

LESSON 7

BUILDING & FACILITY MANAGEMENT

LESSON AIM

Implement facilities management systems.

The knowledge and expertise required to competently manage the facilities and hotel building managers ranges from understanding the basics of a building's heating, air conditioning, electrical, plumbing and communications systems, to utilizing critical business concepts in accounting, finance and human resources. An expert in facility management would need to:

- *Apply current management techniques and principles
- *Assist with facility financial forecasting and budgeting.
- *Act in accordance with relevant regulatory codes in addressing health, safety and security issues in facility management.
- *Aid in procurement of furnishings, equipment and outside facility services.
- *Understand basic building operations, including utilities and mechanical systems, telecommunications, waste management and general maintenance orally and/or in writing.
- *Responsibilities of a facility manager are to plan, provide and manage the most efficient, humane and productive work environment possible.
- * Information management systems
- * General administrative services

MAINTENANCE

Inevitably, in every establishment, there comes a time when wear and tear inside and outside of the premises lead to need of repair or replacement of the damage. If repairs are delayed through either lack of knowledge or restricted expenditure, then very much more costly and extensive repairs are likely to become necessary.

It may be impossible to prevent the start of any damage, but by regular and thorough internal and external inspections any damage may be detected early and remedied before it becomes too bad. As a result the cost of replacements, extensive repairs and labour can be reduced.

1. Service Agreements

In every establishment there are generally some specialised pieces of plant and equipment which are not maintained by direct (in-house) labour. Arrangements for such maintenance are made on a contract basis because the work is of a specialised nature. In such cases, an annual fee is charged for a pre-arranged number of visits; the charge for replacement parts may be included in this. Emergency breakdowns may also be covered under the terms of the contract.

Terms Covered by Such Arrangements will Include:

(a) Lifts

All lifts should receive regular cleaning, lubrication, adjustment and adequate servicing by competent persons at such intervals. A log book is provided to record each inspection, replacement of parts and repair.

It is required by law that lifts should be examined periodically by a qualified engineer. This is usually carried out by the manufacturer and the insurance representative.

(b) Boilers

These should be inspected and maintained regularly so as to ensure safety and efficiency. This is required by law. The inspection should include:

- (i) Cleaning of flues, fire-tubes and chimneys. The frequency depends upon the type of fuel which is used.
- ii) De-scaling and examination for signs of corrosion.
- (iii) Inspection of fire bars, fans, damper gear, thermostats, etc.
- (iv) Inspection of all doors for close fit.

(c) Electrical Equipment

Even if the establishment employs its own electrician, he will often carry out only minor repairs relating to the wiring, etc., and the major servicing will be dealt with by a specialist contractor or even by the supplier of the equipment. The Accommodation Manager will be mainly concerned with the servicing of electrical cleaning equipment, for example, wet/dry suction cleaners, polishers, scrubbing machines, etc., and he should keep a record card of such servicing for each piece of equipment. The card may be similar to the one shown in Table 1.

<u>MACHINERY RECORD CARD</u>					
Type:	Location:		
Make:	Date Purchased:		
Model No:	Cost:	\$.....		
Serial No:				
SERVICE RECORD					
Date	Work Done	Cost	Date	Work Done	Cost

Emergency maintenance can be required for anything ranging from an electrical fuse to a major breakdown in a boiler. For the smaller type of emergency, a wise Accommodation Manager will try to identify the most likely problems and allocate the repair to an appropriate member of the staff.

As mentioned previously, servicing arrangements for major plant and equipment generally include provision for emergency call-outs. Because of this, it should be remembered that at least one member of the staff, who is on duty, at any time, should have access to the telephone numbers for such contractors should an emergency arise.

It is not possible to foresee every emergency and some problem will always arise for which no contingency plans have been made. It may be useful to have an arrangement with several firms, or local handymen, who between them should be capable of handling most emergencies.

2. Maintenance Records

The person who is in charge of maintenance work throughout the establishment should keep records of all maintenance and repairs which are carried out. The exact system which is used will depend upon the establishment, but usually a record is kept for each room and another for each piece of equipment. It is necessary to record on such a document, the necessary details of the room and the cost of the repair, if that is relevant to the running of the department, that is, the cost which is chargeable against the Accommodation Manager's budget.

An Accommodation Manager should implement an inventory record of the complete area of his responsibility. The information which is kept in the inventory will vary according to the type of the establishment, but certain general information will be basic to most systems, that is, a room-by-room breakdown of the premises, with details of all movable fittings, furniture and furnishings. Some systems will include fixed items such as sanitary fittings, light fittings, etc. However, this will depend upon the purposes for which the information is required. Details of the date on which the items were purchased, repaired or replaced should be included together with the capital cost. An inventory check should be made once per year, but in a situation where there is a frequent turnover of clients, for example, hotels, the check should be carried out more frequently.

A well-costed inventory can be a useful control instrument to the Accommodation Manager, providing a system of planned replacement for furnishings, furniture and fittings.

DAILY, PERIODIC AND PLANNED PREVENTIVE MAINTENANCE

It is very difficult to distinguish between cleaning and maintenance because the majority of cleaning tasks which are carried out serve to maintain services. The distinction may well be made according to the member of the staff who is performing the task, for example, washing paintwork would be cleaning if it was carried out by a member of the domestic staff, but it would be maintenance if it were done by a painter.

All staff, whichever department they belong to, should be trained to observe faults within the premises and to know to whom they should report for action to be taken. However, because of the widely spread area and the nature of the work in the accommodation department, it is the Accommodation Manager and his staff who play a large part in discovering jobs for maintenance, either as a result of a formal inspection and the checking of rooms for which they are responsible, or simply by observation as they proceed around the building.

