

Elements of an On-Site Emergency Plan for Major Accident Hazard (MAH) Industries

<http://www.hrdp-idrm.in/e6066/e7160/>

Plant Emergency Organisation

- Designated person in charge/alternates.
- Functions of each key individual and group.
- Telephone numbers (office and home) for key people/alternates.

Plant Risk Evaluation/Information on Preliminary Hazard Analysis

- Quantity of HAZMATs.
- Location of HAZMATs.
- Properties of each (MSDS sheets).
- Location of isolation valves.
- Special fire-fighting procedures (if any).
- Special handling requirements.
- Type of accidents.
- System elements or events that can lead to a MAH.
- Safety relevant components.

Details about the site

- Location of dangerous substances.
- Seat of key personnel.
- Emergency control room.

Description of HAZCHEM at the plant site

- Chemicals (quantities and toxicological data).
- Transformation if any, which could occur.
- Purity of HAZCHEM.

Likely dangers to the plant

Enumerate effects of

- Stress and strain caused during normal operation.
- Fire and explosion inside the plant and effect if any, of fire and explosion outside.

Details regarding

- Warning alarm and safety and security.
- Alarm and hazard control plans in line with disaster control planning, ensuring the necessary technical and organisational precautions.
- Reliable measuring instruments, control units and servicing of such equipment.

- Precautions in designing of the foundation and load bearing parts of the building.
- Continuous surveillance of operations.
- Maintenance and repair work according to the generally recognised rules of good engineering practises.
- Details of communication facilities available during emergency and those required for an Off-Site emergency.
- Details of fire fighting and other facilities available and those required for an Off-Site emergency.
- Details of first aid and hospital services available and its adequacy.

External organisation if involved in assisting during an On-Site emergency

- Type of accidents.
- Responsibility assigned.

Area Risk Evaluation

- Properties of HAZMAT at nearby plants.
- Population clusters nearby.
- Contacts (names, telephone numbers) at other sites.
- Established procedures for notification of chemical release at other sites in area.

Notification Procedures and Communication Systems

- Alarm systems.
- Communication equipment (radios, hot lines, etc.) plant management, local officials and response agencies, neighbouring industries, nearby residents.
- Names and telephone numbers (with alternates) list.
- Designated person for media contacts.
- Procedure for notifying families of injured employees.
- Central reporting office.

Emergency Equipment and Facilities

- Fire-fighting equipment.
- Emergency medical supplies.
- Toxic gas detectors (where needed).
- Wind direction/speed indicators.
- Self-contained breathing apparatus.
- Protective clothing.
- Other On-Site equipment to be specified according to local conditions.
- Containment capabilities.

Training and Drills

- Knowledge of chemicals (properties, toxicity, etc.).
- Procedures for reporting emergencies.
- Knowledge of alarm systems.
- Location of fire-fighting equipment.

- Use of fire-fighting equipment.
- Use of protective equipment (respirators, breathing air, clothing, etc.).
- Decontamination procedures for protective clothing and equipment.
- Evacuation procedures.
- Frequent, documented simulated emergencies.

Regular Tests of Emergency Organisation/Procedures

- Simulated emergencies.
- Documented, frequent alarm system.
- Frequent tests of fire-fighting equipment.
- Evacuation practise.
- On-going emergency preparedness committee.

Plan Updates

- Annual or more frequent if needed.
- Reflect results of drills and tests.

Emergency Response Procedures

- Communications.
- Evacuation or safe haven.
- Medical (include handling of multiple injuries).
- Special procedures for toxic gas releases (chlorine, etc.).
- Hurricane procedures (coastal area only).
- Utility failure procedures.
- Individual unit emergency procedures.
- Bomb threat procedures.
- Detailed Operating Manuals (for each process unit and utility system)
- Start-up/shutdown emergency procedures.
- Analysis of potential incidents.
- Emergency response and action to be taken for each incident.
- Established Emergency Response Durations
- Sounding of alert level III (for Off-Site emergency).
- Communication to control room—wind speed and direction and for recorded message transmission to nearby community through public address system.
- Actuation of stand-by systems.
- Hotline/communication to first responders—the police and fire brigade.
- Mobilisation of internal resources.
- Affected plant/system stoppage.
- Replacement of operation staff with other plant/unit personnel.
- Fire tender/ambulance.
- Employees and visitors shifting to assembly points.
- Energising fire hydrant/foam or other specified protection system.
- Isolating the leaky area.
- Emergency crew repairing/isolating leakages.

Procedure for Returning to Normal Operations

- Interface and lines of communications with Off-Site officials.

All clear siren or in case of aggravation of emergency—initiation of full scale Off-Site measures including broadcast, evacuation, diversion of all types of traffic etc. and full scale operation of medical emergency system.