the incident.
 - a) Identify yourself
 - b) Indicate where you were last working
 - c) Indicate where you are presently and how you may be reached
- C. The "All Clear" will be issued from the reception desk only under instructions from SIC.
 - 1. SIC will declare all false alarms and forward the "All Clear".

7: OIL SPILL RESPONSE PROCEDURES

7.1 INTRODUCTION:

These procedures serves as a guide for all personnel involved in combating oil spill emergencies to act in a prepared and systematic manner. The objectives of are

1. To develop appropriate and effective systems for the detection and reporting of spillage of oil.
2. To ensure prompt response to prevent, control and combat oil spill.
3. To provide information on operational procedures, type of equipments to be used, emergency instructions when an oil spill occurs.
4. To give quick reference on materials, equipments and backup systems available for combating oil spill.

7.2 ALERTING:

Any person seeing the spill shall report the same by telephone to the Port Control Station on 27245151 / 67815151 / 27245178 / 67815178 / 27242367 (Direct) or VHF channel 13 followed by submission of OIL SPILL REPORTING FORM.

The Responsibility for raising the alarm and informing the Port Authority in case of pollution from a ship lies with the ship's Master. The same shall be communicated to the Port Control Station. Shift-In Charge on duty at the terminal (CT or SWB) at which berth a ship is involved in Pollution during cargo/bunker operations will also be responsible for raising the alarm and shall inform the Port Control Station.

The Port Control Station on hearing the alarm/receipt of the information will pass the message to the Deputy Conservator/Harbour Master and all other members of Oil Pollution Response Team.

7.3 ASSESSMENT:

Rapid assessment of the oil spill is very essential. Harbour Master will be the authority to assess the oil spill. If an oil spill has occurred, Harbour Master will instruct the duty pilot to conduct surveillance of the oil slick. He will also collect the weather information and hydrographic data, to find out the movement of the spill.

If the spill is more than 100 MT, the assistance of the Coast Guard, who is the Central Co-ordinating Authority, will be sought for the assessment and combating the spill.

7.4 RESOURCES:

7.4.1 Oil Pollution response equipments with JNPT : Please refer Volume - I

7.4.2 ANCHORAGE

The port has one anchorage capable of accommodating vessels of upto 190m. LOA. The draft at the anchorage depends on the available depth and the LOA of the ships. However, the maximum draft permitted is 12.0m.

7.5 CAUSES OF EMERGENCY:

The emergencies that are envisaged under this section are :

- a. Collision of ships in the channel.
- b. Grounding of ships in the harbour.
- c. Collision of ships with berth.
- d. Bunker spills.
- e. Spills from ships during cargo operations.
- f. Spills from land pipelines.
- g. Spills from loading arms/hoses.
- h. Fire and/or Explosion on ships or ashore.
- i. Spills from Jawahar Dweep/MbPT.

☞ COMMAND AND CONTROL:

The Deputy Conservator has full responsibility and authority for organization, direction and co-ordination of activities to cope with the aforesaid emergencies. In his absence, the Sr. Dock Master shall assume charge. Other members of pollution response team are Chief Manger (Administration & Secretary), Chief Manager (Traffic), Harbour Master, Manager (MCB), Sr. Manager (LCB & SWB I & II), Chief Manager (PP&D), Manager (Legal), Chief Medical Officer, Asstt. Manager (Safety), Manager (Marine Engg.) and Dy. Commandant (CISF).

RESPONSIBILITIES OF MEMBERS OF POLLUTION RESPONSE TEAM.

1. Deputy Conservator
 1. Proceed immediately to command center located at port control room and assume the command of emergency operations.
 2. Assess the situation and advise Harbour Master of actions to be taken.
 3. Contact coastguard and other outside agencies for additional help, if required.
2. Harbour Master
 1. Proceed immediately to the site of pollution and ascertain the following tails.
 - i. The nature of incident.
 - ii. The type, size and name of the ship.
 - iii. The number of people on board.
 - iv. Identify of the owner and operator.
 - v. The precise location of the site of pollution.

- vi. Information on the ship's cargo, store or bunkers, and whether any are dangerous.
 - vii. The weather, sea state and tidal conditions.
 - viii. Damage to vessels, if any.
 - ix. Extent of pollution.
 - x. Nature and characteristics of cargo/es.
2. Take remedial action to prevent fire and explosion hazard and deploy fire and safety personnel for emergency.
 3. Deploy the seaborne response team i.e. Assign tug under the command of the duty pilot to assess and evaluate the extent of damage and take the necessary steps.
 4. Report ongoing status to Deputy Conservator.
 5. Assist Dy. Conservator to prepare reports of the emergency.
3. Chief Manager (Traffic)/Manager (LCB & SWB I&II) /Manager (MCB)
 1. Proceed to the site immediately.
 2. Stop the cargo operations.
 3. Deploy operations staff for assisting the emergency.
 4. Contact the liquid terminal operator for deploying fire and pollution combating equipments.
 5. Get immediate undertaking from the polluting vessel.
 6. Contact the vessel operating agent and cargo owners, who are responsible for the spill, for compensation and indemnification.
 7. Arrange for cleaning up operations on land.
 4. Manager (Legal)
 1. To issue notices under Major Port Trust Act, Indian Ports Act, Major Port Prevention and Control of Pollution Rules etc. to the defaulting master/owners/agent.
 2. Arrange for settlement of claims related to the pollution.
 5. Deputy Commandant (CISF)
 1. Proceed to the site immediately.
 2. Depute CISF personnel as required.
 3. Cordon off the area for restricting the entry of other people.
 4. Contact the police if required.
 6. Chief Medical Officer
 1. Send doctors, hospital staff and ambulance to the site along with necessary life saving equipments.
 2. Activate the hospital to handle the emergency situations.
 3. Contact with other hospitals for further assistance, if required.
 7. Chief Manager (Administration & Secretary)
 1. Collect the detailed information periodically and liaise with press about the incident.
 2. Arrange transport facilities, if required.
 3. Inform local district collector about the incident.

8. Chief Manager (PP&D)
 1. Inform Maharashtra Pollution Control Board and other environmental agencies about the incident for getting necessary guidance.
 2. Instruct the contractors to carry out urgent civil works if required.
 3. Hire the barges for collecting the spilled oil, if required.
9. Asstt. Manager (Safety)
 1. Supervise and direct personnel to follow the instructions given by Harbour Master.
 2. Report to Harbour Master and seek advice if in doubt.
 3. Lead the pollution control section and other supporting personnel in combating the disaster by deploying booms and other equipments.
 4. Maintain the accurate records to support the claims.
10. Manager (Marine Engg.)
 1. Organize the tugs for combating the pollution.
 2. Start the rigging of pollution combating equipments.
 3. Hire additional crafts if required.

7.7 RESOURCE DIRECTORY: Please refer Volume - I

7.8 EXECUTION:

In case of small spill, the Pollution Control Section will do the combating operation such as spraying the dispersant or collection of spill, storage, disposal etc.

In case of medium spill, the Pollution Control Section will take the orders of the Dy. Conservator and Coast Guard.

In case of large spill, the assistance of the Government Departments/Agencies (For Emergency Contact numbers please refer Volume – I) will be sought by the Port, if required, to support the actions in Combating Oil Spill.