Maintenance Work can be Divided into Three Groups

1. Daily or General Maintenance

This is the day-to-day rectification of breakdown and reports from departmental heads.

No room in any establishment should be let until it is in perfect order, and repairs in occupied rooms should be remedied as soon as possible. To facilitate the organisation of maintenance work, requisition lists should be sent to the maintenance staff as early in the day as it is convenient. The need for urgent repairs should be telephoned through to the maintenance department, and later added to the list.

In a hotel, assistant housekeepers check rooms as soon as they are vacated and they make note of, amongst other things, damaged articles and other jobs for maintenance. Where it is possible, this should be done before the maid enters the room. The assistant housekeepers may have a check list to work

from. This may be in the form of a general maintenance report upon which they place room numbers against the listed faults. Alternatively, the faults and room numbers are entered into the notebooks which assistant housekeepers always carry. From time to time the assistants return to the housekeeper's office, to either hand in the report form, or to enter details from their notes into the appropriate maintenance book.

Throughout the day, the assistant housekeepers should be on the lookout for maintenance work, relying upon the help of their maids to report anything which they may find requiring attention, particularly in occupied rooms.

Following is a list of items which should be examined daily:

(a) Doors - lock, handle, key, hinges.

(b) Windows - ease of opening and closing, sashcords, cleanliness of the glass, condition of the window locks. (Are curtains arranged tidily and are all hooks and end-stops in position?); blinds, shutters or Venetian Blinds.

(c) Electrical fittings - switches, sockets, light bulbs and fittings, (are shades clean with no cracks?), bells, pull-cords in bathrooms, razor sockets.

(d) Telephone, radio, television - all in good working order, with safe wiring, no exposed wiring or cracked plugs.

(e) Plumbing - rate of flow of water (including showerhead, stiff or dripping taps, WC cistern, condition of surrounding areas, damp wall surfaces, tiles cracked or falling off, condition of chrome fittings and mirrors, rate of emptying or a blocked WC pan, wash basin and bath.

(f) Heating - efficiency, ease of control, ventilation, air conditioning.

(g) Furniture - upholstery, polished surfaces, no stains, no heat marks, springing, doors, door handles, hinges and catches, cupboards, drawers.

(h) Soft Furnishings: Carpets - signs of wear, stains, burns, need of shampooing. Curtains - hooks, rails, sun bleached marks, signs of water.

(i) Floorings and Floor Coverings: Loose floorings - signs of wear.

2. Periodic Maintenance

This includes the cycle of internal painting, internal redecoration, and renovations, planned replacement of electrical wiring, pipe-work, etc., the regular inspection of the building structure and the rectification of all faults discovered.

External maintenance is usually carried out in summer and it is preceded by a general survey of the building. In the autumn, another inspection should be made, to ensure that all the required work has been completed.

As water and penetrating damp cause the most damage, the best time for an external survey is on a wet day when any potential source of trouble can be clearly seen. A dry day can be used to inspect the property at leisure.

External painting is generally carried out every 4 to 5 years and the cost should be calculated per year.

Internal maintenance, redecoration and renovation of the premises and its contents should be planned so as to cause the minimum of inconvenience and loss of revenue.

To renovate is to make as if new, and so renovations include varying processes to bring surfaces, furniture and furnishings to as near to new condition as possible. Strictly, it includes redecoration, the renewing of wall, ceiling and internal structural woodwork or metal surfaces, but it is common for both terms to be used.

The frequency with which redecoration and renovation take place depends upon the type of establishment, its situation, the policy regarding the initial purchase and the amount of use which a room receives. Not all the things in a room require the same frequency of renovation, and a record should be kept in the Accommodation Manager's office, showing dates and details of redecoration, renovations and annual cleaning.

In seasonal establishments periodic renovations and redecoration should take place just before reopening. In others it may be spread throughout the year depending upon occupancy and available labour. It is usual for a number of bedrooms to be taken out of service at one time. This enables furniture, etc. to be stored in one room while work carries on in another. It also allows for work to be started in a second room, while any paint work is drying in the first.

When extensive alterations or renovations are being made, or when outside contractors are undertaking general decoration, it may be necessary to close down whole floors, or at least, large parts of a floor. In such an event, furniture should be taken carefully to a storage space, such as a ballroom or a suitable service area. Before being removed, each item should be labelled and while it is in store it should be covered with a dust sheet or paper. It is important that storage does not take place in a damp or dirty area. A storage place with a narrow entrance should be avoided if possible, as well as one which is approached by corridors which include sharp turns as this will probably cause damage to the furniture.

Some of the periodic maintenance which is required in premises may be carried out by the staff of the Accommodation Manager. For this reason, staff should be carefully instructed in procedures. The staff will be used if it is impossible to obtain the services of a specialist.

Therefore, it would be a wise move for the Accommodation Manager to draw up procedures for those maintenance tasks which are likely to be required of his staff in order that they are available in cases of emergency. A typical example of such an emergency would be the cleaning up after a small fire in a waste paper bin, which can extensively affect the surrounding surfaces.

3. Planned Preventative Maintenance

This is the carrying out of maintenance work before a breakdown occurs. The main purpose of such maintenance is to prevent a breakdown. Servicing of plant and equipment is carried out on a regular basis. Articles, for example, electric lights are widely distributed throughout the establishment and much time and labour can be wasted by dealing with them individually each time a breakdown occurs. Therefore, all electric light bulbs in an area should be changed at one time rather than waiting until individual bulbs blow. In this manner the inconvenience and possible danger of a blown bulb is avoided. A similar pattern is carried out when re-washing taps and cleaning drains and grease traps.

