

Emergency Response Plan during Projects/Construction

Projects in Oil & Gas Sector is widely recognised as one of the accident prone activities. It should be understood that the size and complexity of projects possess the various hazards and risks associated with construction activities. In majority, slow response, lack of resources, or the absence of trained personnel at construction site will lead to chaos in an emergency. To minimize human suffering and financial losses, it is therefore strongly recommended to develop the emergency response plan before commencement of project.

The Emergency Response Plan shall include the following considerations:

1. Statutory Requirements

The entity shall ensure compliance of applicable Central and State Rules & Regulations such as The Building and Other Construction Workers' Act 1996, the Environment (Protection) Act, 1986, the Factories Act, 1948, the Inflammable Substances Act, 1952, the Motor Vehicles Act, 1988, the Public Liability Insurance Act, 1991, the Petroleum Act, 1934, the National Environment Tribunal Act, 1995, the Explosives Act, 1884 etc. Applicability and status of compliance should be made part of Emergency Response Plan.

2. Pre-Emergency Planning

- a) The process of hazard identification and risk assessment involves a thorough review construction activities such as Excavation, Scaffolding, Platforms & Ladders, Structural Work, Laying of Reinforcement & Concreting, Road Work, Cutting /Welding, Working in Confined Space, Proof/Pressure Testing, Working at Heights, Handling & Lifting Equipment, Vehicle Movement, Electrical, Demolition, Radiography, Shot blasting, transportation of pipes or equipment etc. to identify potential On-Site & Off-Site emergencies.
- b) Listing out On-Site (Level I & II) and Off-Site (Level III) Emergency Scenarios based on the consequences and resources.

3. Emergency Mitigation Measures

The entity shall have an effective Health, Safety and Environment Management System in place to ensure safety during construction activities:-

- a) Health, Safety and Environment (HSE) Policy
- b) Duties & Responsibilities of Contractor/Executing Agency
- c) Site planning and layout
- d) Deployment of Safety Officer/Supervision
- e) Safety committees with fair participation of workers;
- f) Safety audits and inspections shall be carried out with the help of prescribed checklists.
- g) Work permit system
- h) Personal protective equipment
- i) Safety awareness and training etc.

4. Emergency Preparedness Measures

- a) Emergency Drill & Exercise on identified scenarios and its evaluations
- b) Organizing trainings on Emergency Response
- c) Mutual Aid

5. Emergency Response Procedures

The entity shall prepare well planned and documented procedures to ensure prompt response. The action plan may be documented for all emergency scenarios, identified as On-site and Off-site.

6. Emergency Organization and Responsibilities

The entity shall formulate organization chart (emergency action flow chart) and define the roles and responsibilities of key personnel for handling the emergency situation effectively at project site. Clause 14.0 of PNGRB (ERDMP) Regulations may be referred to develop the emergency organization and responsibilities.

7. Resources for Controlling Emergency

- 1) The available emergency control systems and facilities within the project/construction site shall be as under: -
 - (a) Fire and gas detection system
 - (b) Fire protection and firefighting system (Active and Passive)
 - (c) Ambulance facility in house, if not available then should be available on urgent call basis.
 - (d) Rescue facilities and personal protective equipment (PPEs)
 - (e) First aid facilities.
 - (f) Medical facility in house or tie up with nearby hospital/health centre
 - (g) Internal and External Communication facilities along with alerting system
 - (h) Assembly points
 - (i) Escape route and evacuation zones
- 2) Internal and External Emergency contact numbers and addresses of police, fire, station, hospitals, mutual aid industry, factory inspectors, Board, State Pollution, Control Board, Petroleum and Explosive Safety Organization (PESO), etc.
- 3) Addresses and Telephone Directory of Professional Emergency Responders, Technical Support Services

8. Emergency Recovery Procedure

After the emergency, the following activities need to be carried out in detail.

- a) Information to statutory authorities (Refer Clause 23.0 for Reporting of Incident to PNGRB).
- b) Incident investigation.
- c) Damage assessment.
- d) Salvage of products, de-contamination, clean-up and restoration.
- e) A detailed report shall be prepared based on the entire experience of the incident, including restorations, limitations and lessons learnt.