7.9 RECORDS:

The Respective Terminal and the Master of the ship will forward the Oil Spill Report to the Marine Department. The Pollution Control Section will be maintaining following type of records, which are required for the preparation of claims.

TYPE OF RECORDS :

1. Album (photographs)
2. Laboratory test report.
3. Labour costs (man hours spent)
4. Details of works carried out.
5. Material costs
6. All other relevant details.

7.10 REPARATIONS OF CLAIMS:

The necessary records required for the preparation of claims are maintained by Pollution Control Section. These records are forwarded to Legal Section. The Legal section prepares the claims to be raised from the concerned agency, who caused the pollution.

7.11 DISPOSAL:

The Port has engaged two MOEF approved private parties for providing reception facilities for Oil/sludge as per Annexure I of MARPOL 73/78. The oily waste is transported to party's facilities for treatment and further disposal. The service of these private parties will be summoned to remove/dispose the oil collected.

7.12 COMMUNICATIONS: Please refer Volume - I

8. ACCIDENTS RESPONSE PROCEDURE BY ELECTRICAL SECTION

8.1 INTRODUCTION:

Technician (Electrical) from Electrical Maintenance Section of Mechanical and Electrical Department is available in shift. Several times accident response requires isolation/restoration of power. Accurate and quick response as per instructions from Site Incident Controller (SIC) is expected by the electrical technician. These procedures are developed to assist them in responding such emergencies in effective manner.

8.2 PROCEDURE:

1. Record the emergency call properly.
2. Ensure availability of Personal protective equipments to assist SIC for isolation/restoration of power.
3. Continuously interact through intercom / walkie-talkie / telephone with POC Control Room and Fire Station.
4. Understand emergency situation.
5. Decide appropriate response and get assistance from seniors.
6. Ensure Safety while responding emergency. Use personnel protective equipments as per requirements.
7. Arrange additional resources with coordination from Site Incident Controller.

9. PROCEDURE FOR RETURNING TO NORMAL OPERATIONS

9.1 INTRODUCTION:

These procedures are developed to assist the action group in returning normal operations in effective manner. Coordinators from all departments shall communicate to Site Incident Controller (SIC) regarding completion of Emergency Response and accordingly SIC shall inform Crisis Management Group.

9.2 PROCEDURE:

1. All emergency coordinators shall record the emergency properly and used resources.
2. Ensure/ Record availability of used Emergency Response equipments.
3. All emergency coordinators shall continuously interact through walki talki with SIC
4. All emergency coordinators shall ensure functioning of affected equipments and start salvaging activities.
5. All emergency coordinators shall assess damage of equipments
6. All emergency coordinators shall start Clearing up debris & Decontaminating the damaged area
7. SIC shall ensure communication to all concerned (external & internal) regarding normalcy of operations.
8. SIC shall prepared detailed report regarding financial aspects of emergency along with Finance Coordinator.
9. SIC shall prepare a comprehensive report on policies and procedures to determine how this organization can better respond to similar situations. After deliberations with Crisis Management Group on this subject the findings will be incorporated into revised emergency plans.

10. EMERGENCY ACTION PLAN TRAINING & DRILLS

10.1 EXERCISES:

A well-coordinated program of training exercises includes activities of varying degrees of interaction and complexity. Four types of exercises are identified varying from about one hour to Fourteen hours

- Notification exercises Test communication systems-(Once per month)
- Tabletop exercises (Twice per year for each responding personnel)
- Equipment deployment exercises: Alarm systems-tests to be frequent and documented-Frequent tests of fire fighting and other response equipment (Twice per year)
- Incident management exercises- Simulated emergencies-fire-gas leakage-oil spillage-cyclone -Evacuation practice (Once per year)

10.2 ANNUAL TRAINING PROGRAM:

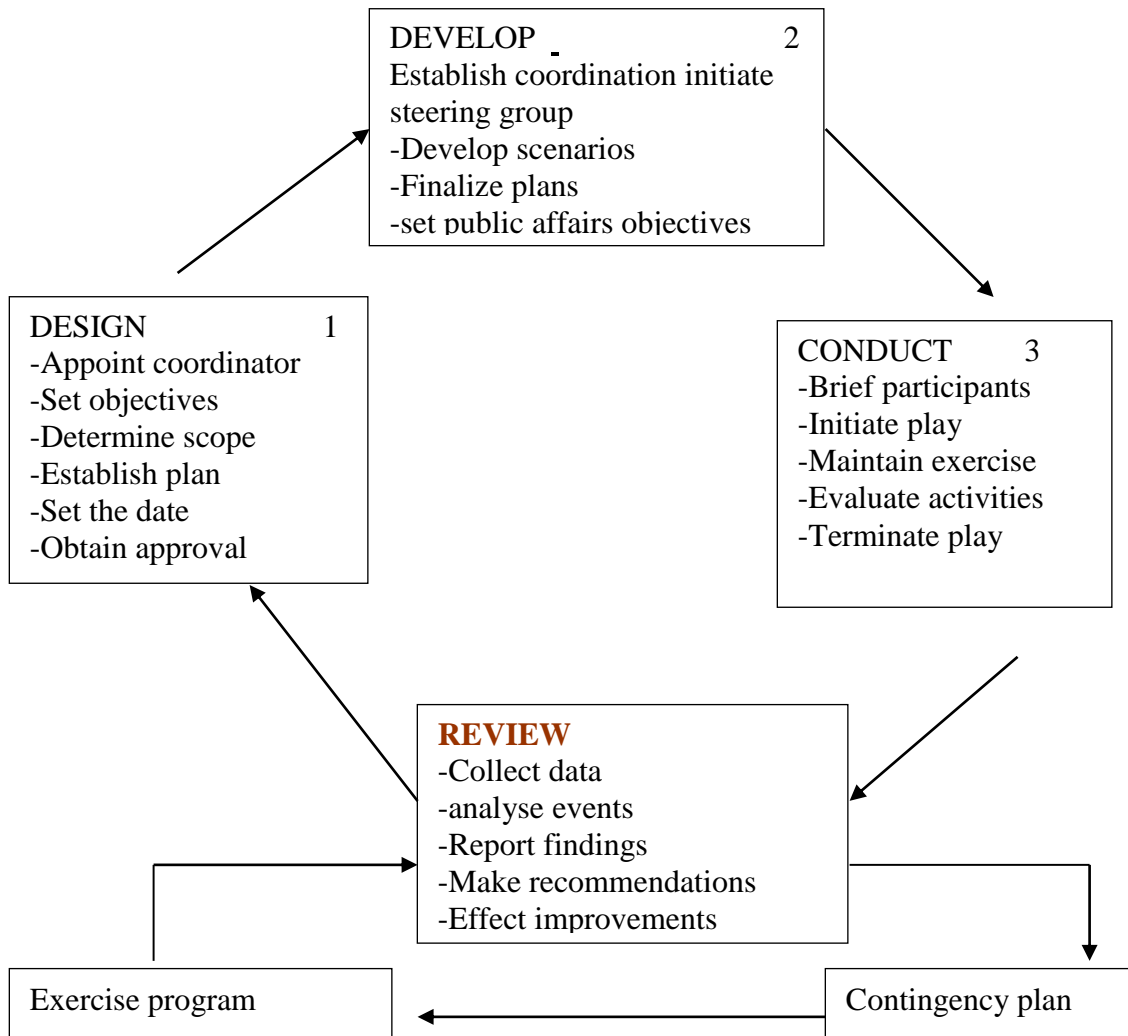
| BATCH PERSONNEL | TYPE | DETAILS |
|-----------------------------|---------------------------|----------------------|
| Crisis Management Group | 2 Hour Seminar | Emergency Management |
| Managers | 1 Day Seminar | Elements of EAP |
| Deputy / Assistant Managers | 1 day seminar | Elements of EAP |
| Employees | 1 day seminar | Actions in Emergency |
| CISF and Fire & Safety | 2 x 1day Seminar/exercise | Actions in Emergency |