FREQUENT MAINTENANCE PROBLEMS

Dampness

Dampness can lead to a number of different kinds of damage and to serious and expensive deterioration of parts of the building structure and the interior decoration.

The Accommodation Manager should report at once any signs of:

- (a) Stains on wall coverings and paintwork.
- (b) Paintwork blistering, swelling or showing yellow oily runs.
- (c) Loosening of wall coverings.
- (d) Plaster deteriorating and crumbling.
- (e) Wooden wall boards warping and buckling.
- (f) Plywood coming apart.
- (g) Damp floors or impervious floorings, for example, rubber, PVC, becoming loose on the floor.
- (h) The appearance of dry or wet rot.
- (i) Efflorescence on brickwork or plaster.

The causes of these signs may be rising damp, penetrating damp, faulty roofs, gutters, gullies, downpipes, defective waste pipes, water pipes or condensation.

(a) Rising Damp

This comes from the ground into the walls of the building. To prevent this happening, a horizontal damp course is built into all walls, at a height of 153 mm above ground level. It may consist of bituminous felt, slate, sheet lead or asphalt. To be effective it must cover the length and width of every wall, and it must not contain a break. It is sometimes rendered ineffective by the outside ground level being raised above the damp course by gardening, or by a pile of sand, coal, etc., which has been placed against the wall. The ground level must then be lowered and the pile of material removed from against the wall.

When faulty, the damp-proof course can be replaced by removing the broken parts and inserting a new course. However, this is a slow and difficult process.

A newer method is to stop the capillary action of the water rising through the porous brickwork. As it rises, the water produces a small electric charge, and if this charge can be eliminated, then the rising damp can be stopped. A method has been developed which earths the charge through a continuous copper wire. Wire is inserted in the wall, at damp-course level, by removing the mortar between the bricks, drilling at regular intervals and then mortaring the looped copper strips into position. The strip becomes part of a system of connected electrodes, which are earthed, through junction boxes, with copper-covered steel rods which are driven into the ground. This method can be used in all types of buildings, irrespective of wall thickness. It is effective only against rising damp and will not prevent dampness from other causes. It may be necessary to install it on both internal and external walls.

(b) Penetrating Damp

This is caused by rain which is driven through the external walls. All external walls will absorb moisture, and if the walls are of sufficient thickness, the moisture evaporates before penetrating to the inside. However, most walls are now of cavity construction, consisting of two walls which are separated by a 50 mm cavity, or air space. The still air between the walls acts as a damp barrier and also provides some thermal insulation.

While the cavity itself is an efficient barrier against moisture, it is important that no bridge is formed across it which will allow moisture to reach the inner skin. During poor construction work debris and rubble sometimes falls between the skins and forms a bridge at the bottom of the cavity above the damp-course. They may even lodge on the wall ties which are holding the two skins. These ties are built in for strength. The ties are designed in such a way that water drips down the cavity at the twist points of the ties and does not travel across them from the outer to inner skin. The cavity must extend 153 mm below the damp-proof course. Damp-proof courses must also be inserted into the cavity wall where there are any openings, for example, doors and windows.

Penetration of moisture may also occur as a result of mortar in the brickwork perishing. This can be repaired by repainting. If windows and doors are unprotected by paint and varnish, water will penetrate. To prevent this and to preserve the wood, external painting is carried out regularly.

Where there is extreme penetrating damp, brick and stone can be protected by tile or slate hanging, by a cement finish which is pebbled or roughcast, or by the use of a cement paint. The disadvantage of any such treatment is that the damp will not be able to dry out through the external wall and will, for a time, continue to come out on the internal side.

(c) Faulty Roofs, Gutters, Gullies and Downpipes

With pitched roofs, leaks are caused by either dislodged or cracked tiles or slates, or by defective flashing. The roof is lined with thick roofing felt and this, to a certain degree, will stop rain being driven under the joints, but it will not be sufficient to stop a torrent.

Because slates and tiles cannot be fitted with a close, water-tight joint against the sides of a chimney stack, skylight or dormer window, metal soakers are inserted between each slate or tile and the one immediately below with an up-stand against the brickwork. To prevent water running down between the soaker and the brickwork of the chimney a final sheet of metal, fixed to the brickwork, is hung over the up-stand of the soakers. As this sheet of metal is at an angle across the joints of the brickwork, it is tucked into each joint for a short distance, and wedged into place in the joint and then painted with mortar. This is called stepped flashing, and the weathering at the front of the chimney is called an apron flashing, because it hangs down from a cross-joint over the slates or tiles. Lead, copper or zinc is the best metals to use for these weatherings. Differential thermal movements may tend to pull them from the wedges and mortar which hold them, so that in time the flashings may become dislodged by high winds. They also become racked, or develop pinholes, and in all cases allow seepage of water into the building. The flashings should be inspected every two to three years. All chimney stacks should have a damp-proof course at roof level to prevent water from entering the building.

Flat roofs are constructed either of steel and reinforced concrete, which is covered with asphalt and laid with a slight drainage fall. This is normally leak proof. Alternatively, the roof may be constructed from layers of sheet metal, bituminous felt or asphalt. This type of roofing is not very permanent. It must be given extra support and extra strength, if it is to be walked over. Movement between the supports and the surface felt or asphalt may cause cracks, as will the shrinkage of any paint finish. Moisture which is trapped between the layers of asphalt or bituminous felt will evaporate with excessive heat from the sun, thus causing blistering of the material, and it will eventually split the surface.

