

Proposed Terms of reference for EIA studies

Executive summary of the project – giving a prima facie idea of the objectives of the proposal, use of resources, justification, etc. In addition, it should provide a compilation of EIA report including EMP and the post-project monitoring plan, in brief.

Project description

1. Justification for selecting the proposed storage capacity.
2. Land requirement for the project including its break up for various purposes, and its availability and optimization.
3. Details of proposed location layout clearly demarcating various units within the plant.
4. Mode of receiving hazardous chemicals in isolated storages and mode of its distribution.
5. Details on design parameters of the storages, procedures, piping layout, monitoring equipments, emergency requirements, safety controls, relief systems, etc.
6. Details on list of hazardous chemicals to be stored at the facility – its category, physical & chemical properties, storage quantities, etc., and compatibility with the design parameters of the storages.
7. Details of domino effect of the storage tanks and respective preventive measures including distance between storage units in an isolated storage facility.
8. Details on storage tanks including capacity and storage distance.
9. Details on transfer and handling of hazardous chemicals – piping system, handling techniques, equipments used standard operating procedures, etc.
10. Details on specific equipments, flanges, pumps, compressors proposed to control loss of chemicals. Designed VOC loss accounting.
11. Details of proposed source-specific pollution control schemes/equipments.
12. Details on requirement and availability of power and water with its source and authorization from the concerned department.
13. Management plan for solid/hazardous waste generation, storage, utilization and disposal.
14. Details regarding infrastructure facilities such as sanitation, fuel storage, restroom, etc. to the workers during construction and operation phase.
15. Details on safety management plan.
16. In case of expansion of existing storages, remediation measures adopted to restore the environmental quality if the groundwater, soil, crop, air, etc., are affected and a detailed compliance to the prior environmental clearance/consent conditions.
17. Any litigation pending against the project and /or any direction /order passed by any Court of Law related to the environmental pollution and impacts in the last two years, if so, details thereof.

Description of the environment

1. The study area shall be up to a distance of 10 km from the boundary of the proposed storage facility.
2. Location of the storage facility, nearest habitats with distances from the facility to be demarcated on a toposheet (1: 50000 scale).
3. Land use based on satellite imagery including location specific sensitivities such as national parks / wildlife sanctuary, villages, industries, etc.
4. Demography details of all the villages falling within the study area.
5. Topography details of the project area.
6. The baseline data to be collected from the study area w.r.t. different components of environment viz. air, noise, water, land, biology and socio-economic. Actual monitoring of baseline environmental components shall be strictly in accordance to the parameters prescribed in the ToR after considering the proposed coverage of parameters by the proponent in draft ToR and shall commence after finalization of ToR by the Competent Authority.
7. Geological features and geo-hydrological status of the study area.
8. Details on surface water quality of nearby water sources and other surface drains.
9. Details on ground water quality.
10. Relevant ambient air quality parameters for monitoring including combustion emissions due to traffic, VOCs and stored chemicals, etc.
11. Existing ambient air quality, expected emissions such as combustion emissions* due to traffic, VOCs*, stored chemicals*, etc.) and evaluation of the adequacy of the proposed pollution control devices to meet standards for point sources and to meet AAQ standards. (* - as applicable)
12. The air quality contours may be plotted on a location map showing the location of storage facility, habitation nearby, sensitive receptors, if any and wind roses.
13. Details on noise levels at sensitive/commercial receptor.
14. Site-specific micro-meteorological data including mixing height.
15. One season site-specific data excluding monsoon season.
16. Proposed baseline monitoring network for the consideration and approval of the Competent Authority.
17. Ecological status (terrestrial and aquatic) of the study area such as habitat type and quality, species, diversity, rarity, fragmentation, ecological linkage, age, abundance, etc.
18. If any incompatible land use attributes fall within the study area, proponent shall describe the sensitivity (distance, area and significance) and propose the additional points based on significance for review and acceptance by the EAC/SEAC.

Incompatible land use attributes include:

- Public water supply areas from rivers/surface water bodies, from ground water
- Scenic areas/tourism areas/hill resorts
- Religious places, pilgrim centers that attract over 10 lakh pilgrims a year
- Protected tribal settlements (notified tribal areas where industrial activity is not permitted)
- Monuments of national significance, World Heritage Sites
- Cyclone, Tsunami prone areas (based on last 25 years);
- Airport areas
- Any other feature as specified by the State or local government and other features as locally applicable, including prime agricultural lands, pastures migratory corridors, etc.