10.3 CHECKLISTS (To be filled by Training center with HODS):

- Have the training needs for the department has been identified?
- Are centralized responses training facilities available?
- Is specialized training available covering topics such as
 - organizational structures for response actions (i.e. authorities & co-ordination)
 - response actions
 - equipment selection, use and maintenance and
 - safety and first aid
- Does the organization structure provide training and cross training for or between organizations in the response mechanisms?
- Does an organized training program for all involved response personnel exist? Has one group been designated to coordinate this training?
- Have training standards or criteria been established for a given level of response capability? Is any certification provided on completion of this training?
- Has the level of training available been matched to the responsibilities or capabilities of the personal being trained?

- Does a system exist for evaluating the effectiveness of training
- Does the training program provide for refresher courses or some other method to ensure that personnel remain up to date in their level of expertise?
- Have resources and organizations available to provide training been identified?
- Have standardized curricula been established to facilitate consistent training?

10.4 THE EXERCISE PLANNING PROCESS:



10.4 PUBLIC AFFAIRS:

In many spill incidents, handling the media and managing the crisis consumes much time. Exercise planners should take care to choose public affairs

objectives that create realistic situations and provide public affairs personnel with practice of managing oil spill issues. It is best to have in house employees. The cooperation of the local community is essential. Relationship with the community should be established at an early stage.

10.5 CONDUCTING THE EXERCISE:

The conduct of an exercise consists of briefing participants, initiating play, maintaining the exercise, evaluating activities and finally terminating play. All participants require an exercise briefing. In the case of a notification exercise, when one of the objectives is to test team members availability and response times, any briefing may be given a couple of weeks in advance but the exact day and time should not be pre warned It is worthwhile to check lines of communication are established.

An exercise coordinator should be made responsible for implementing and communicating changes. Evaluation is critical to improving emergency and crisis response capabilities. The collection and analyzing data and reports documenting the findings and recommendations for improvement should be completed within four weeks. A schedule should be set to discuss opinions, findings and recommendations.

11. VESSEL ACCIDENTS RESPONSE PROCEDURE

11.1 INTRODUCTION:

Marine Department personnel respond the emergency after getting the call. They respond the marine emergency at first instant. These procedures are developed to assist them in responding the emergencies in effective manner. These procedures deal with preparations by marine team prior to dealing with the incident.

11.2 PROCEDURE:

1. Record the emergency call properly and allocate resources
2. Ensure availability of Personnel protective equipments
3. Continuously interact through walki talki with POC Control Room and Fire Station
4. Understand emergency situation from vessel personnel
5. Decide appropriate response and get appropriate assistance from other response departments and Fire Station
6. Always ensure Safety of responding crew and provide personnel protective equipment as per requirements
7. During rescue operation, remove victim to fresh air. Remove contaminated clothing. If breathing is stopped or is weak/irregular perform mouth to mouth respiration and obtain medical advice.
8. In case of toxic release, advice site personnel to move opposite/perpendicular to wind direction.
9. Coordinate with security coordinator to control vehicles/personnel traffic to prevent unwanted entry.
10. Arrange additional resources with coordination from Site Incident Controller.

11.3 SHIPBOARD-PORT EMERGENCY PLAN (COLLISION)

| Action To Be Considered | Action Port | By Vessel |
|--|----------------|--------------|
| IMMEDIATE ACTION 1. Slow down and stop main engines 2. Sound Emergency Alarm: 3. Check for possibility of oil pollution 4. Effect appropriate damage and pollution controls | | OOW/Master |

| | | |
|---|--|--|
| <p>INITIAL RESPONSE-COMMAND CENTRE</p> <ol style="list-style-type: none"> 1. Establish communication with other vessel and exchange information 2. Advise other vessels to keep clear-Hoist NUC Lights 3. Advise port for assistance 4. Advises agents of status requests surveyors-Class-P&I-Salvage association-owners Supdt 5. Secure evidence and maintain adequate records | <p>Action Group HM with standby tugs</p> | <p>Command Centre</p> |
| <p>FURTHER RESPONSE-EMERGENCY TEAM</p> | | |
| <ol style="list-style-type: none"> 1. Inspects/assesses damaged area-reports to Command Centre-In case oil leakage determine whether separating vessels will increase oil spill rate 2. Ascertains oil pollution-ascertains leak source- if pollution requests port for immediate assistance 3. Harbour master and ex mech engineer board vessel to inspect both vessels with standby tugs 4. Sounds all bilge, ballast and fuel tanks 5. Transfer oil from leaking tanks 6. Checks damage stability and stress criteria 7. Effects damage control and temporary repairs to stop oil leakage with the assistance of port action group and underwater welding team or salvage group | <p>Action Group U/w welding salvage</p> | <p>Emergency team</p> |
| <p>SECONDARY RESPONSE- SUPPORT TEAM</p> | | |
| <ol style="list-style-type: none"> 1. Provide First Aid 2. Prepare Lifeboats 3. Shut All W/T doors and vents 4. Assist as directed | | <p>Support Team Support Team Support Team Support Team</p> |
| <p>FURTHER RESPONSE-ENGINEERS TEAM</p> | | |
| <ol style="list-style-type: none"> 1. Attend engine room controls and services 2. Investigate engine room for damages and water ingress 3. Check switchboard for low insulation 4. Check steering gear 5. Report status of main engine and auxiliaries to Command Centre and Harbour Master 6. If vessels have blocked channel-tugs standby and vessels taken to repair berth/anchorage awaiting class surveyors recommendations | <p>Harbour Master</p> | <p>Engineers Team</p> |

