

3. Depreciation cost: -

it is the amount to be set aside per year from income to meet the depreciation caused by the ages of service, wear and tear of machinery, and the decrease in the value of equipment due to obsolescence. The power plant and equipment in the plant will have a certain period useful life. After years of use, the equipment loses its efficiency or becomes obsolete and needs replacement. Sometimes equipment may have to be replaced even when they fairly new, due to more efficient machines are available in the market. Some money is put aside annually to enable for this replacement, when necessary. This is known as depreciation fund.

4. Insurance: -

nowadays, it becomes necessary to insure the costly equipments especially for the fire or accident risks. A fixed sum is set aside per year as insurance charges. The insurance premium may be 2 to 3% of the equipment cost but annual installment is quite heavy when the capital cost of the equipment is high.

5. Management cost; -

this cost includes the salary of the management employees working in the plant. This must be paid whether the plant is working or not. Therefore, this cost is included in the fixed

Operatring cost: -

the operational cost includes

- a) The cost of fuel,
- b) The cost of lubricatibg oil, greases, cooling water,
- c) The cost of maintenance and repairs,
- d) The cost of operating labour,
- e) The supervision cost and
- f) Taxes.

These costs vary with the amount of electrical energy produced.

a) Cost of fuel: - the fuel consumption depends on the amount of energy produced. As load increases the fuel consumption will increase so does the cost of fuel. The efficiency of the prime mover is the highest at the rated load. At lower loads, efficiency decreases and so the fuel consumption will increase. The selection of the fuel and the maximum economy in its use are, therefore, very important consideration in thermal plant design. The cost of the fuel includes not only its price but also its transportation and handling costs also. The cost of fuel depends on the calorific value and its availability.

b) The cost of lubricating oil, greases, cooling water: -

the cost of these materials also proportional to the amount of energy generated. this cost increases with an increase in life of the power plant as the efficiency of the power plant decreases with age

c) The cost of maintenance and repairs: -

in order to avoid breakdowns, maintenance is necessary. it includes periodic cleaning, adjustments and overhauling of equipments. the materials used for maintenance and repairs are also charged under this head. it is necessary to repair when the plant breakdown or stops due to fault in mechanism. the repairs may be major or minor and are charged to the depreciation fund of the equipment. the cost is higher for thermal power plants than hydro power plants.

d) The cost of operating labour: -

this includes the salary and wages for the operating labour working in the plant. maximum labours are needed in a thermal power plant using coal as a fuel. a hydro power plant or a diesel power plant of same capacity requires a less number of labours. in automated power plant, labour cost is reduced to a greater extent.

e) The supervision cost: -

it includes the salary of the supervising staff and executives. a good supervision reduces the breakdowns and extends the plant life. the supervising staff includes chief engineer, superintendent, engineers, stores in charges, purchase officers, other supporting staffs and executives, etc.

f) Taxes: -

the various taxes are included in this head. These are income tax, sales tax, provisional tax, commercial tax, etc.



