

Marketing assignment

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It can also be defined as the combination of all technical and administrative actions, including supervision actions, intended to retain an item in, or restore it to, a state in which it can perform a required function.

Maintenance Management All the activities of the management that determine the maintenance objectives or priorities (defined as targets assigned and accepted by the management and maintenance department), strategies (defined as a management method in order to achieve maintenance objectives and responsibilities and implement them by means such as maintenance planning, maintenance control and supervision, and several improving methods including economical aspects in the organization. The term 'maintenance' means to keep the equipment in operational condition or repair it to its operational mode. Main objective of the maintenance is to have increased availability of production systems, with increased safety and optimized cost. Maintenance management involves managing the functions of maintenance. Maintaining equipment in the field has been a challenging task since the beginning of industrial revolution.

Since then, a significant amount of progress has been made to maintain equipment effectively in the field. As the engineering equipment becomes sophisticated and expensive to produce and maintain, maintenance management has to face even more challenging situations to maintain effectively such equipments in industrial environment. This brief lecture on maintenance management includes maintenance strategies, functions of maintenance department, maintenance organization and elements of maintenance management.

MAINTENANCE STRATEGIES OR OPTIONS A maintenance

strategy or option means a scheme for maintenance, I. E. An elaborate and systematic plan of maintenance action.

Following are the maintenance strategies [1] that are commonly applied in the plants. * Breakdown Maintenance or Operate to Failure or Unplanned Maintenance * Preventive or Scheduled Maintenance * Predictive or Condition Based Maintenance ; Opportunity Maintenance * Design out Maintenance FIFO and then repairing it and putting back to operation. This strategy is suitable for equipments that are not critical and have spare capacity or redundancy available. In preventive or scheduled Maintenance, maintenance actions such as inspection, lubrication, cleaning, adjustment and replacement are undertaken at fixed intervals of numbers of hours or Kilometers. An effective PM program does help in avoidance of accidents.

Condition monitoring (CM) detects and diagnoses faults and it helps in planned maintenance based on equipment condition. This condition based maintenance strategy or predictive maintenance is preferred for critical systems and for such systems breakdown maintenance is to be avoided. A number of CM techniques such as vibration, temperature, oil analysis, etc. have been developed, which guide the users in planned maintenance [2]. In opportunity maintenance, timing of maintenance is determined by the procedure adopted for some other item in the same unit or plant. In design out maintenance, the aim is to minimize the effect of failures and in fact eliminates the cause of maintenance.

Although it is an engineering design problem, yet it is often a responsibility of maintenance department. This is opted for items of high maintenance cost

that are due to poor maintenance, poor design or poor design outside design specifications. It may be mentioned that a best maintenance strategy for each item should be selected by considering its maintenance characteristics, cost and safety. In addition to the above, new strategies concepts such as Proactive Maintenance, Reliability Centered Maintenance (RCA), Total Productive Maintenance (TOM), etc. Have recently been evolved to look it from different perspectives and this has helped in developing effective maintenance.

In proactive maintenance, the aim is identify what can go wrong, I. E. By monitoring of parameters that can cause failures. In RCA, the type of maintenance is chosen with reliability of the system in consideration, I. . System functions, failures relating to those functions and effects of the dominant functional system failures. This strategy in the beginning was applied to critical systems such as aircrafts, nuclear and space applications. At present, this is being extended to critical systems in the plant. TOM, a Japanese concept, involves total participation of all concerned. The aim is to have overall effectiveness of the equipment with participation of all concerned using productive maintenance system.

FUNCTIONS OF A MAINTENANCE DEPARTMENT Following are the major functions of a maintenance department [3-4]: Maintenance of installed equipment and facilities * Installations of new equipment and facilities * PM tasks - Inspection and lubrication of existing equipment * CM tasks - monitoring of faults and failures using appropriate techniques * Modifications of already installed equipment and facilities * Management of inventory * Supervision of manpower **MAINTENANCE ORGANIZATION** It concerns in <https://assignbuster.com/marketing-assignment-essay-samples-82/>

achieving an optimum balance between plant availability and maintenance resource utilization. The two organization structures that are common are: Centralized and Decentralized.

A decentralized structure would probably experience a lower utilization than centralized one but would be able to respond quickly to breakdowns and would achieve higher plant availability. In practice, one may have a mix of these two. A maintenance organization can be considered as being made up three necessary and interdependent components. 1 . Resources: men, spares and tools 2. Administration: a hierarchy of authority and responsibility for deciding what, when and how work should be carried out. 3. Work Planning and Control System: a mechanism for planning and scheduling the work and feeding back the information that is needed for correctly directing the maintenance effort towards defined objective.

It may be mentioned that maintenance / production system is a continuously evolving organism in which the maintenance organization will need continuous modifications in response to changing requirements. Moreover, it is required to match the resources to workload. Maintenance activities - be it preventive or condition monitoring, involve use of resources- men and materials including documents. This requires coordination amongst the involved personnel so that these are timely undertaken. Work planning and control system under maintenance management in the plant ensures this and provides planning and control of activities associated with maintenance. This means application of general management principles of planning, organizing, directing and controlling to the maintenance functions, e. G. O the establishment of procedures for development of maintenance strategy

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and to models for describing the flow of work through maintenance work planning department. Control system controls the maintenance cost and plant condition. ELEMENTS OF EFFECTIVE MAINTENANCE MANAGEMENT An effective maintenance system includes the following elements [3-4]: * Maintenance Policy * Control of materials * Preventive Maintenance * Condition Monitoring * Work Order * Job planning * Priority and backlog control * Data recording system Maintenance performance for a plant or an organization can be assessed through analysis of Reliability, Availability and Maintainability (RAM) plant data. Relevant parameters, measures or indices for specific plants can be identified [5].

The performance over a period of time will show if it is improving, going down or being sustained. This will also help in knowing how well the objectives are being met. In addition, it will guide the areas which are strong and which need to be strengthened. Use of computers and dedicated software will certainly help in implementing this and the maintenance management system in general. CONCLUSION The above lecture has briefly focused on the various aspects of maintenance management. Maintenance is expected to play even much bigger role in years to follow, as industries worldwide are going through an increasing and stiff competition and increased automation of plants.