11.4 SHIPBOARD EMERGENCY PLAN GROUNDING

| Action To Be Considered | Action By Port | Responsibility |
|---|-----------------|---|
| IMMEDIATE ACTION 1. Sound Emergency Alarm:-Stop main Engine 2. Initiate vessel emergency response procedure: | | Officer on duty/Master Officer on duty |
| INITIAL RESPONSE-COMMAND CENTRE 1. Exhibit NUC lights/shapes- 2. Advise close passing traffic on VHF 16/12 3. Fix ships position and record all engine room movements 4. Ensure adequate stability and buoyancy 5. Contact owners 6. Contact port-advising position-time grounded | Signal Station | Master/ Officer on duty. |
| SECONDARY RESPONSE-EMERGENCY TEAM 1. Consider to stop air intake into accommodation/engine room. 2. Carry out visual inspection of the vessel. 3. Take soundings around the vessel to determine the nature and gradient of the seabed. 4. Check difference in the tidal ranges at the ground site: 5. Evaluate tidal current in the grounding area: 6. Take soundings of all ballast and bunker tanks and check all other compartments adjacent to the hull: 7. Compare present soundings against departure soundings: 8. Evaluate the probability of release of bunkers: 9. Consider notification of authorities: | | Emergency Team |
| FURTHER RESPONSE –ENGINEERS TEAM 1. Consider transfer of bunkers internally: 2. Isolate bunker tanks to reduce further loss due to hydrostatic pressure during tidal changes: 3. Evaluate the need to transfer cargo to barges or other ships: 4. Consider trimming or lightening of the ship to avoid additional pollution from the spillage: 5. Evaluate if the ship should or could be relocated: 6. Calculate stresses/stability: 7. Evaluate the need for outside assistance: 8. Harbour Master & Pilot board vessel w/tugs-action plan 9. Vessel refloated-Oil boom deployed 10. Underwater welding 11. Check status of main engines and auxiliaries, steering gear and report to Command centre an 12. Comply with reporting procedures:-Class Surveyor-MMD. 13. Clean-up actions: | DM, Pilots tugs | Engineers Team |

12. PORT REGULATIONS – CLAIMS PROCEDURES

LIABILITY UNDER P&I CLUB, IOPC FUND, CIVIL LIABILITY OF OIL POLLUTION DAMAGE, MERCHANT SHIPPING ACT, PROCEDURE FOR CLAIMS ETC. WITH REGARD TO OIL POLLUTION- PORT RULES AND REGULATIONS

In all oil spill accidents within the Port limit, the Master as representative of the owner of the vessel and the cargo owner will take immediate action to inform the Port authorities and also to alert the concerned oil company representative on board and if possible inform the oil terminal manager of the concerned oil company. The responsibility of the Port authority is to protect the harbour water, near-by local industry, fisheries and maintenance of the ecology of the Port area. It is important therefore that full cooperation between all the parties concerned is arranged expeditiously and that as far as possible division of responsibility is worked out, in principle, and accepted by all the parties prior to any incident.

The cost of any oil pollution claims as a result of an accident involving a tanker are recoverable in almost all cases either under the International Convention on civil liability of Oil Pollution Damage 1969(CLC69) and the International Convention of the Establishment of an International Fund for compensation for oil pollution damage 1971 (IOPC Fund 1971) or the industry sponsored compensation regimes Tanker Owners Voluntary Agreement concerning Liability for Oil Pollution (TOVALOP) and Contract Regarding an Interim Supplement to Tanker Liability for oil pollution (CRISTAL). Liability for oil pollution risk is usually covered by a Protection and Indemnity Association (P&I Club) either under the provisions of the 1969 Civil Liability Convention (if the flag state and the affected administration are parties thereto). It is desirable, therefore, to establish the identity of the P&I Club covering the incident and to establish contact with its representatives as quickly as possible. It is imperative to keep a detailed record of actions taken, the reasons therefore and the alternative courses considered with reason for their rejection so that if the administrations action is subsequently challenged in the courts as the convention permits, the reasons can be well established. However, close and continuing co-operation with the interested parties will result in actions being taken with the agreement of all concerned. In case of an accident, detailed claims for expenses incurred in way of deployment of manpower, material, equipments etc. should be submitted as soon as possible and it is advisable to notify the appropriate body of the intention to submit such a claim immediately following the incident. The cost of cleaning-up operations varies depending on the type of oils spilled and local environment, social and political considerations. The extent of pollution and the availability and cost of equipment, chemicals and local man power are all important factors as is the degree of restoration required. While using the chemical dispersants, the cost and certain percentage of the cost should be charged. Similarly, where equipment for mechanical clean up is not available locally, costs of transporting equipment and providing skilled operators should be charged. The cost of manual clean up on the shore line will depend on local labour costs.

12.1 MARINE DEPARTMENT POLLUTION CONTROL CELL

12.1.1 CHECK LIST FOR VESSELS OTHER THAN TANKERS

It is the Master’s Responsibility at all times to ensure that every precaution is taken to prevent Environment Pollution. In case of any type of Pollution the Signal Station (Port Control) must be informed on VHF Channel Phone:

| Vessel’s Name: | | Agents Name: | Date: | |
|---------------------|--|----------------|------------|--|
| Nationality: | | Type of Cargo: | E.T.D: | |
| Name of the Master: | | Berth: | | |
| S. No | Checks | Yes | No | |
| 1. | Are you aware of Port Regulations regarding Environmental pollution? | | | |
| 2. | Is the Oil record Book maintained up to date? | | | |
| 3. | Are bilge overboard valves shut sealed? | | | |
| 4. | Do you have adequate slop/Engine Room bilges storage facility? | | | |
| 5. | Is bilge level in Engine Room normal? | | | |
| 6. | Is the bilge oil separator working at 15 PPM as per regulation? | | | |
| 7. | Is garbage, food waste stored properly in covered receptacles? | | | |
| 8. | Is the garbage disposed off regularly? | | | |
| 9. | Is the dunnage, wooden plank and deck sweepings collected and stored properly on deck? | | | |
| 10. | Are strict instructions given to your crew and men working on board vessel not to throw any type of garbage into Harbour Waters? | | | |
| 11. | Is the Incinerator in use? | | | |
| 12. | Is sewage treatment plant sewage tank in use? | | | |
| 13. | Is funnel emissions within permissible limits? | | | |
| 14. | Do you have an emergency plan for pollution prevention and clean up? | | | |
| 15. | What precautions did you take to comply with the dirty ballast Regulations? | | | |
| 16. | Do you propose to take bunkers? | | | |
| | Type | Quantity | Date | |
| | | | | |

PORT OF _____

MARINE DEPARTMENT

12.2 DOUBLEBANKING / SHIP-SHORE POLLUTION AVOIDANCE

It is the Master's responsibility at all times to ensure that every precaution is taken to prevent pollution. In case of overflow/spillage even if there is no pollution, the Control Room must be informed.

