CHAPTER – 7

ADDITIONAL STUDIES

7.1 PUBLIC CONSULTATION/HEARING

The proposed project is a development of Commercial Complex, as per the EIA Notification 2006, the proposed project comes under item 8 (b) i.e Township and area development project with a built up area ≥3,00,000 Sq.mt. and excluded from public consultation, hence public consultation is not required for the proposed project.

7.2 RISK ASSESSMENT

7.2.1 INTRODUCTION

Risk assessment refers to identifying and evaluating hazards within the system. Risk assessment is the determination of quantitative or qualitative value of risk related to an actual situation and a recognized threat (also called hazard). Quantitative risk assessment requires calculation of two components of risk (R): the magnitude of the potential loss (L), and the probability (p) that the loss will occur. In all types of engineering of complex systems, sophisticated risk assessments are often made within safety engineering and reliability engineering when it concerns threats to life, environment or machine functioning.

The purpose of risk assessment is:

- To ensure that potential safety problems are properly understood or not.
- To check whether the existing control measures (including emergency plans) are adequate or not.
- To determine the necessary actions required to reduce risks to a reasonable level.
- To prioritize unacceptable risks identified by the assessment and determine further action.

7.2.2 RISK MANAGEMENT

A Risk Management Plan was developed to address the risks identified in the risk assessment process. Risk management is a structural approach for managing uncertainty related to threat, a sequence of human activities including: risk assessment, strategies development to manage it, and mitigation of risk using managerial resources. The strategies include transferring of risk, avoiding the risk, reducing the negative effect of the risk.

Steps in the risk management process

- Identification of risk in a selected domain of interest
- Planning the remainder of the process
- Mapping out the following:
  - The social scope of risk management
  - The identity and objectives of stake holders
  - The basis upon which risks will be evaluated, constraints

- Defining a frame work for the activity and an agenda for identification
- Developing an analysis of risk involved in the process
- Mitigation of risks using available technological, human and organizational resources.

The major risks identified due to the probable hazards in the project site during the construction and operation phase and the precautionary measures for the same as a part of emergency response plan are discussed in the below sections.

- Failure of machineries
- Working at heights
- Transport Vehicles
- Loading and unloading
- Hazards pertaining to fire in buildings
- Fire in diesel storage areas, garbage storage and disposal area
- Earthquakes
- Flooding
- Electrical Accidents
- Spills
- Housekeeping
- Occupational Noise Exposure etc.

7.2.3 SAFETY ASPECTS PROPOSED DURING CONSTRUCTION PHASE AND OPERATION PHASE

The project authorities must recognize the causes of safety hazards in construction site and establish programs, rules, regulations, guidelines and whatever else that might be necessary to reduce accidents.

1. Management

- The management structure and responsibilities of the various members of the project team, whether based at site or elsewhere.
- Arrangements for the principal contractor to give directions and co-ordinate other contractors.

2. Standard setting

- The health and safety standards to which the project will be carried out. These may be set in terms of statutory requirements or higher standards that the client may require in particular circumstances.

3. Information for contractors

- Means for informing contractors about risks to their health and safety arising from the environment in which the project is to be carried out and the construction work itself.

4. Selection procedures

- Machinery and other plants supplied for common use will be properly selected.

5. Communications and Co-operation

- Communicating and passing the information between the project team, the designers, the planning supervisor, the principal contractor, other contractors, workers on site and others whose health and safety may be affected.

