

## PLANT LOCATION AND LAYOUT

The arrangement of equipment and facilities specified from process flow sheet considerations is a necessary requirement for accurate pre construction cost estimating for future detailed design involving piping, structural and electrical facilities. Careful attention to the development of plots and elevation plans will point out unusual plant requirements and therefor, give reliable information building and site costs required for precise pre-construction cost accounting. Rational design must include arrangement of processing areas, storage areas and handling areas in efficient co-ordination and with regards to such factors as

1. New site development or addition to a previously developed site.
2. Future expansion.
3. Economic distribution of services-water, process steams, power and gas
4. Weather condition.
5. Safety consideration-possible hazards of fire, explosion and fumes.
6. Building code requirements.
7. Waste disposal problems.
8. Sensible use of floor and elevation space.

**Plant Location:** Storage facilities for raw materials and intermediate and finished products may be located, in isolated areas or in adjoining areas. The plant can be located near any refinery such as MRPL, IOCL, or IPCL. Near Surathkal raw materials can be easily obtained from MRPL. It will reduce transportation and storage costs. As water is needed in large quantity, the site near river will be quite feasible as water can be obtained from it.

**Labor Supply:** Skilled and unskilled are also obtained in Indian states. The villagers near the sites can accommodate for enough of unskilled labors and all the Engineering graduates of colleges can form the skilled labor.

**Market:** This is one of the major deciding factor of plant location and in this respect the plant should be near a big city, which should be a major trade center so that a lot of money can be saved on transportation charges and final product will have a heavy demand.

**Effluent Disposal:** There is no major effluent from naphthalene plant except blow-down water. This can be directly disposed to the sea after cooling water to the ambient temperature.

**Plant Layout:**

Plant layout is an important consideration in determining the construction and production costs. Some points to be considered in plant layout are:

- Effluent plant is located at the end of premises.
- Administration buildings, canteens are located near the entrance of the industry where they will not interfere with production and it is convenient to contact the people outside the industry.
- Laboratory and workshops are placed in the position from where it is easy to communicate with all other departments.
- Location of services like power plant, cooling water, pump house, and switch house are done such that their uses is not hindered and they are easily accessible in case of fire.
- Pipelines laid are minimal and human safety is taken into account.