| Terminal / Berth | | Vessel's Name | | | | | Date | |
|--|------------------|---------------|---------|--|---------|----|----------------|----------|
| Type Of Cargo | | Nationality | | | | | Time | |
| Operation And Quantity | Discharging Tons | | Loading | | Ballast | | Bunkering | |
| Receiver's Name: | | | | | Yes | No | Not Applicable | Comments |
| Agents At Port | | | | | 1 | 2 | 3 | 4 |
| 1. Are scupper plugs in place and oil tight? | | | | | | | | |
| 2. Are all unused cargo bunker manifold blanks including offshore and stern discharge in position and fully bolted? | | | | | | | | |
| 3. Are manifold connections ready and marked? | | | | | | | | |
| 4. Are online pressure gauges in place and/or cocks securely closed? | | | | | | | | |
| 5. Are all pump room shipside-and overboard valves shut and sealed? | | | | | | | | |
| 6. Are drip cans or trays in position? | | | | | | | | |
| 7. Have you ensured the flexible hoses to be used are tested and if so, when? Have the hoses been inspected before use by you? | | | | | | | | |
| 8. Has proper co-ordination with shore/ship been made prior to start of cargo/bunker operations? | | | | | | | | |
| 9. Are emergency stop procedures established and understood by the ship & the shore ? | | | | | | | | |
| 10. Is initial loading rate agreed? | | | | | | | | |
| 11. Is maximum loading rate agreed? | | | | | | | | |
| 12. Is topping up rate agreed? | | | | | | | | |
| 13. Are segregated ballast tanks free from contamination? | | | | | | | | |
| 14. Are the tanks to be deballasted/ballasted free from contamination? | | | | | | | | |
| 15. Will deck/manifold be under proper supervision throughout cargo/bunker operations? | | | | | | | | |
| 16. Are sufficient men under an officer assigned for cargo/bunker valve operation? | | | | | | | | |
| 17. Do they fully understand tank change over procedures? | | | | | | | | |
| 18. Will sufficient room be left in last tank for draining/air blowing shore hoses arms? | | | | | | | | |
| 19. Can cargo/bunker valves be closed and opened readily? | | | | | | | | |
| 20. Are valve indicators accurate? | | | | | | | | |
| 21. Will checks be maintained on ullage and innage in all tanks during cargo/bunker operations? | | | | | | | | |
| 22. Will a special watch be maintained on the tank receiving cargo | | | | | | | | |
| 23. Will cargo pumps be started prior to opening of the manifold/sea valves? | | | | | | | | |
| 24. Have you a specific plan of action and facilities available for dealing with spillages and pollution if it occurs? | | | | | | | | |
| 25. Is there a supply of sawdust & dispersants available? | | | | | | | | |

| | | | | |
|--|--|--|--|--|
| 26. Are engine room and pump room bilge discharge valves closed & sealed? | | | | |
| 27. Are vessel personnel aware of existing air pollution avoidance regulations & funnel emissions within permissible limits:28. Are cathodic protection procedures followed? | | | | |
| 28. In cases of double banking, are the fenders adequate & properly secured? | | | | |
| 29. Is proper communication system established between two vessel/shore? | | | | |
| 30. Will you be carrying out C.O.W. operation while in Port and are your crew conversant with the operation? | | | | |
| 31. Is there anything protruding on the side of berthing. | | | | |
| 32. Adequate lighting, especially over side in the vicinity of fenders available. | | | | |
| 33. Is Gangway in position, well lighted and secured? | | | | |
| 34. Is Language of operation agreed upon? | | | | |
| 35. Is Fire springs available fore and aft? | | | | |
| 36. Is the oil record book maintained upto date? | | | | |
| 37. Does the bilge separator comply with I M O regulations and in use? | | | | |
| 38. Is there slop/E.R. Bilges storage facility? | | | | |
| 39. Is sewage treatment plant in use? | | | | |
| 40. Is the Incinerator in use? | | | | |
| 41. Is garbage stored properly in receptacles? | | | | |
| 42. Is garbage disposed off regularly? | | | | |
| 43. 44. Have you received a copy of notices to master regarding Pollution prevention? | | | | |

POLLUTION CONTROL OFFICER

PILOT

MASTER

Original to be handed over to master

Note: Duplicate to be retained for officer use.

12.3 REGULATIONS

Relevant Port Rules, Regulations and Acts to prevent pollution within the Harbour Limits Port Rules

Application:- These rules shall be applicable only within the local limits of the Port.

Deputy Conservator:- Means the officer appointed by the Board to assist the Conservator (Board of Trustees) in the performance of any duty imposed upon him by or under the Indian Ports Act.

Harbour Master:- Means the Officer appointed by the Conservator to have charge under supervision of the Deputy Conservator, of the berthing, mooring and movement of

every vessel within the Port and includes any person acting under instructions of the Harbour Master.

MASTER:- Includes any person (except the pilot or Harbour Master) having the command of a ship.

PORT:- Means the Port and the navigable channels leading to it for which the act is for the time being in force. No ballast, earth, ashes, stones, rubbish, waste material, filth, oil, ballast and bilge water containing oil in a proportion of 15 parts or more in 1,000,000 parts shall be discharged or allowed to leak or flow from any vessel in the Port without the prior permission of the Deputy Conservator.

Definitions:

1. In these regulations unless the context otherwise requires, 'ACT' means the Major Ports Act 1963. The expression Board, Chairman, Deputy Chairman, Vessel, Master, Owner and goods have the same meaning as in the Act.
2. Master and Owners of the vessel shall be responsible for all accidents which may in any way result from failure to adopt any precautions.
3. During such time a vessel remains in port, the Master or Owner or other responsible officer and sufficient crew shall always be on board and shall superintend and direct the carrying out of all the duties in connection with the vessel or the loading or unloading of the cargo.
4. No cargo, goods or substance whatsoever shall be deposited, thrown or allowed to fall from any vessel, quay or pier into Port channel or entrance or into port. In the event of any such cargo, goods or substance being so deposited, thrown or allowed to fall as aforesaid, the person, Master, Owner or Stevedore in whose charge the cargo, goods, or substance was at the time (for tankers the concerned company) shall be responsible and shall be liable for any loss or damage which arise in consequence.
5. Any person or the Master or Owner of any vessel or the Stevedore engaged in loading or unloading any vessel referred to in the regulation preceding to fall from any vessel, pier, or quay into the Port waters or into Port shall forthwith give notice of the occurrence and furnish all particulars connected therewith to the Traffic Manager and the Deputy Conservator and shall immediately take measures to have the said cargo, goods or substances removed from the water.
6. No ballast, earth, ashes, stones, rubbish, waste materials, filth, oil, ballast water containing oil, bilge water, sewage or refuse or any other article, substance or thing of whatever kind liable to foul or capable of fouling the water shall be thrown, and discharged, placed, put, emptied or allowed to leak or flow or to fall from any vessel, quay or pier into the Port waters or into the Port.
 - f. A Tank barge shall be used for the removal of ballast water containing oil.
 - g. Masters and owners of vessels shall be held liable for any damage whatsoever that shall have been caused by their vessel's servants to any of the works or property of the Board and the Board reserves the right to detain their vessels in Port until security has been given for the amount of damage caused.