Minor repairs are effected by applying an extra dressing or layer of asphalt or bituminous felt.

A flat roof is generally surrounded by a parapet, and if this is covered with coping stones, they should rest on a damp-proof course at roof level in order to prevent any dampness reaching the rooms beneath.

Gutters and down pipes are usually made from cast iron and they should be kept in good condition by regular cleaning and painting. Down pipes should have a clearance of at least 32 mm from the wall in order to facilitate the painting of the rear surface and also to prevent a build-up of rubbish behind the pipe, which could cause dampness. Gutters, gullies and down pipes may all become choked with leaves, twigs and the occasional bird's nest. They may become loose on the fixing brackets, down pipes may crack. Any defect should be dealt with immediately, because water running down brickwork will seep into the building, often appearing some distance away from the fault. In some cases, cast iron pipes are being replaced by polythene piping which requires little maintenance.

Down pipes are not directly joined to the main drainage system and the gullies into which they discharge should be checked at the same time as the gutters and down pipes. This is to prevent water flooding and soaking into the surrounding ground, thus leading to ground floor dampness.

(d) Defective Waste Pipes

These are not easily found because the fault is frequently within the wall, but the waste pipe is suspect if damp appears at ceiling height near to the pipe and if there is no other apparent cause.

In defective water pipes, a major leak soon becomes obvious, while a minor leak may be running for some time before it is seen and it may be difficult to trace. Whether damp is coming from a water pipe or from some other source, the reason can be determined by listening to the pipes using a stethoscope.

(e) Condensation

This is liable to occur in any moist atmosphere. Warm air can retain more moisture than colder air, therefore, when warm air comes into contact with a cooler surface, some of the moisture will condense and the surrounding surfaces may become quite damp, even wet in steamy atmospheres.

Therefore, it should follow that the situation is aggravated when there are cold, non-absorbent surfaces and the ventilation is inadequate. Deliquescent salts in the plaster can also give rise to condensation.

Condensation can be prevented by:

- (i) Adequate ventilation so that the moisture in the air is carried away before it has time to settle and condense.
- (ii) Providing warm, absorbent surface finishes to prevent the cooling of the air and the condensing of the moisture held by it.
- (iii) Maintaining a warmer overall temperature in the affected area.

The treatment of deliquescent salts in the plaster is rather different. These salts can extract moisture from the air at levels far below that of normal condensation and therefore cause areas of damp to appear on the wall. When these patches dry, the salts crystallise on the surface. If the fault keeps on recurring the whole area may need to be stripped and replastered.

Dampness from any of these causes may result in the deterioration of the wood. Dry and wet rot are the terms which are used for the decay of timber by fungi which grow and live on the wet wood.

In the case of dry rot, the wood is finally reduced to a dry, crumbling state. The fungus takes hold when the moisture content of the wood exceeds about 20% (the normal content is 10 to 15 %). Any damp unventilated part of the building is liable to be attacked and the fungus spreads by sending out thin root-like strands which creep over brickwork and masonry and which carry moisture to previously dry wood. The fungus also produces fruit bodies, the spores of which are very small and may be blown great distances.

Characteristic signs of the presence of dry rot are an offensive mouldy smell, a "dead" sound when the wood is hit with a hammer and little resistance when a penknife is pushed into the wood.

When dry rot occurs the cause of the dampness must be ascertained and remedied. All the decayed wood has then to be cut out and burnt, taking care not to distribute spores. A margin of 60 cm should be cut beyond the infected area. Any plaster which is infected should be removed with a 30 cm margin and any walls or beams should be scraped clean, sterilised with heat and treated with fungicide. All replacement timber should be treated with preservative.

Wet rot occurs in timber in very damp situations, the fungus requiring 40 to 50 % moisture content. It frequently occurs in places where there is a likelihood of water leakage, for example, cellars, bathrooms, roofs. The fungus causes severe darkening of the wood and there is usually a thin skin of sound wood left on the surface, but very rarely is there much evidence of fungal growth as there is in dry rot. Treatment is much easier and growth stops if the wood is thoroughly dried out and the source of the moisture is removed. If there is badly decayed wood, then the treatment is as for dry rot.

Electrical Problems

A modern and properly installed electrical system should not give frequent maintenance problems. However, every system suffers deterioration in time and sometimes the system is put to wrong use and the following problems may occur:

- (a) Blown lamps
- (b) Blown fuses
- (c) Broken plugs
- (d) Loose connections

(a) Blown Lamps

This can cause inconvenience and even danger when they occur in areas which require good lighting. Problems are caused when lamps have to be replaced in high mounted fittings. It is for these reasons, as well as the saving of time and energy, that a regular program of replacement is advisable. It is important to see that the correct wattage bulb is used where replacements become necessary.

(b) Blown Fuses

Fuses are safety devices which are introduced into an electrical circuit. They are found at the distribution board, although in modern practice, they are being replaced by circuit breakers.

The fuse is either of the re-wireable or cartridge type and acts as a weak link in the circuit. When more than the maximum allowable current passes through the fuse, the wire melts, so breaking the circuit. This is a "blown" fuse and it may result from overloading of the circuit, from a short-circuit due to installation failure or a fault in an appliance. The fault must be located before the fuse is renewed, because if the fault remains, the fuse will blow again. The correct sized wire or cartridge should be used in mending the fuse.

