RISK ASSESSMENT

The construction project involves lot of activities like installation of various types of structures and machineries. These activities include lifting and transportation of building materials at different levels, digging pits, operation of concrete mixer, working near electrical circuit, which is required during construction of such housing project. Hence such work puts workers at risk of burial, engulfment or falling from a height, risk of electrocution where the risk is particularly aggravated by the nature of the work or processes used or by the environment at the place of work or site.

On completion of project, the infrastructure created includes provision of lifts, DG set as power backup, laying of internal as well as external electrical cables, provision of pipeline for LPG uses (specially in kitchens), construction of internal roads etc., which may also pose risk of accident to the occupants .

However, it is not always possible to totally eliminate such eventualities and random failures of equipment due to human errors or natural calamities like earthquake.

It is thus necessary to carry out hazard identification and risk assessment for risk monitoring and to formulate its Control Measures like Risk response planning i.e. Disaster Management Plan/Onsite Emergency Plan for the project.

An essential part of major hazard control is therefore, to be concerned with mitigating the effects of such emergency situation and restoration of normalcy at the earliest by following Disaster Management Plan (DMP) for different type of Emergencies like Earthquake, LPG leakage, Fire in the building.

Safety Code for building & Firefighting System

The Firefighting network followed by Emergency Response mock drills are essential part of Risk Control Measures.

The project site falls under residential occupancies according to National Building Code 2016. Following provisions are required to be made according to National Building Code 2016. The firefighting system has been designed considering the following codes, manual and guidelines;

- National Building Code of India (NBC);
- Latest relevant NFPA codes, USA, in particular NFPA – 13, 14, 20 & 22;
- IRI guidelines;
- As per requirement of fire officer/local fire approving authorities; and
- As per Indian Standard Code for Fire Protection (IS Codes)

Following items are envisaged for firefighting:

- Fire-Water Connections;
- Firewater inlet and outlet connections shall be provided to the water storage tanks;
- External main fire ring, having 150 mm diameter and hydrants @ 45 m^3/s spacing shall be provided. This external fire ring shall be separated from the Sprinkler Main Systems;
- All flow switches, test valves, drain pipes etc. shall be provided as per NFPA guidelines on the sprinkler system;

- All pump installation and arrangements shall be in accordance with IRI guidelines and NFPA-20;
- All pumps and accessories and electrical controllers shall be as per UL/FM lists, tested, approved and certified; and
- By-pass arrangements shall be provided (150 mm diameter nominal bore) with NRV and gate valve and bulk flow meter on the discharge header of each pump to check the duties of pumps.
- Storage tanks are provided in the basement for the supply of water for the firefighting facility.
- The fire extinguishers provided should be in conformance with Ozone Depleting Substances (Regulation and Control) Rules 2000.