- h. Masters and owners of vessels shall be held liable and responsible for any acts of the crew or of any person employed about or on board their vessels.
 - i. No fuel oil or water mingled with fuel oil shall be pumped or allowed to run out of the vessel into the port. The appliances used for transferring fuel oil from the vessel to the pipe line or to tank barges or vice-versa shall be in all respects suitable for the purpose and in good conditions, and all proper precautions shall be taken to prevent the leakage or discharge of any fuel oil into port before, during or after the transfer.
 - j. These rules shall also apply to vessels taking fuel oil into their bunkers, either through the oil pipelines or from barges or tank lorries in the Port.
 - k. Bunkering of vessels with petroleum fuel oil in the port, barges and tank vehicles may be permitted provided that:
 - l. During all such times as any vessel is receiving fuel oil into her bunkers, the master or first mate of such vessel is present on board and he shall see that the provisions of these regulations are complied with and that all reasonable precautions for safety are observed.
 - m. A ship's officer shall be on watch and an attendant of the Oil Company supplying the bunkers shall be stationed alongside the flexible connecting pipe while bunkering is in progress.
 - n. No smoking, cooking, naked lights, or forges shall be allowed on the vessel's decks while bunkering is in progress.
 - o. a suitable gutter or other contrivance shall be placed under the connecting service pipe to prevent any oil from dripping on the wharf or into the port basin.
 - p. Masters and owners of the vessels receiving fuel or oil and suppliers of fuel oil for Bunkering shall jointly and severally be held liable for any damage whatsoever that shall have been caused to cargo or property belonging to or in charge of the Board by any leakage or fuel oil, due to or arising from negligence or any defect in or failure of apparatus or appliances of the vessels or the suppliers.
 - q. No cargo other than steel plates, iron rails, and similar goods unaffected by oil, shall be allowed on the wharf within 50 feet of the oil stand pipes and shed doors immediately behind them shall be kept closed while bunkering is in progress.
 - r. Before bunkering commences, the attendant shall see that the telephone connection to the oil company's Depot is in working order.
 - s. No cargo other than steel plates, iron rails, and similar goods unaffected by oil shall be allowed on the wharf within 50 feet of tank carts, and shed doors immediately behind them shall be kept closed while bunkering is in progress.
10. Penalty-Except where a penalty has been specifically provided for in Major Port Trusts Act, 1963, or in any of these regulations the penalty for breach of any of these regulations shall be rupees two thousand and where the breach is of a continuing nature, the penalty shall be rupees two thousand for every such breach.

12.4 MERCHANT SHIPPING ACT

Civil Liability for Oil Pollution Damage

Section 352 G: - This part applies to:

- a) Every Indian ship wherever it is; and
- b) every foreign ship while it is at a port or place in India or within the territorial waters of India or any marine areas adjacent thereto over which India has, or may hereafter have, exclusive jurisdiction in regard to control of marine pollution under the Territorial Waters, Continental Shelf, Exclusive Economic Zone and other Maritime Zones Act, 1976, or any other law for the time being in force.

Section 352 H: - Definition

1. In this Part, unless the context otherwise requires:
 - a) “incident” means any occurrence, or series of occurrences having the same origin, which causes pollution damage;
 - b) “oil” means any persistent oil such as crude oil, fuel oil, heavy diesel oil, lubrication oil and whale oil, whether carried on board of a tanker as cargo or fuel:
 - c) “owner” means
 - a) the person registered as owner of the ship and includes the operator who for the time being is in charge of the ship and the master of the ship; or
 - ii) in the absence of registration, the person owning the ship; or
 - ii) in the case of a tanker owned by a foreign State; the person registered in that State as operator of the ship;
 - d) “pollution damage” means loss or damage caused outside the ship by contamination resulting from escape or discharge of oil from that ship, wherever such escape or discharge occurs, and includes the costs of preventive measures and further loss or damage caused by preventive measures; so, however, that the provisions of clause (a) of sub-section (1) of section 352B shall not apply to such loss or damage.
 - e) “Preventive measures” means any reasonable measures taken by any person after the incident to prevent or minimise pollution damage.
2. In this part;
 - a) the expression “franc” means a unit consisting of sixty five and a half milligrams of gold of millesimal fineness nine hundred.

Section 352 I: - Liability of Owner

1. Save as otherwise provided in sub-sections (2),(3) and (4), the owner at the time of an incident, or, where the incident consists of a series of occurrences, at the time of first such occurrence, shall be liable for any pollution damage caused by oil which has escaped or been discharged from the ship as a result of the incident.

2. No liability for pollution damage shall attach to the owner under sub-section (1), if he proves that the pollution damage;
 - a) resulted from an act of war, hostilities, civil war, insurrection or a natural phenomenon of an exceptional, inevitable and irresistible character; or
 - b) was wholly caused by an act or omission done with intent to cause such damage by any other person; or
 - c) was wholly caused by the negligence or other wrongful act of any government or other authority responsible for the maintenance of lights or other navigational aids in exercise of its functions in that behalf.
3. Where, with respect of any incident, the owner proves that the pollution damage resulted, either wholly or partially, from an act of omission done, with intent to cause such damage, by the person who suffered damage, or from the negligence of that person, the owner shall be exonerated wholly or, as the case may be, partially, from liability to that person.
4. Where in any incident, pollution damage results from escape or discharge of oil from two or more ships, the owners of all such ships shall be jointly and severally liable for all such damage which is not reasonably separable.
5. No claim for pollution damage shall be made against any owner otherwise than in accordance with the provisions of this section.
6. No claim for pollution damage shall be made against any servant or agent of the owner.

Section 352 J: - Limitation of Liability

1. Save as otherwise provided in sub-section (2), the owner may limit his liability under Section 352 I in respect of any incident to an aggregate amount of;
 - a) Two thousand francs for each ton of the ship's tonnage; or
 - b) Two hundred and ten million francs, whichever is lower.
2. Where any incident causing pollution damage occurs as a result of the actual fault of the owner, he shall not be entitled to limit his liability under sub-section (1).

Section 352 K: - Constitution of Limitation fund

1.
 - a) Any owner desiring to avail of the benefit of limitation of his liability under sub-section (1) of section 352 J shall make an application to the High Court for constitution of a limitation fund (hereafter in this Part referred to as fund).
 - b) Such fund may be constituted either by depositing the sum with the High Court or by furnishing bank guarantee or such other security as, in the opinion of the High Court, is satisfactory.
2.
 - a) The insurer or any other person providing financial security to the owner may apply to the High Court for constitution of the fund under sub-section (1) and any fund so constituted shall have the same effect as if it were constituted by the owner.
 - b) Such fund may be constituted even in cases where sub-section (2) of section 352 J applies but in any such event constitution of the fund shall

not prejudice the rights of any claimant against the owner for full compensation exceeding the amount deposited or secured in the fund.

Section 352 L: - Acquisition of right for compensation by subrogation

1. Where the owner or any of his servants or agents or any other person providing him insurance or other financial security has, as a result of incident in question, paid any compensation to any claimant, such person shall, up to the amount so paid by him, be entitled to acquire by subrogation the right to which claimant so compensated would be entitled to.
2. Where the owner or any other person providing him insurance or other financial security establishes that he may, at a later date, be compelled to pay to any person, in whole or in part, any amount by way of compensation for pollution damage caused by the incident with respect of which he would have been entitled to acquire by subrogation the right of the claimant had the compensation been paid before the fund was distributed, the High Court may order that sufficient amount from the fund may provisionally be set aside to enable the owner or such other person to enforce his claim against the fund at a later date.

Section 352 M: - Consolidation of claim and distribution of fund

1. The High Court shall consolidate all claims against the fund including those arising under Section 352 L.
2. Any claim in respect of expenses reasonably incurred or sacrifices reasonably made by the owner voluntarily to prevent or minimise pollution damage shall rank equally with other claims against the fund.
3. Subject to the provisions of sub-section (2) of section 352 L, the High Court shall distribute the amount in the fund among all claimants in proportion to their established claims.