Brittle and frayed flexes cause installing failure. Brittle flexes generally occur in pendant lights when the heat of the lamp has, in time, caused brittleness. It normally occurs when lamps are replaced or the fittings are being cleaned so that the wires become exposed. Then the next time the light is switched on, the fuse blows and the light fitting will fail.

Frayed flexes generally occur as the result of wear and tear by being placed under rugs or carpets, being carelessly wound around equipment, becoming knotted, and equipment being wheeled over, for example, vacuum cleaners. Flexes can become frayed by being pulled on to remove a plug from its socket.

All staff should be trained in the care and use of any electrical equipment which they are likely to handle, and in the need to report any problems which may occur, or which they encounter in the course of their work, for example, overloaded sockets, covered convector heaters, guest's personal equipment, all of which could be fire hazards.

Points c and d require qualified electricians.

SAFETY

Safety is an important factor in all elements of design. Unfortunately, in the best regulated establishments, where safety is given a high priority, accidents still occur.

Consideration must be given to the following points when planning areas:

- (a) Choose fabrics which are non-flammable for the soft furnishings.
- (b) Select floor coverings which do not become slippery when wet.
- (c) Lay soft floor coverings near entrances, if possible.
- (d) Discourage the use of loose rugs and mats which do not have rubber backing.
- (e) Choose furniture which will not tip easily, particularly chairs.
- (f) Mark glass doors so that people who are entering can see whether they are closed or not.
- (g) Provide adequate lighting, particularly on stairs and steps which lead into dark places.
- (h) Ensure that doors do not swing too freely.
- (i) Select floor lamps which will not fall over, and ensure that light fittings have a cover or shade, particularly in storerooms.
- (j) Consult the fire authorities for additional information regarding fire safety.

Fire is an ever present hazard in any establishment, therefore its prevention, detection and extinction must be carefully considered. For this there are three stages:

- (a) Assessing the hazard of fire
- (b) Insuring the building
- (c) Complying with the requirements of the building regulations.

Designing a building so as to take into account all these problems related to fire prevention is a complex subject, but among the factors which should be considered are:

- (a) Access for fire appliances to all parts of the building.
- (b) Control of fire spread between and within buildings.
- (c) Fire escapes and exits. These must be clearly signposted.
- (d) Fire appliances and equipment. These fall into three categories:
 - (i) Detection - smoke detection
 - (ii) Warning - fire bells, indicator boards
 - (iii) Equipment - hose reels, extinguishers.

FURNITURE

In any hotel, the furniture must withstand a tremendous amount of wear and tear. Unfortunately, people are not as careful with other people's property as they are with their own, and the handling of furniture by large numbers of people, results in much harder usage.

The variety and styles of furniture are vast, but they basically consist of:

1. Seating
2. Tables
3. Dressing tables and chest of drawers
4. Wardrobes
5. Beds and mattresses.

The dimensions of the furniture should be based on ergonomic and anthropometric considerations, because the basic criterion for accommodating designs to people of different sizes is knowledge of their body measurements. For a design to be successful, it must fit the people who are relying on it for space accommodation, seating comfort, ease of operation, work efficiency and safety. However, a great deal of furniture is uncomfortable because it is chosen for its appearance rather than its suitable dimensions.

1. Seating

There are three human positions: standing, sitting and lying. Seating emerges as the classic design problem and the Accommodation Manager is severely challenged when making a selection. Chairs are frequently fore-standing, they are seen from every angle, and no structure is subject to more exacting use. A chair must hold the body in a relaxed but not recumbent position, and allow for the movement which is necessary to sustain comfort over a long period. The most comfortable seating would be that which is designed for an individual, but obviously, in practical life, this is impossible, and therefore it is usually produced for the average individual.

2. Tables

Any table of whichever type, for example, coffee, or dining should be firm and well balanced. Tables with four legs are generally more stable than those with one, two or three legs, unless they are fixed. The height of the table must in relation to the seating, with adequate knee clearance if the table is to be "sat at".

The shape of the table may result in wasted space, that is, a square table for more than four people. Therefore, it is necessary to select very carefully..

The table tops should be level and completely smooth, with no seams or cracks which could trap dirt or dust.

3. Dressing Tables and Chests of Drawers

Good storage space is essential and the amount which is required will depend largely on the length of stay of the occupant. It is debatable whether drawers or shelves are best, but where there is a consistent change of over-night guests, items which are left on a shelf are easier to see than items which are left in a drawer.

A great number of dressing tables are dual purpose, to save money and space. These will serve both as writing tables and work desks.

Drawers should be lined or be purchased with washable interiors in order to facilitate cleaning.

Where there is long-term residence; then at least one drawer should be lockable.

4. Wardrobes

To avoid creasing of clothes the amount of hanging space which is needed is calculated at a minimum space of 88 mm for each coat hanger. A short-term visitor may have approximately six garments to hang

up and so will require 480 mm for the length of the hanging rail. This will increase to 1 220 mm for long-term guests in a single room and to 1 830 mm in a double room. Shoes are normally stored at the base of the wardrobe.

When wardrobes are free standing they should be stable, with the greatest weight centred at the base so that the possibility of the wardrobe being pulled over is minimal. The balance should be tested with the doors open, particularly if there is a fitted mirror.

5. Beds

Essentially, everyone is concerned with getting a good night's rest and this means a comfortable bed. It is important that the bed not only be comfortable, but that it also looks comfortable.

The standard sizes of bed are:

150 x 200 cm and 135 x 200 cm for a double bed.

80 x 192 cm and 100 x 200 cm for a single bed.

In hotels, beds are usually replaced by twin beds, which can be joined together if necessary.

