

TOTAL PRODUCTIVE MAINTENANCE

- In TPM, operating staff, Maintenance staff, connected planning groups are actively involved in Maintenance and upkeep of Plant & Equipment
- Operating personnel look after daily & routine maintenance of eqpt and specialized/major maint by Maintenance dept.
- Concept introduced by General Motors in 1960

Objective of TPM:

- To maximize overall effectiveness of eqpt
- Involve all
depts, Operation, Maintenance, Planning
groups, Material mngt and QC.
- Participation from top mngt to worker level
- Total system for complete mngt
- Promotes small autonomous group concept for
better motivation

Zero Breakdown:

- Implies a very high degree of Reliability combined with very good Maintenance capability. Reliability is within the manufacturers competence
- Manufacturer to provide built in monitoring and maint facilities
- Mfr and Maint personnel to aim for zero breakdown.

5-S concept in Maintenance:

Developed in Japan.No effective and Quality job can be done without clean & safe environment and behavioural rule.

S – Sort

S – Simplify

S – Scrub

S- Standardize

S- Sustain

Economics of Maintenance:

Maintenance cost is

- Cost incurred in Maintenance of eqpt
- Running the Maintenance organization

Classification of Costs

Maint costs are divided in two categories.

- Fixed cost- Men and facilities
- Variable cost- Cost of major repairs/overhauls, cost of spares, materials etc

Another classification is

- Direct Cost or Apparent cost – To keep the system operable i.e. periodic inspection, condition monitoring, PM, Corrective Maint, Major repairs/overhauls etc.

- Indirect cost – Extra cost and Penalty cost
Extra cost include cost for s/b eqpt to put on line, s/b eqpt for regular rotation etc.

Penalty cost include production loss as no s/b eqpt available, excess inventory, waste generation etc.

Manpower Planning.

Objectives of MP of Planner

- To interpret maintenance forecasts in terms of MP reqmts
- To indicate MP constraints as a result of company policy
- To formulate policies for retaining skilled and trained manpower

Manpower for a Mine Maintenance system:

- Type of operation
- Extent of Mechanization
- Type of Mined mineral
- No. of Shifts
- Size of mine
- System of Mine Maintenance
- Strategic location