Section 352 N: - Compulsory insurance or other financial guarantee

1. The owner of every Indian ship which carries 2000 tonnes or more oil in bulk as cargo shall, in respect of such ship, maintain an insurance or other financial security for an amount equivalent to:
 - a) Two thousand francs for each ton of ship's tonnage; or
 - b) Two thousand and ten million francs; whichever is lower.
2. In respect of every Indian ship which maintains insurance or other financial security under sub-section (1), there shall be issued by the Director General a certificate in such form and giving such particulars as may be prescribed.
3. On an application by the owner or agent of any foreign ship, the Director General may issue a certificate under sub-section (2) in respect of such foreign ship on production of satisfactory evidence relating to maintenance of insurance or other financial security in accordance with the provisions of the International Convention on Civil Liability for Oil Pollution Damage signed at Brussels on the 29th day of November, 1969.

Section 352 O: - Acceptance of certificates issued outside India

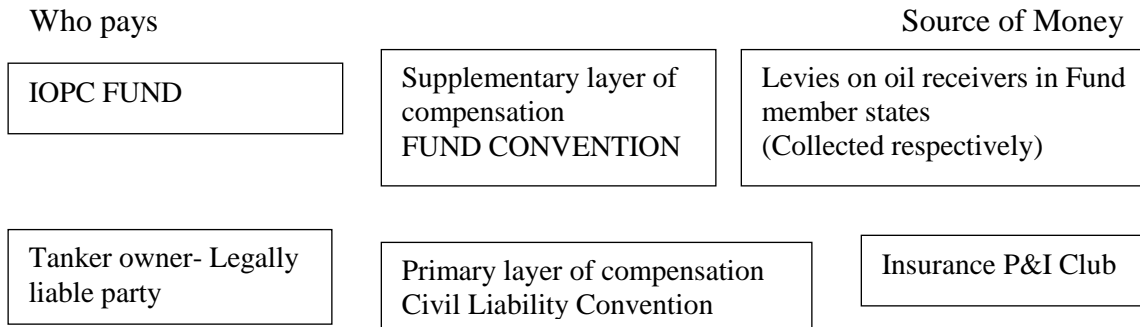
1. Any certificate issued by a competent authority in any country outside India to a ship registered in that country or any certificate issued by a competent authority

of any country which is a contracting party to the International Convention on Civil Liability for Oil Pollution Damage signed at Brussels on the 29th Day of November, 1969, to any ship wherever registered, shall be accepted at any port or place in India as if it were issued under this Act.

Section 352 P: - Ban on entering or leaving an Indian Port without certificate

1. No Indian ship, which has on board 2000 tons or more oil in bulk as cargo shall enter or leave any port or place in India unless it carries on board a certificate issued under sub-section (2) of Section 352 N or a certificate under Section 352 N or a certificate under Section 352 O.

12.5 PROCEDURE FOR CLAIMING COMPENSATION FOR OIL POLLUTION DAMAGE TO PROPERTY BY ANY PERSON UNDER THE INTERNATIONAL OIL POLLUTION COMPENSATION FUND



The two tier system of compensation established by the International Conventions; the owner of the tanker that caused the spill is legally liable for the payment of compensation. Under the first tier; oil receivers in the Fund member states contribute to the second tier once the tanker owners liability has been exceeded

Maximum amounts of compensation available \$US MILLION

| Gross tonnage 1992 | 1992 CLC FUND | CONVENTION |
|--------------------|---------------|------------|
| 5,000 | 4 | 189 |
| 25,000 | 16 | 189 |
| 50,000 | 31 | 189 |
| 100,000 | 60 | 189 |
| 140,000 | 84 | 189 |

This is a guide for the filing of claims against the International Oil Pollution Compensation Fund (IOPC Fund). Its purpose is to assist claimants in making claims against the IOPC Fund by listing the particulars which a claim should contain and by settling out how claims can best be made. It does not seek to set out legal details. In case of doubt it is recommended that legal advice be obtained.

Claims for compensation for oil pollution damage can be brought against the owner of the ship which caused the damage and, on the conditions set out below, also against the IOPC Fund. The basis for such claims are the International Convention on Civil Liability for Oil Pollution Damage, 1969 (Liability Convention or CLC) and the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971 (Fund Convention), as implemented by national law.

The person primarily liable for the damage is the ship owner, however by constituting a limitation fund he can limit his liability to a maximum amount determined by the size of the ship. The IOPC Fund will pay compensation for oil pollution damage has been unable to obtain full and adequate compensation for the damage under the terms of the Liability Convention.

- (a) Because no liability for the damage arises under the Liability Convention.
- (b) Because the owner liable for the damage under the Liability Convention as limited pursuant to that convention.
- (c) Because the damage exceeds the owner's liability under the Liability Convention as limited pursuant to that convention.

Under certain circumstances the IOPC Fund is exempted from liability to pay compensation. The IOPC Fund's procedure regarding the settlement of claims is contained in the IOPC Fund's International Regulations. Claimants should be aware of the fact that the length of time which claims will be settled by the IOPC Fund depends largely on how long it takes for claimants to provide the IOPC Fund with the information required. It is therefore in the interest of claimants to follow these guidelines as closely as possible. However, it is suggested that claimants should always get in contact with the Director of the IOPC Fund as soon as possible after the incident and discuss with him the presentation of claims, which they may have:

IOPC claims Questionnaire :

19. Who is eligible to claim?

Any person who has suffered pollution damage may make a claim against the IOPC Fund. It may be any individual or partnership or any public or private body, including State or any other public authority. It is the claimant's option whether to request an appropriate organization or authority or a lawyer to represent his interest and to file the claim against the IOPC Fund on his behalf. In some cases, it may be helpful for several claimants suffering similar damage to present coordinated claims.

20. To whom should a claim be addressed ?

Any claimant may make his claim directly to the IOPC Fund at the following address: **4 Albert Embankment, London SE 1 7 SR. Telephone: 01-582 2606 Telex: 23588**

21. Within what period has a claim to be made?

It is in the interest of claimants to make their claims as soon as possible after the damage has occurred. If a formal claim cannot be made shortly after the incident, the IOPC Fund would appreciate being notified as soon as possible of the claimant's intention to file a claim at a later stage. Rights to compensation shall be extinguished unless an action is commenced within three years of the date on which the damage occurred. However, in no case may an action be brought after six years from the Date of the incident which caused the damage. Since these "actions" mean court actions, claimants would be advised to bring their claims against the IOPC Fund well in advance of the expiry of the dates mentioned above, in order to be in a position to bring court actions within that period should they feel it necessary to sue the IOPC Fund for compensation. Such a court action would be necessary if the claimant and the IOPC fund could not agree on an amicable settlement of the claim.

22. How should a claim be presented?

A claim against the IOPC Fund should be made in writing (including cable or telex) and must be supported by the appropriate documentation (e.g. Invoices and vouchers). If the documentation is very voluminous, claimants should discuss its presentation with the Director.

23. What particulars should a claim contain?

Each claim should contain the following particulars:

- (a) The name and address of the claimant and his representative, if any :
- (b) The identity of the ship involved in the incident
- (c) The date, the place and specific details of the incident.
- (d) The type of oil and the kind of pollution damage as well as the place where it was experienced :
- (e) The amount of the claim.