The most comfortable height for getting into bed is about 500 mm to the top of the mattress, with a clearance from the floor of about 250 mm to facilitate cleaning.

Castors must be fitted in order that the beds can be moved for bed-making and cleaning. The castors must also be chosen with some regard to the floor covering.

Comfort can be achieved in different ways:

(a) In the choice of the base unit

(b) In the choice of the mattress

A bed consists of a bed head and a foot end which are joined together by a mattress support of wire mesh or open spiral springs. This support is level and firm and it is covered with a hessian or felt underlay in order to protect the mattress from friction.

A divan consists of an upholstered base, which is interior sprung. It may or may not have head or end boards. Legs are either built in a part of the base, or they are screwed in. In each case, they must be firm and rigid. Bed bases should be firm and give good support to the sleeper, and some divan bases offer storage drawers underneath.

6. Mattresses

The second component in providing a comfortable bed is in the choice of the mattress. There are two fundamental mattress designs:

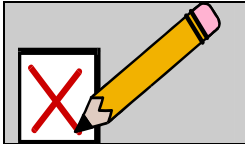
(a) Interior sprung

(b) Foam

Interior sprung mattresses have springs which are either "open coil" or "pocket springs". Where there is heavy use, the latter give the best service. The springs are surrounded by layers of cotton waste, curled hair or polyurethane foam and, in more expensive mattresses, a top layer of fleece wool. Covering this is a strong ticking of cotton, linen or rayon, which is tufted or buttoned in order to secure the padding in place. Ventilation holes are let into the sides of the mattress. The mattress should be fitted with strong fabric or plastic handles to facilitate turning.

Foam mattresses manufactured from either latex or polyurethane are much cheaper and much softer. The foam substances are poured into mattress moulds and then vulcanised.

The great advantage of foam mattresses over interior sprung mattresses is that they are self-ventilating and do not require turning because air is forced through the foam cells every time the bed is used.



SELF ASSESSMENT

Perform the self assessment test titled ' test 7.1'

If you answer incorrectly, review the notes and try the test again

FITTINGS

The provision of suitable and sufficient sanitary fittings is of prime importance in any type of establishment. When planning sanitary area, the main requirements are as follows:

- (a) Water/chemical closets must be fitted with suitable doors and catches
- (b) The areas must be clearly marked regarding sex
- (c) Urinals must not be visible
- (d) Work must not be carried out in the area of a toilet
- (e) There must be provision of soap, towels, water and sanitary towel disposal facilities
- (f) Where outside toilets are provided, they must be protected from the weather.

MANAGING MAINTENANCE

Administration of a facility involves exercising control over both its use and its state of repair. Administrative tasks may vary according to the type of facility concerned, but they may include:

*Ordering materials required for routine maintenance tasks, such as:

- Chemicals for cleaning toilets
- Fertiliser for turf
- Polish for polishing floors
- Safety equipment
- Cleaning products for equipment, etc.

*Ordering materials required for routine operation of facilities, such as:

- Toilet paper or soap for change rooms
 - Coffee, tea, sugar, milk for kitchen
 - Water for a water cooler or drinks for a dispensing machine
- Maintenance checks on equipment

*Directing staff in maintenance tasks, such as:

- Gardening (mowing grass, tending indoor plants)
- Sweeping, vacuuming or polishing floors
- Cleaning toilets/showers/change rooms
- Pool maintenance (eg. checking filtration or chemical treatments)
- Promoting facilities & bookings availabilities

*Staff Training

- Planning and running staff training sessions
- Induction of new staff
- Authorising external training programs.

*Managing bookings for the use of facilities, including:

- Allocating different rooms, outdoor areas, pools, etc. to different clubs or other groups at specific times.
- Allocating times for maintenance work to be carried out on different facilities.
- Maintaining a coordinated record of bookings

*Organising staff/contractors to carry out repairs such as:

- fixing broken windows
- plumbing work

- carpentry work
- replacing broken lights
- repainting

- *Workplace health & safety for maintenance of facilities
- Supplying protective/safety equipment

MAINTENANCE CHECKLISTS

It is a good idea to develop one or several maintenance checklists, to be used periodically for assessing the effectiveness of a routine maintenance program.

A typical checklist for a water-sports area may be as follows:

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
<i>DUTIES TO PERFORM IN MORNING</i>							
Check toilets -if not cleaned phone housekeeping							
Check tidiness of pool surrounds							
Set out furniture according to plan							
Remove any pool bar glasses, dirty plates, etc.							
Check temperatures of pools & spas							
Sweep surrounds							
Skim water of pools & spas							
Check life saving equipment							
Check first aid equipment							
Clean any dirty pool furnishings							
Raise umbrellas							
Wipe over desk top & benches at water-sports shop							
Wipe over & clean rental boats							
Check rental boats are properly tied							
<i>AFTERNOON DUTIES</i>							
Fold down umbrellas							
Sweep out shop							
Sweep pool surrounds							
Set out furniture neatly							
Check snorkels, face masks & deep water running belts weekly and repair or replace anything damaged.							

EQUIPMENT CLEANING FORM

To be completed when equipment is unable to be cleaned, or not cleaned properly, due to something beyond your control (eg. pressure of too much work, running out of cleaning product, equipment being broken, etc).

This will allow management to better allocate resources in future to ensure necessary cleaning is always carried out.

ITEM OF EQUIPMENT

DATE

YOUR NAME

NORMAL PROCEDURE FOR CLEANING

.....

.....