19. If ecologically sensitive attributes fall within the study area, proponent shall describe the sensitivity (distance, area and significance) and propose the additional points based on significance for review and acceptance by the EAC/ SEAC. Ecological sensitive attributes include:

- National parks
- Wild life sanctuaries Game reserve
- Tiger reserve/elephant reserve/turtle nesting ground
- Mangrove area
- Wetlands
- Reserved forests and protected forests
- Any other closed/protected area under the Wild Life (Protection) Act, 1972.
- Any other eco-sensitive areas, etc.

20. If the location falls in Valley, specific issues connected to the natural resources management shall be studied and presented.

21. If the location falls in CRZ area: A CRZ map duly authenticated by one of the authorized agencies demarcating LTL, HTL, CRZ area, location of the project and associate facilities w.r.t. CRZ, coastal features such as mangroves, if any.

- Provide the CRZ map in 1:10000 scale in general cases and in 1:5000 scale for specific observations.
- Proposed site for disposal of dredged material and environmental quality at the point of disposal/impact areas.
- Fisheries study should be done w.r.t. Benthos and Marine organic material and coastal fisheries.

Anticipated environmental impacts and mitigation measures

1. Anticipated generic environmental impacts due to this project are indicated in Table 4-2, which may be evaluated for significance and based on corresponding likely impacts, VECs may be identified. Baseline studies may be conducted for all the concerned VECs and likely impacts will have to be assessed for their magnitude in order to identify mitigation measures.
2. Tools as given in Section 4.4.3 may be referred by the proponent for the appropriate assessment of environmental impacts and same may be submitted in draft ToR for consideration and approval by EAC/SEAC.
3. While identifying the likely impacts, also include the following for analysis of significance and required mitigation measures:
 - Impacts due to emissions from entry and evacuation of chemicals at storage points
 - Impacts due to temperature variations in the tanks
 - Impacts due to emissions from handling of chemicals
 - Impacts due to emissions from cleaning operations
 - Impacts due to odour pollution
 - Impacts due to generation of wastewater from drainage facilities, cleaning, tanks, seepage, etc.
 - Impacts due to noise from tank installations, conveyors, transportation of products, etc.
 - Impacts due to fugitive emissions/VOCs
 - Impacts due to catastrophic failures
 - Impacts due to residues/tank bottom sludge, etc.
 - Impacts due to fire/accidents
 - Impact on health of workers due to proposed project activities
4. In case of likely impacts from the proposed storage facility on the surrounding reserve forests, Plan for the conservation of wild fauna in consultation with the State Forest Department.
5. Action plan for the greenbelt development – species, width of plantations, planning schedule, etc., in accordance to CPCB published guidelines.
6. In case of likely impact from the proposed project on the surrounding reserve forests, Plan for the conservation of wild fauna in consultation with the State Forest Department.
7. For identifying the mitigation measures.

Analysis of alternative resources and technologies

1. Comparison of alternate sites considered and the reasons for selecting the proposed site. Conformity of the site with the prescribed guidelines in terms of CRZ, river, highways, railways, etc.
2. Details on improved technologies for storing and handling of hazardous chemicals. Environmental monitoring program
3. Monitoring programme for source control.
4. Appropriate monitoring network has to be designed and proposed to assess the possible residual impacts on VECs.
5. Monitoring pollutants at receiving environment for the appropriate notified parameters – air quality, groundwater, surface water, soil, etc. during operational phase of the project.
6. Leak detection and repair programme.
7. Specific programme to monitor occupational, safety and health protection of workers.
8. Details of in-house monitoring capabilities and the recognized agencies if proposed for conducting monitoring.

Additional studies

1. Details on risk assessment and damage control during different phases of the project and proposed safeguard measures.
2. Details on status of emergency preparedness – safety procedures, training, personal protective equipments, firefighting devises, medical aids, safety control systems, management plans, etc.
3. Details on socio-economic development activities such as commercial property values, generation of jobs, education, social conflicts, cultural status, accidents, etc.
4. Proposed plan to handle the socio-economic influence on the local community. The plan should include quantitative dimension as far as possible.
5. Details on compensation package for the people affected by the project, considering the socio-economic status of the area, homestead oustees, land oustees, and landless labourers.
6. Points identified in the public hearing and commitment of the project proponent to the same. Detailed action plan addressing the issues raised, and the details of necessary allocation of funds.
7. Details on plan for corporate social responsibility including the villages, population spread, SC/ST/backward communities, upgradation of existing schools, establishing new schools with facilities (such as laboratories, toilets, etc.), link roads, community halls, primary health facilities, health camps, etc.

Environmental management plan

1. Administrative and technical organizational structure to ensure proposed post-project monitoring programme for approved mitigation measures.
2. EMP devised to mitigate the adverse impacts of the storage facility should be provided along with item-wise cost of its implementation (Capital and recurring costs).
3. Allocation of resources and responsibilities for plan implementation.
4. Details of the emergency preparedness plan and on-site and off-site disaster management plan.