6. Information and training for people on site

- Health and Safety information
- Health and Safety training

SAFETY MEASURES DURING CONSTRUCTION

The safety procedures, norms and guidelines (as applicable) as outlined in Constructional practices and safety, National Building Code of India; Bureau of Indian Standards shall be complied with. This includes:

- Indicating 'precautions for working' on machinery.
- Maintaining hoists and lifts, lifting machines, chains, ropes and other lifting tackles in good condition.
- Ensuring durable and reusable formwork systems to replace timber formwork along with proper maintenance of the same.
- Providing Personal Protective Equipments such as helmets, ear plugs, etc.
- Providing measures to prevent fire and ensuring the provision of fire extinguishers and sand buckets in fire-prone area and elsewhere.
- Providing sufficient and suitable light for working during night time.
- Incorporating measures to protect workers from dangers and health hazards resulting from materials of construction, transportation and storage.
- Providing adequate number of latrines and urinals to construction workers.
- Conducting mock up drills at regular intervals.
- Providing clean drinking water to all workers.

SAFETY MEASURES DURING OPERATION

- Ensuring the display of Emergency Exit plan with Emergency contact numbers at various locations.
- Providing proper fire exit plan and well planned fire prevetion facilities.
- Providing smoke detectors in all the rooms and passages of every floor.
- Providing portable fire extinguisher in all the floors.
- Providing Fire Alarm systems in all the floors.
- Conducting mock up drills at regular intervals.
- Marking clearly the safe assembly points and making the residents aware of it.
- Storing the D.G oil and waste oil in leak proof containers at designated locations.
- Providing well- planned traffic movement and parking facilities to prevent accidents.
- Ensuring proper maintenance of Sewage Treatment Plant and Solid waste management plan to prevent health hazards.
- Ensuring the presence of onsite maintenance engineer and maintenance team during the operation phase.

7.3 DISASTER MANAGEMENT PLAN

As per Disaster Management Act, 2005 “Disaster means a catastrophe, mishap, calamity or grave occurrence in any area, arising from natural or man-made causes, or by accidents or negligence which results in substantial loss of life or human suffering or damage to, and destruction of property, or damage to, or degradation of environment and is of such a nature or magnitude as to be beyond the coping capacity of the community of the affected areas.” A Disaster is an Extreme disruption of the functioning of a society that causes widespread human, material or environmental losses that exceed the ability of the affected society to manage using only its own resources. The events such as earthquakes, floods, and landslides would become disasters when they result in damages to human life, properties or environment. It is also an unexpected event due to sudden failure of the system, external threats, internal disturbances, earth quakes, landslides, floods, fire and accidents etc. Disaster Management Plan is nothing but the preparedness in case of emergency situations in order to limit the impact of disaster events.

It is proposed to draw guidelines for reporting procedures communication system and emergency action committee as follows:

1. Earthquake resistant structures as per the standards applicable for Risk Zone III.
2. Emergency action committee: To ensure co-ordinated action, an Emergency Action Committee shall be constituted to interact with:

- Police officer of the area
- Transport corporation representatives
- Home guard representative
- Department of information and publicity

- Nearest medical facilities

3. Safe route to be used, adequacy of transport for evacuation and traffic control.
4. Fire protection: The building materials would be of appropriate fire resistance standard. The fire resistance period would be at least 4 hours. Usage of wood will be minimum and restricted only for door panels and shall not be used for any other purposes, excluding artificial wood products, which are flame - resistant.

Precautions:

- Once the likelihood of the disaster is suspected, preventive actions should be undertaken by the project in-charge.
- Periodic awareness programme will be conducted for the residents on their roles during emergency situations.
- The electrical systems shall be provided with automatic circuit breakers activated by over current.
- Proper escape routes are planned and displayed in the public domain.
- Selected representatives are given proper training to guide other inhabitants during fire accidents.
- Important telephone numbers including numbers of police authorities, fire department and hospitals etc. of use during emergency situations are made available.
- Conditional maintenance of equipments, materials, and expertise for use during emergency.

7.4 RESETTLEMENT & REHABITATION (R&R) ACTION PLAN

Proposed project is a development of Commercial Complex. As of now, in the project site there is no habitation/human settlement, therefore there won't be any rehabilitation & resettlement. Hence there is no need of rehabilitation & resettlement (R & R) action plan for the proposed project.