CLEANING PRODUCT USED (if applicable)

PROBLEMS (REASON FOR NOT CLEANING)

.....

.....

.....

.....

ANY SUGGESTIONS?

.....

.....

.....

YOUR SIGNATURE

BUILDING MAINTENANCE

GENERAL MAINTENANCE TASKS

With proper and routine maintenance, hotel buildings remain both safe and useful. Neglect will result in a decline in the scope of activities which a facility may be used for; and a significant increase in the risk of accidents.

The following should be checked regularly in hotel and recreation buildings (and their surrounds):

*Windows

- check for breaks, chips or cracks & replace damaged windows
- Breakage of glass in full height windows is very common often due to stones thrown up from lawn mowers. A sill of 1 metre in height will minimise accidents.
- Anodised aluminium frames appear to offer the best resistance to corrosion and damage.

*Walls

- check for damage to or holes in walls (Plastering up a hole may be necessary)
- When choosing a sealer, undercoat or paint consider the best type for the job and follow the manufacturers instructions precisely.

*Locks

- check all security locks (including padlocks & door bolts) function properly.
- anything loose should be attended to before it deteriorates further.

*Painting

- Walls roofs and other surfaces will need repainting periodically.
- _Consider a self finish for brickwork eg. face brickwork instead of a painted finish. This will minimise the long term cost of maintenance and becomes significant saving over the life cycle of the building if you consider painting is usually required every 8-10 years.

*Floors

- Timber floors may require polishing, and sweeping.
- Tiles will require washing (and perhaps disinfecting to stop growth of mould).
- Carpet requires vacuuming, and periodic cleaning (eg. Shampooing).

*Pipes

- Check water and gas pipes for leaks
- Check drainage pipes for blockages, or breakages.

*Tap washers

- check taps turn off properly, if not, replace washers

*Toilets

- check for leaks, check they flush properly

*Doors

- check that they close & lock properly

*Outdoor Paths & Car Parks

- surfaces of gravel, asphalt or concrete need to be checked for damage, lack of drainage etc.
- patching may be necessary.

*Gutters & Downpipes

These should be cleaned regularly; the frequency dependant upon the litter which collects in them (eg. If there are a lot of overhanging trees, they may need cleaning every couple of months).

*Rots & Dampness

Structural damage can occur if these problems are not attended to. Problems can occur both inside a building, below floor boards and in the ceiling,
Drainage and ventilation is important below floor boards.
Ventilation may be important in the roof and inspecting the roof every year or two should be carried out for damage, loose roofing etc.

*Pests

- Animals (eg. rats mice, birds, possums etc), may enter and perhaps inhabit buildings, seeking shelter, warmth or food.
 - Insects and other small animals can be a minor or major pest problem
- Pest control becomes a particularly serious issue when the pests are either causing structural damage to a building, or a hygiene problem (eg. rodents, flies, cockroaches etc. which transmit disease). Buildings need to be inspected for pests periodically, particularly in areas where particular pests are prevalent.

* Vandalism

- If vandalism looks like being an on-going problem it may be necessary to plan ahead taking preventative measures. For example there is considerable vandal damage to metal downpipes at recreational facilities the use of P.V.C. downpipes are more resistant to impact damage.

* Electrical Maintenance

- It is important to look at the long term total cost of an alternative rather than just the initial cost. Often the cheaper initial alternatives result in higher running and maintenance costs.

Breakdown Repairs:

- Inappropriate Components. The use of cheap and low quality materials can cause premature failure. Eg. For high temperature applications, electrical wiring should have appropriately rated insulation that is able to withstand the high temperatures without deterioration. The insulation could become brittle and then detached from the conductor leaving bare live conductors which are an electrical and fire risk.
- Poor Workmanship
- Expendable Components. Many electrical components have limited life spans eg. lamps, heating elements to hot water units, cookers, batteries. These have to be replaced at regular intervals.
- Abuse. Incorrect use of electrical equipment and vandalism can be a major problem especially of external light fittings.

Preventive Maintenance:

There should be planned replacement and servicing of all electrical equipment.

- Servicing and Testing; Some electrical systems require regular servicing in order to continue giving optimum output. Eg. Battery back up power systems, Emergency lighting systems, Lift systems, Fire alarm systems.
- Replacement of Obsolescent Equipment: Some electrical equipment contain components that may fail and require replacement. After some years the spares may no longer be available. In this case consideration must be given to replacing the whole item as sudden failure of other parts of the equipment could cause severe damage.

HEALTH & SAFETY

Lack of attention to some aspects of building maintenance may lead to serious health and safety problems. This in turn may develop into serious liability problems if people are injured in any way. Some issues of particular concern include:

*Steps

- People can trip or fall more easily on steps than many other surfaces.
- Hand rails reduce the likelihood of anyone tripping on a step, but a poorly maintained hand rail can become loose, and in fact may contribute towards someone falling. Check hand rails regularly.
- Slippery surfaces on steps are also dangerous.
- If a step is at all slippery, you may need to fix a non slip tread to it (eg. glue a piece of rubber mat).

*Floors

- Walking surfaces need to have a grip so people do not slip. Highly polished floors may be dangerous. A slippery mat placed on a highly polished floor can be particularly dangerous.
- Playing surfaces for some sports indoors, need to be slippery (eg. basket ball). Such surfaces may pose a problem if the same facility is used for dual purposes such as for functions such as a reception or party.
- Slippery floors lead to injury

*Seating

-Check the stability of seating.

Seats can become damaged and weakened. If left unattended, people may become hurt.

Grand stands should not be over crowded.

Floor surfaces may be uneven making seats wobble.

