

# **UNIT 1: MAINTENANCE**

## Why Hotel Engineering?

- Hotel is dependent on sophisticated engineering equipment's.
- Examples: Air conditioning system, Ventilation, Water treatment plant, Sewage treatment plant, Sensors, Detectors, Fire-fighting system and a lot more.
- As a Hospitality professional you need to have basic knowledge of these equipment's.

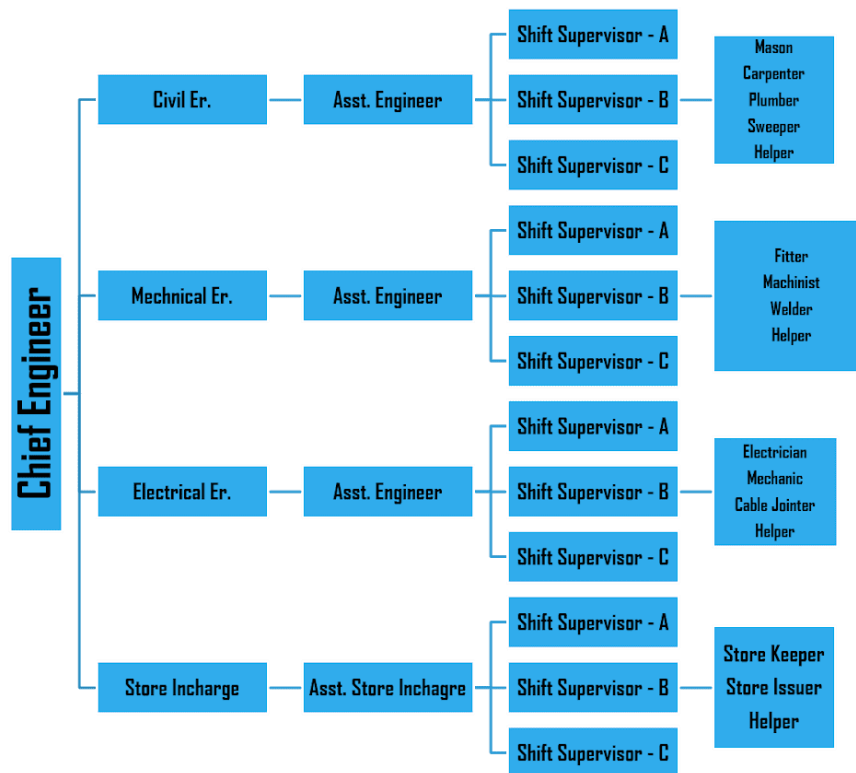
## Importance of the Maintenance Department

- Keeping engineering facilities in optimal operating conditions is vital for the business of a hotel.
- Non-availability of a facility reduces the revenue and loss of future business potential.
- The maintenance department aims at keeping all the engineering facilities in the best operating condition.
- The department also helps in the up gradation of technology.
- It is not wrong to refer to it as the Engineering department.

## Role of the Maintenance Department

- Headed by the Chief Engineer.
- It comprises of a Civil Engineer, Mechanical Engineer, Electrical Engineer and a Stores Officer.
- Repair and construction of buildings and roads, plumbing, sanitation etc.
- Repair, maintenance and operation of boilers, gen sets, refrigeration etc.
- Repair, maintenance and installation of electrical equipment's.
- Maintenance and control of Inventory of spare parts and consumables.
- Equipment Replacement and purchase of new equipment's through proper tendering.
- Vendor development for supply of spare parts, equipment's and contract maintenance
- Maintenance of an engineering office for administrative work.
- Negotiation with employee's union.
- Look after the recruitment, training, and proper placement of human power.
- Coordination with other departments of the hotel.

## Organization Chart of the Maintenance Dept.



## Duties and Responsibilities of the Chief Engineer

- Chief Engineer has to ensure the smooth functioning of the Maintenance Department.
- The Chief Engineer is authorized to request various types of reports from his sub ordinates and analyse the same.
- To ensure smooth daily operation and guest appeal of the hotel.
- Organize and manage maintenance workers and participate in hiring, training and mentoring the staff.
- Supervise the maintenance work.
- Planning and scheduling of maintenance.
- Inviting tenders for contract maintenance.
- Budgeting of the maintenance department.
- Evaluation of the cumulative performance of the engineers.

- The Chief Engineer is answerable to the management in case of any negligence by the maintenance Department.

## Civil Engineer

### Areas of Concern

- Building
- Renovation
- New Construction
- Sanitation
- STP – Sewage Treatment Plant
- WTP – Water Treatment Plant
- Drainage
- Water Works
- Roadways

## Mechanical Engineer

### Areas of Concern

- Boiler
- Refrigeration
- AC Plant
- Generators
- Swimming Pool
- M/C (Machine) Installation
- Fire Fighting
- Gas bank

## Electrical Engineer

### Areas of Concern

- Electric Motor
- Alternator Wiring
- Illumination
- Switch Gear
- Sensor and Detectors
- Communication
- UPS