24. Depending on the amount claimed and the kind of pollution damage suffered, a claim should be broken down into different items. Examples of claims which may be admissible under the Fund convention and under the relevant national law and how and how they may be broken down are given below :

24.1 Costs of prevention and clean-up of pollution.

24.1.1 Summary of events including a description of the work carried out in different areas and of the working methods chosen in relation to the circumstances prevailing during the incident.

24.1.2 Analytical and/or circumstantial evidence linking the oil pollution with the ship involved in the incident (e.g. chemical analysis, relevant wind and current data, observations of floating oil movements).

24.1.3 Dates on which work was carried out (weekly or daily costs).

- 24.1.4 Labour costs (number and categories of labourers, rates of pay, days/hours worked, total costs).
- 24.1.5 Material costs (types of materials used, rate of hire or cost of purchase, quantity used, total costs).
- 24.1.6 Transport costs (number and types of vehicles used, number of days/ hours operated, rate of hire or cost of purchase, total costs).
- 24.1.7 Costs of final disposal of recovered oil.

24.2 Replacement and repair costs

- 24.2.1 Extent of pollution damage to property
- 24.2.2 Description of the item written off or damaged and needing replacement or repairs (e.g. fishing net, sail boat), including description of its location at the time of oil pollution damage.
- 24.2.3 Cost of replacement or of repair work.
- 24.2.4 Age of item to be replaced.
- 24.2.5 Economic Loss

24.3 Nature of loss, including demonstration that loss resulted directly from the incident.

24.4 There may be other categories of claims. There may also be proceeds from the sale of recovered oil, which have to be set off against the claim. In all cases, the breakdown of the amount claimed has to be done in such a way that the IOPC Fund is in a position to assess the amount of damage suffered on the basis of the facts and the documentation presented.

25. Claims Procedure :

Claims submitted to the IOPC Fund will be dealt with promptly. Claims arising out of incidents in respect of which the aggregate amount of all claims is not likely to exceed the limit of 25 million (gold) francs (approximately US \$ 2 million) can be settled by the Director without prior approval of the IOPC Fund's Executive Committee. These claims will normally be paid out with minimum delay. Under certain conditions and within certain limits, the Director can make provisional payment before the final settlement of a claim if this is necessary in order to mitigate undue financial hardship to a victim.

Generally, the IOPC Fund will try to cooperate closely with the ship's liability insurer (P&I Club). The investigation into the incident and the assessment of the damage will be done jointly by the P&I Club and the IOPC Fund. It will not normally be necessary therefore, for claims for pollution damage and for the documentation to be submitted to the P&I Club and the IOPC Fund separately. However, notice of a claim against the IOPC Fund should always be given to the IOPC Fund.

13: PROCEDURE FOR MUTUAL AID ARRANGEMENT

13.1 INTRODUCTION :

Industrialization is growing rapidly in and around with increasing number of large and medium scale industries coming up. In spite of the latest process technology adopted and various safety measures taken up by the unit, there is a possibility of a mishap occurring leading to accidental fire or toxic gas release. Should such an eventuality arise, a large number of resources will be required in shortest possible time in terms of trained personnel, fire tenders, fire extinguishing media, breathing apparatus, personal protective equipments etc. in order to counter such a mishap. It is not practicable to maintain such huge inventory by a single unit to meet any eventuality, as the potential scenarios will vary in magnitude and frequency. So it will be immensely beneficial if the nearby industries to enter into a Mutual Aid Scheme. The Mutual Aid Scheme in addition to providing increased availability of resources in a pooled way in case of emergency faced by any member unit also reduces the insurance premium. Mutual Aid Scheme is an agreement between two or more industries operating within 10 Miles to extend mutual cooperation amongst the member units at the time of an emergency.

In view of these advantages it is proposed to have an agreement to enter into a mutual aid scheme.

13.2 SCOPE

At present the scope of this agreement will include the companies having full fledged fire protection systems and facilities according to TAC requirements and duly approved by TAC. In future if any other company desires to become member of Mutual Aid Scheme, it may apply to the secretary of the scheme and on getting consent from all the existing members, the proposal will be considered for entry as a member of Mutual Aid Scheme.

13.3 MEMBERSHIP

1. Bharat Petroleum Corporation Limited, Liquid Cargo Jetty
2. DP World (Nhava Sheva International Container Terminal Limited)
3. APM Terminals, Mumbai
4. Indian Oil Tanking Limited
5. IMC Limited, Storage Terminal
6. Ganesh Benzoplast Limited, Storage Terminal
7. Reliance Industrial Infrastructure Ltd.
8. Bharat Shell Ltd.
9. Deepak Fertilizer and Petrochemical Corporation Ltd.
10. Suraj Agro Industries, Storage Terminal

13.4 EMERGENCY CONDITION

Emergency condition, with all its cognate expressions, shall mean and include the occurrence or any other following eventualities viz.,

- Fire
- Toxic Gas Release
- Explosion
- Any other mishaps as may be mutually agreed to by and among the members of the scheme.

If the emergency situation so warrants that individual Company's resources are not adequate to control over situation then the resources can be mobilized from member companies to control the situation.

13.5 GEOGRAPHICAL COVERAGE

Early and easily approachable by state high way along the mutual aid members, and Port Trust is next to each other. Member companies are having at least two approach roads from two directions. During emergency if one approach is not available then another approach can be used to respond to the emergency.

13.6 PERIOD OF OPERATION OF SCHEME

The scheme shall be deemed to have come into operation with effect after approval from Chairman (JNPT) and shall remain in force for five years. The period of operation may extend for such a period as may be mutually agreed between the members.

13.7 MODE OF OPERATION

13.7.1 SECRETARY FOR THE OPERATION OF THE SCHEME

One person as Secretary and one person as Joint Secretary having the background in fire fighting/emergency management will be nominated to coordinate, and conduct mock drills, training etc. Apart from the above two, others will nominate members for this scheme.

13.7.2 AREAS OF MUTUAL HELP

- I. **RESOURCES AVAILABLE:** The available resources and resources that can be spared during emergency to the members should be circulated at all members.

- II. **RESOURCES AVAILABLE AT PORT:** The available resources and resources that can be spared during emergency to the members are listed in Volume - 1.
- III. **MEDICAL HELP:** Ambulance and Medical Services which are available with members and the Port will be used during emergency conditions if so warranted.
- IϚ. **STANDARDIZATION OF EQUIPMENT:** All types of equipment required for fire fighting for using under this scheme will be procured according to relevant BIS with ISI marking.
- Ϛ. **REPLENISHMENTS:** All the materials consumed during emergency control operation for example, Dry Powder, Foam, CO2 and other material as mutually agreed will be replenished by the affected plant concerned with similar type of material at the earliest.
- ϚI. **MEETING:** The members will meet at regular intervals (at least once a month) to plan and review the status of the scheme.
- ϚII. **MOCK EXERCISE:** Once in six months Mock Drill will be conducted at one of the member companies' location to get familiarized with the risk and emergency response of member units.
- ϚIII. **REVIEW:** Mutual Aid Scheme shall be reviewed after every one year and suitable action plan or changes if required shall be evolved for effectiveness of the scheme.