Legs of seats need to be strong enough to support the largest people who sit on them. Some inexpensive seats may not be adequate for this purpose.

In an extreme situation, seating may collapse.

*Dangerous Surfaces

Some surfaces can be dangerous (eg. hot outlets from heaters, cold parts of refrigeration equipment, electrically charged surfaces, slippery surfaces, sharp or rough surfaces etc).

Splinters, rough areas or sharp edges may develop on poorly maintained or damaged surfaces.

-Guards may be necessary to protect people from dangerous surfaces such as the above.

You may need to determine needs, and supply guards where needed.

You may need to remove or repair the dangerous object (eg. sand papering, filing, coating the surface).

Guards need to be checked regularly to ensure they are properly fixed and in a good state of repair.

Loose Objects

Loose objects can be a serious safety hazard, if they are not expected.

If equipment (eg. Children's toys, tools or games equipment) is left lying about it may be stood or tripped on.

Broken windows, glasses or crockery can leave dangerous fragments on the ground or floor. Some types of classes may result in dangerous objects being left behind (eg. dressmaking leaving pins).

Areas affected in this way need to be cleaned thoroughly (eg. a very strong and thorough vacuum) before being used again.

Spills

Various things can spill on the floor. Some create a problem with fumes given off, others make a floor slippery, others may simply "dirty" the floor, requiring restricting traffic which may compound the problem. Some spills can seriously damage a floor (Some solvents may dissolve the floor surface).

Accidents with animals or children may result in a surface being covered with vomit or urine.

The way in which a spill is treated will depend on the material which is spilled, and the surface on which it is spilled.

Absorbent materials need to be kept on hand for some types of spills (eg. sawdust on a floor to soak up oil, petrol, grease etc).

Carpet cleaners should also be kept on hand.

Portable barriers and appropriate signs should be kept to use when a spill occurs and cannot be immediately and effectively attended to.

If a spill produces undesirable fumes, the area should be immediately ventilated by opening all windows and doors; and if need be, closing off the area to people until the fumes have gone.

REPAIRS

Managing the maintenance of a facility will undoubtedly require frequent repairs to damage. It is important to have access to reliable and competent tradesmen, who respond quickly.

Some facilities may employ a handyman who can handle some repairs.

There will always be a need for some interim action to be taken when a problem is detected, until a permanent repair can be affected. Such action may include:

-Temporary repairs

-Restricting access to an area

-Erecting signs

-Cleaning

Broken Windows

If it is not possible to repair a window immediately it may be covered temporarily with a sheet of clear, heavy duty polythene (as is used for greenhouse covers -available from greenhouse suppliers).

This should be fixed by attaching (nailing or screwing) softwood battens on all four sides (NB: nails alone will not hold polythene -it will tear easily).

Roofs

Tarpaulins can be used for temporary covers.

Walls

Small holes in plaster can be easily patched (eg. with poly-filler).

After the plaster dries, it should be sanded back to a smooth surface then the area painted over.

TOILETS & LOCKER ROOMS

Most, if not all hotel facilities include toilets and locker rooms.

The maintenance of these facilities is an important part of managing any facility.

COMPONENTS OF A TOILET & LOCKER ROOM

A locker room/toilet block may include:

Lockers, seats, toilets, wash basins, showers, mirrors, rubbish bins, soap dispensers, toilet paper holders, hand driers, other dispensers (eg. combs, condoms, toothpaste etc).

HEALTH & SAFETY

Several things can go wrong:

- disease (eg. bacteria) can develop
- rubbish can build up and attract vermin
- hot water run out
- toilets or drains can become clogged
- dispensers run out (eg. no toilet paper or hand towel)
- mould grows on floor, in showers etc.

ROUTINE MAINTENANCE

A manager needs to allocate staff and funds to undertake routine maintenance tasks including:

*Removing rubbish

Rubbish bins should be emptied regularly, before they overflow.

Regularly check inside and above lockers, under benches, and in other obscure areas and remove any rubbish

*Replacing dispensers

Toilet rolls and paper towel need to be checked at least daily in many facilities.

Electric hand drying machines may eliminate the need to supply hand towels.

Dispensers of soap and other toiletries will need daily checking if supplied.

Franchise operators or contactors may provide and service some dispensers (eg. condoms, toothpaste, water coolers, etc); in which case they will undertake the routine service. The

Manager should still check that the servicing is being done, and if necessary change contractor.

*Cleaning

Areas should be swept or hosed out before cleaning after each day when they are used.

All parts of a toilet and locker room should be washed frequently and thoroughly with a cleaning chemical such as sodium hypochlorite. Heavy duty chemicals and heavy scrubbing will also be required periodically to remove any build up of grime (eg. mould). Toilets and showers in particular need to be thoroughly cleaned after each day when they are used.

*Vandalism

Check for graffiti, and remove.

Check for damaged locks on toilet/shower doors, lockers etc. and repair immediately.

Check for broken glass, exposed nails, loose screws, failed adhesives etc.

NOTE: poorly maintained facilities are not treated as well as facilities kept in good condition!

SET TASK

1. Visit at least two different hotels (or other accommodation facilities), and inspect the condition of the buildings.

Try to determine (as best you can) any obvious problems in the maintenance.

Use this experience to develop a checklist for conducting maintenance inspections on the poorer maintained facility.

2. Either ask an electrician or commercial property owner to look at the electrical junction box for a building.

Determine the arrangement of the wires and what each one does. Draw your observations.



ASSIGNMENT

Download and do the assignment called 'Lesson 7 Assignment'.