

PLANT LAYOUT AND LOCATION

PLANT LAYOUT

The layout of process units in the plant and the equipments within these process units must be planned before detailed piping, structural and electrical design. This layout plays an important role in determining construction and manufacturing costs and thus must be planned carefully with attention being given to future problems. Proper layout will include arrangement of processing area, storage area and handling area in efficient coordination. This regards to factors as:

1. New site development or addition to previously developed sites.
2. Type and quantity of products to be produced
3. Type of process and product control.
4. Economical distribution of services, such as water, process stream, power and gas.
5. Operational convenience and accessibility.
6. Health and safety considerations.
7. Types of buildings and building codes.
8. Waste disposal problems.
9. Possible future expansion.
10. Space available and space required.

PLANT LOCATION

The geographical location of the final plant can have a strong influence on the success of industrial venture. Primary factor to be considered in selection of plant location is the plant must be located where the minimum cost of production and distribution can be obtained, other factors such as room for expansion and general living

conditions, are also important. The following factors must be considered in choosing a plant site:

1. Raw materials:

Location near the raw materials source permits considerable reduction in the transportation and storage charge.

2. Markets:

This is one of the major deciding factor of the plant location and in this respect the plant should be near a big city which should be a major trade center so that lots of money can be saved on the transportation.

3. Labor supply:

Consideration should be given to prevailing pay rates, restriction on number of hours worked per week, high turnover rates among the workers and variation in the skill and intelligence of the worker.

4. Water supply:

Amount of water required for manufacture of MEA is high, hence the site near the river will be quite feasible as water can be obtained from it.

5. Climate:

Excessive humidity or extremes of hot or cold weather can have a serious effect on the economic operation of plant; and these factors must be examined while selecting the site.

6. Transportation facilities:

The kind and the amount of the raw material and product determines most suitable type of transportation facility. Water rail road and highways are the common means of the transportation. If possible plant site should have access to all three types of transportation, at least two types should be available.