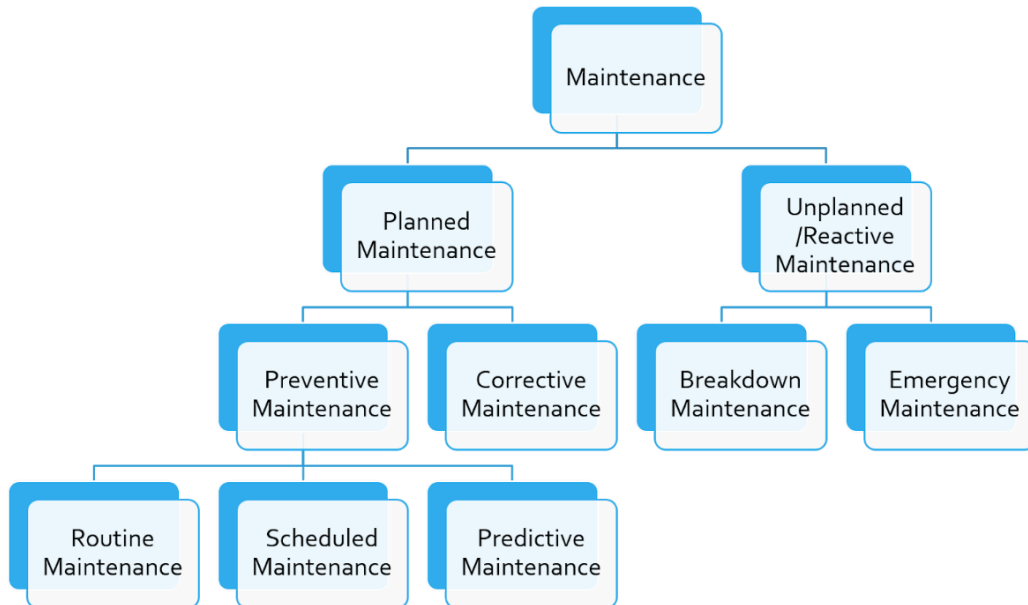
## Store In charge

### Areas of Concern

- Inventory Control
- Spare parts Management
- Bin Card Stock Control

<b>Part number</b> A 1234			<b>Bin number/location</b> A1284			
<b>Description</b> 30cm brackets						
<b>Receipts</b>			<b>Issues</b>			<b>Balance</b>
<i>Date</i>	<i>Goods received note number</i>	<i>Quantity</i>	<i>Date</i>	<i>Requisition number</i>	<i>Quantity</i>	
						b/f 100
15/1/2013	1235	200				300
			29/1/2013	1929	140	160
			3/2/2013	1955	120	20
10/2/2013	1384	500				520

## TYPES OF MAINTENANCE



### Preventive Maintenance

- Preventive Maintenance is the maintenance action carried out on time based and condition-based schedule.
- This type of maintenance is carried out before a fault is detected.
- It involves scheduling maintenance activities at predetermined time intervals.
- It also involves repairing or replacing damaged equipment's before obvious problems occur.
- It is further sub divided into a. Routine Maintenance b. Scheduled Maintenance c. Predictive Maintenance.

## Routine Maintenance

In this type of maintenance, regular cleaning, lubrication of movable parts of machine and facilities is carried out.

## Scheduled Maintenance

- This category of maintenance is prepared and followed using experience and following manufacturer's maintenance manual.
- Maintenance schedules of all machines are prepared, logbooks are maintained and minor repairs are routinely carried out before major breakdown occurs.
- It is a time-consuming type of maintenance as it requires professional knowledge and skill.
- It aims at reducing machine stoppage due to sudden breakdown.

## Predictive Maintenance

- This is a method in which the service life of important parts is predicted based on inspection or diagnosis, in order to use the parts to the limit of their service life.
- Machinery conditions are periodically monitored and this enables the maintenance crew to take timely action.
- It monitors the machinery periodically for excessive vibration, temperature, lubrication or other unhealthy trends.
- When the condition deteriorates to some predetermined unacceptable level, the equipment is shut down to repair or damaged components are replaced.
- This helps to prevent occurrence of a more costly failure.

## Corrective Maintenance

- Also known as Running Maintenance

- This is a maintenance procedure where minor repair work is carried out on machines, initiated by a formal work order from the machine user department.
- The maintenance crew inspects the machine and does the repair work to run the machine in a short time.

## WORK ORDER FORM

Requester Name: \_\_\_\_\_ Date: \_\_\_\_\_

Department: \_\_\_\_\_ Telephone: \_\_\_\_\_

Location: \_\_\_\_\_ Urgent: Yes \_\_\_\_\_  
 No \_\_\_\_\_

Room: \_\_\_\_\_

Description of Work Order Requested:

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-----Maintenance Use Only-----

Description of completed Work Order and Material Used:

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## Breakdown Maintenance

- It involves performing maintenance activities after a breakdown or malfunction has occurred and then must be repair on an emergency or priority basis.
- Breakdown maintenance includes repairs, replacement of parts or even overhaul to ensure that the machine is out back in operating condition.
- Breakdown maintenance is applicable to sophisticated machinery which proves very advantageous from cost point of view to allow them to run till they fail.

## Emergency Maintenance

- It is carried out when a piece of equipment suddenly fails.
- Increases cost due to unplanned downtime of equipment's.
- May involve prolonged downtime if proper human power and components are not easily available.
- May increase costs associated with repair or replacement of equipment on urgent basis.
- Increases labour cost, especially if overtime is needed.

## Preventive Maintenance v/s Breakdown Maintenance

### Preventive Maintenance

- High Cost.
- Increases operational life of equipment.
- Results in an estimated 12 to 18 per cent cost saving as compared to breakdown maintenance.
- Maintenance activities that are not required are carried out.

## Breakdown Maintenance

- Lower Cost.
- Allows the equipment to run up to the point of failure.
- May increase costs associated with repair or replacement of equipment on an urgent basis.
- No maintenance is carried out until a breakdown

## Conclusion

- In the end it should be clear that maintenance of engineering and other facilities is one of the most critical activities in a hotel.
- It is both very complex and elaborate in the present era of highly developed technology in the hotel industry.
- It is not a revenue generating activity directly, such as F&B or accommodation, proper and regular maintenance definitely saves a lot of money by reducing down time of machines and equipments.
- It ensures guest satisfaction and high staff morale.
- Ultimately contributing immensely to the business of a hotel.